11.13 Noise Analysis

Beaumont Heights Business Center

NOISE AND VIBRATION ANALYSIS
CITY OF BEAUMONT

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
ANSI	American National Standards Institute
Calveno	California Vehicle Noise
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dBA	A-weighted decibels
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
INCE	Institute of Noise Control Engineering
L_{eq}	Equivalent continuous (average) sound level
L_{max}	Maximum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak particle velocity
Project	Beaumont Heights Business Center
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Beaumont Heights Business Center development ("Project"). The Project site is on vacant land within the unincorporated Riverside County, west/southwest of the City of Beaumont. The proposed Project would include approximately 5,182,891 square feet of combined office and industrial building area. This study has been prepared to satisfy applicable City of Beaumont standards and thresholds of significance based on guidance provided by Appendix G of the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines). (1) The off-site traffic noise impact analysis is based on the land use assumptions and trip generation outlined in the *Beaumont Heights Business Center Traffic Analysis* prepared by Urban Crossroads, Inc. (2)

SUMMARY OF CEQA SIGNIFICANCE FINDINGS

The results of this Beaumont Heights Business Center Noise and Vibration Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1). Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Off-Site Traffic Noise	7	*Potentially Significant*	*Significant and Unavoidable*
Stationary Operational Noise	9	*Less Than Significant*	-
Construction Noise	10	*Less Than Significant*	-
Construction Vibration		*Less Than Significant*	-

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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Beaumont Heights Business Center ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for transportation related CNEL traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term stationary-source operational noise as well as short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The Project area is comprised of 385.6 acres which lies on vacant land within the unincorporated Riverside County, west/southwest of the City of Beaumont and within the City of Beaumont Sphere of Influence (SOI), as shown on Exhibit 1-A. As one of the requested discretionary actions, the majority of the Project site would be annexed into the City of Beaumont.

1.2 PROJECT DESCRIPTION

The proposed Project would include approximately 5,182,891 square feet of combined office and industrial building area.

TABLE 1-1: PROJECT SQUARE FOOTAGE ASSUMPTIONS

Building	Proposed Development[1]
1	641,622 Square Feet
2	1,386,044 Square Feet
3	1,488,920 Square Feet
4	1,666,305 Square Feet
Total	**5,182,891 Square Feet**

[1] Square footage includes office and industrial space.

The proposed Project could develop under one of two development Options, detailed below as Option A and Option B. Option A assumes a 50/50 split between High-Cube Fulfillment Center Warehouses (Sort Facility) and High-Cube Fulfillment Center Warehouses (Non-Sort Facility). Option B would assume a 50/50 split between High-Cube Fulfillment Center Warehouse (Sort Facility), 1,000,000 square feet dedicated to High-Cube Cold Storage Warehouse, and 1,073,156 square feet of warehousing space. A conceptual site plan is shown on Exhibit 1-B. Under both Options the Project would be developed over four phases, as described below:

EXHIBIT 1-A: LOCATION MAP



LEGEND:

Site Boundary

Option B would include 50% High-Cube Fulfillment Center Warehouse (Sort Facility) (2,850,000 square feet), 1,000,000 square feet dedicated to High-Cube Cold Storage Warehouse, and the remaining space allocated to High-Cube Fulfillment Center Warehouse (Non-Sort Facility) (1,850,000 square feet). A conceptual site plan is shown on Exhibit 1-B. Under both Options the Project would be developed over four phases, as described below:

Option A:

a. Phase 1 (2028)

- 192.487 TSF High-Cube Fulfillment Center (Non-Sort Warehouse)
- 192.487 TSF High-Cube Fulfillment Center (Sort Warehouse)
- 256.648 TSF General Warehousing

b. Phase 2 (2029)

- 608.300 TSF High-Cube Fulfillment Center (Non-Sort Warehouse)
- 608.300 TSF High-Cube Fulfillment Center (Sort Warehouse)
- 811.066 TSF General Warehousing

c. Phase 3 (2030)

- 1,054.976 TSF High-Cube Fulfillment Center (Non-Sort Warehouse)
- 1,054.976 TSF High-Cube Fulfillment Center (Sort Warehouse)
- 1,406.634 TSF General Warehousing

d. Phase 4 (2032)

- 1,554.868 TSF High-Cube Fulfillment Center (Non-Sort Warehouse)
- 1,554.867 TSF High-Cube Fulfillment Center (Sort Warehouse)
- 2,073.156 TSF General Warehousing

Option B:

a. Phase 1 (2028)

- 123.796 TSF High-Cube Cold Storage Warehouse
- 192.487 TSF High-Cube Fulfillment Center (Non-Sort Warehouse)
- 192.487 TSF High-Cube Fulfillment Center (Sort Warehouse)
- 132.853 TSF General Warehousing

b. Phase 2 (2029)

- 391.223 TSF High-Cube Cold Storage Warehouse
- 608.300 TSF High-Cube Fulfillment Center (Non-Sort Warehouse)
- 608.300 TSF High-Cube Fulfillment Center (Sort Warehouse)
- 419.843 TSF General Warehousing

c. Phase 3 (2030)

- 678.499 TSF High-Cube Cold Storage Warehouse
- 1,054.976 TSF High-Cube Fulfillment Center (Non-Sort Warehouse)

- 1,054.976 TSF High-Cube Fulfillment Center (Sort Warehouse)
- 728.135 TSF General Warehousing

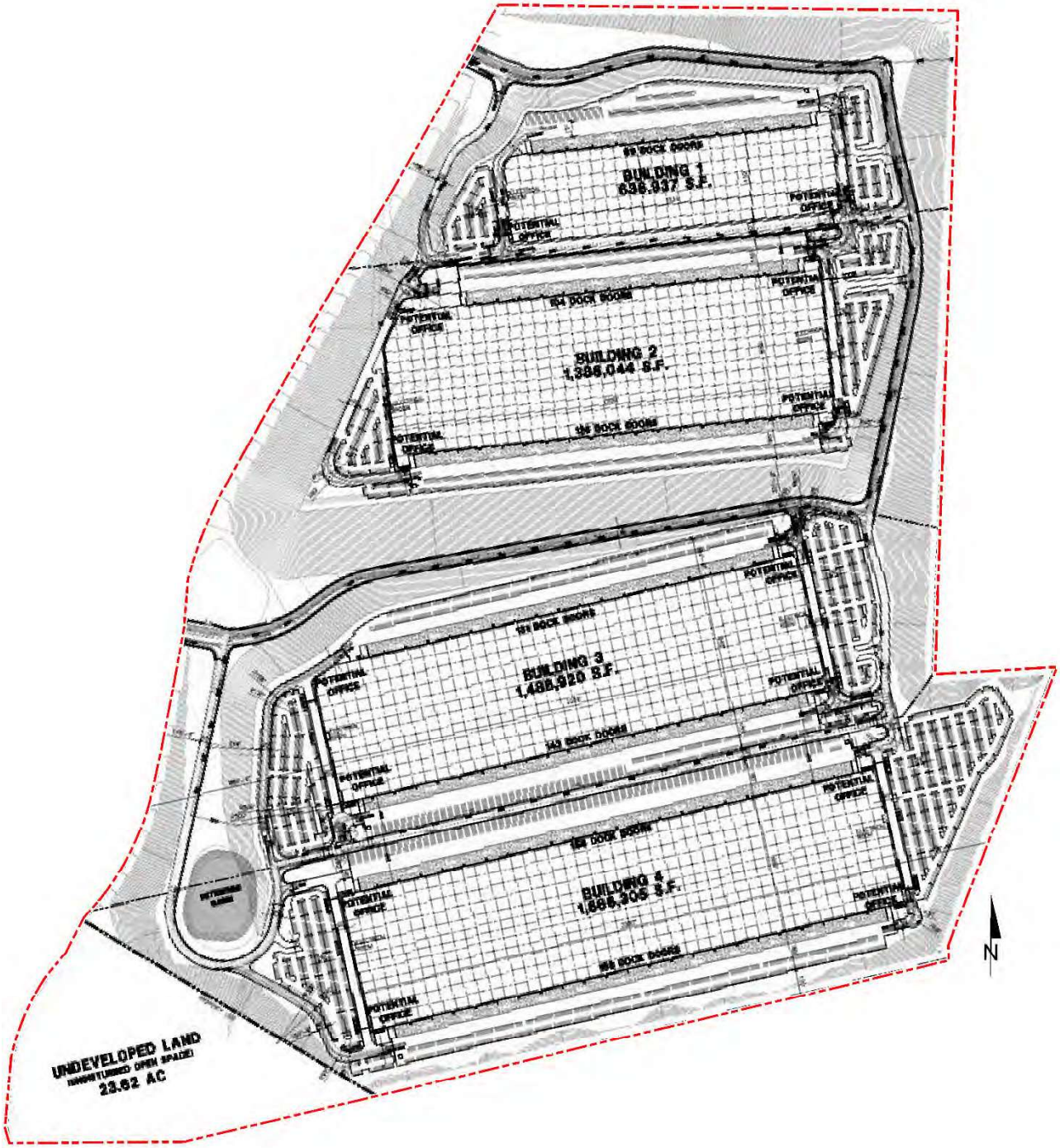
d. Phase 4 (2032)

- 1,000.000 TSF High-Cube Cold Storage Warehouse
- 1,554.868 TSF High-Cube Fulfillment Center (Non-Sort Warehouse)
- 1,554.867 TSF High-Cube Fulfillment Center (Sort Warehouse)
- 1,073.156 TSF General Warehousing

As evaluated in the *Beaumont Heights Business Center Traffic Analysis* (2), under Option A the Project is expected to generate a total of 16,380 two-way trips per day at buildout, including 14,478 two-way passenger vehicle trips per day and 1,902 two-way truck trips per day. Under Option B the Project is expected to generate a total of 16,792 two-way trips per day at buildout, including 14,738 two-way passenger vehicle trips per day and 2,054 two-way truck trips per day.

In addition, this noise analysis describes Project-related noise level associated with typical stationary operational activities at the Project site. The Project-related stationary operational noise sources are expected to include: cold storage loading dock activity, tractor trailer storage activity, parking lot vehicle movements, roof-top air conditioning units, trash enclosure activity, and truck movements. This report assumes the Project-related operational noise source activity will function 24 hours daily for seven days per week.

EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

Noise is simply defined as "unwanted sound." Sound becomes unwanted when it interferes with normal activities, when it causes actual physical harm, or when it has adverse effects on health. Noise is measured on a logarithmic scale of sound pressure level known as a decibel (dB). A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency noise source by discriminating against very low and very high frequencies of the audible spectrum. They are adjusted to reflect only those frequencies which are audible to the human ear. Exhibit 2-A presents a summary of the typical noise levels and their subjective loudness and effects that are described in more detail below.

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140	INTOLERABLE OR DEAFENING	HEARING LOSS
NEAR JET ENGINE		130		
		120		
JET FLY-OVER AT 300m (1000 ft)	ROCK BAND	110		
LOUD AUTO HORN		100	VERY NOISY	
GAS LAWN MOWER AT 1m (3 ft)		90		
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80		SPEECH INTERFERENCE
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD	
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60		
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP DISTURBANCE
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		
QUIET SUBURBAN NIGHTTIME	LIBRARY	30	FAINT	NO EFFECT
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20		
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0		

Source: Environmental Protection Agency Office of Noise Abatement and Control, Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004) March 1974.

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (3) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 1,000 feet, which can cause serious discomfort. (4) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in A-weighted decibels (dBA). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period and is commonly used to describe the "average" noise levels within the environment.

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Beaumont relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

When sound propagates over a distance, it changes in level and frequency content. The way noise reduces with distance depends on the following factors.

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (3)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually

sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (5)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (3)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (6)

2.4 NOISE CONTROL

Noise control is the process of obtaining an acceptable noise environment for an observation point or receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver concept. In general, noise control measures can be applied to these three elements.

2.5 NOISE BARRIER ATTENUATION

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.

2.6 LAND USE COMPATIBILITY WITH NOISE

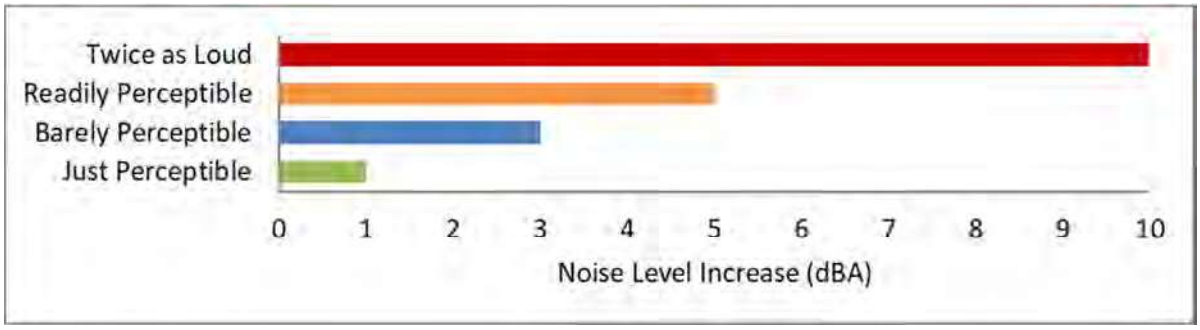
Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (7)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (8 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (9) According to research originally published in the Noise Effects Handbook (8), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (5)

EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION



2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual*, vibration is the periodic oscillation of a medium or object. The rumbling sound caused by the vibration of room surfaces is called structure-borne noise. Sources of ground-borne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or human-made causes (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, such as factory machinery, or transient, such as explosions. As is the case with airborne sound, ground-borne vibrations may be described by amplitude and frequency. Additionally, in contrast to airborne noise, ground-borne vibration outdoors is not a common environmental problem and annoyance from ground-borne vibration is almost exclusively an indoor phenomenon (9). Therefore, the effects of vibrations should only be evaluated at a structure and the effects of the building structure on the vibration should be considered. Wood-frame buildings, such as typical residential structures, are more easily excited by ground vibration than heavier buildings. In contrast, large masonry buildings with spread footings have a low response to ground vibration (9). In general, the heavier a building is, the lower the response will be to the incident vibration energy. However, all structurers reduce vibration levels due to the coupling of the building to the soil.

There are several methods used to quantify vibration levels. Peak Particle Velocity (PPV) is defined as the maximum instantaneous peak of a vibration signal and is most commonly used to evaluate the impact of vibration on buildings (10) (11). However, PPV is not always suitable for assessing human response (e.g., annoyance), as the human body does not respond instantly to vibration signals. Instead, it responds to the average amplitude, more accurately represented by the Root Mean Square (RMS) value of the vibration (11).

RMS is defined as the square root of the average of the squared signal amplitude and is commonly used to evaluate human exposure to vibration. RMS and PPV are mathematically related—RMS is typically about 70% of the PPV for certain waveforms (12) (13). However, deriving RMS from PPV requires knowing the full waveform or making assumptions (e.g., sinusoidal or steady-state signals). Without this information, converting PPV to RMS introduces uncertainty and provides limited insight, especially in cases involving transient or impact vibrations (14).

This distinction is important because human annoyance to vibration is often triggered by abrupt, intermittent events, rather than sustained energy levels. Construction-related vibrations are typically impulsive and broadband, in contrast to the continuous, tonal vibrations associated with transit systems. The FTA's RMS-based criteria were developed with train activity in mind and are not well-suited for construction vibration, where perception is driven by factors like suddenness, impact, and repetition (11).

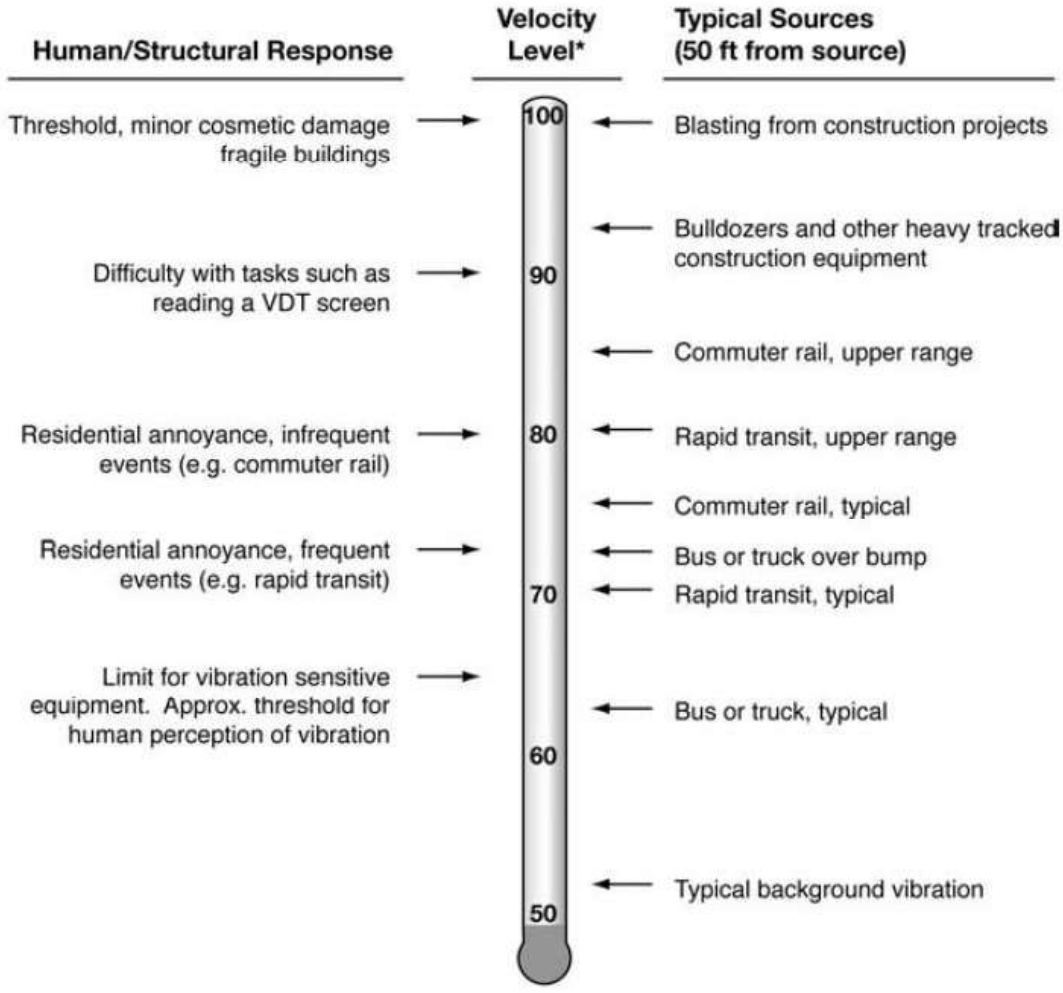
In essence, RMS tends to average out short-duration, high-intensity events—the very events that people find most disturbing. Therefore, for construction activities, PPV-based thresholds, such as those recommended by Caltrans, are more appropriate for assessing potential human annoyance and structural impact (13).

While not universally accepted, vibration decibel notation (VdB) is another vibration notation developed and used by the FTA in their guidance manual to describe vibration levels and provide a background of common vibration levels and set vibration limits. (9) Decibel notation (VdB)

serves to reduce the range of numbers used to describe vibration levels and is used in this report to describe vibration levels.

As stated in the FTA guidance manual, the background vibration-velocity level in residential areas is generally 50 VdB. Ground-borne vibration is normally perceptible to humans at approximately 65 VdB. For most people, a vibration-velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the ground-borne vibration is rarely perceptible. The range of interest is from approximately 50 VdB, which is the typical background vibration-velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings. Exhibit 2-C illustrates common vibration sources and the human and structural response to ground-borne vibration

EXHIBIT 2-C: TYPICAL LEVELS OF GROUND-BORNE VIBRATION



* *RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

Source: Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual.

3 REGULATORY SETTING

To limit population exposure to physically and/or psychologically damaging as well as intrusive noise levels, the federal government, the State of California, various county governments, and most municipalities in the state have established standards and ordinances to control noise. In most areas, automobile and truck traffic is the major source of environmental noise. Traffic activity generally produces an average sound level that remains constant with time. Air and rail traffic, and commercial and industrial activities are also major sources of noise in some areas. Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies.

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (15) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 CITY OF BEAUMONT GENERAL PLAN NOISE ELEMENT

The City of Beaumont has adopted a Noise Element of the General Plan to control and abate environmental noise, and to protect the citizens of City of Beaumont from excessive exposure to noise. (16) The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation noise sources such as arterial roads, freeways, airports and railroads. In addition, the Noise Element identifies several policies to minimize the impacts of excessive noise levels throughout the community and establishes noise level requirements for all land uses. To protect City of Beaumont residents from excessive noise, the Noise Element contains the following noise polices related to the Project:

10.1.3 Protect noise-sensitive uses, such as residences, schools, health care facilities, hotels, libraries, parks and places of worship, from excessive noise levels through land use adjacency, building design, and noise ordinance enforcement.

10.1.4 Incorporate noise considerations into land use planning decisions. Require the inclusion of noise mitigation measures, as may be necessary to meet standards, in the design of new development projects in the City.

10.1.5 Require projects involving new development or modifications to existing development to implement measures, where necessary, to reduce noise levels to at least the normally compatible range. Design measures should focus on architectural features and building design and construction, rather than site design features, such as excessive setbacks, berms, and sound walls, to maintain compatibility with adjacent and surrounding uses.

10.1.6 Encourage reduction of stationary noise impacts from commercial and industrial land uses, activities, events, and businesses on noise-sensitive land uses.

10.1.7 Limit delivery or service hours for stores and businesses with loading areas, docks, or trash bins that front, side, border, or gain access on driveways next to residential and other noise sensitive areas, such as residences, schools, hospitals, religious meeting spaces, and recreation areas.

10.2.3 Prohibit truck routes through neighborhoods with sensitive receptors, where feasible.

In addition to the City of Beaumont policies outlined above, the City of Beaumont has identified the following implementation measures:

N2: Requirement for Acoustical Studies. Amend development application requirements so that projects that could result in noise environments above normally acceptable noise ranges or all new development complete acoustical studies prepared by qualified professionals to ensure that the noise levels are at acceptable levels, per the Municipal Code.

N3: Project Design Guidelines. Integrate project design guidelines that integrate features into new developments that minimize impacts associated with the operation of air conditioning and heating equipment, on-site traffic, and use of parking, loading, and trash storage facilities.

N6: Construction Noise Limits. Review the hours of allowed construction activity to ensure they effectively lead to compliance within the limits (maximum noise levels, hours and days of allowed activity) established in the City's noise regulations.

N7: Stationary Equipment. Enforce requirements that all stationary construction equipment shall be operated with closed engine doors, equipped with properly operating and maintained mufflers, and placed so that emitted noise is directed away from the nearest sensitive receptors.

N8: Equipment Staging Areas. Require that equipment staging shall be in areas that will create the greatest distance feasible between construction-related noise sources and noise-sensitive receptors.

N9: Additional Noise Attenuation Techniques. Require that temporary sound barriers are installed and maintained between the construction site and the sensitive receptors during the clearing, earth moving, grading, and foundation/conditioning phases of construction. Temporary sound barriers shall consist of sound blankets affixed to construction fencing along all sides of the construction site boundary facing potentially sensitive receptors.

N10: Vehicle and Equipment Idling. Establish requirements that construction vehicles and equipment are not left idling for longer than five minutes when not in use.

3.3 CITY OF BEAUMONT GENERAL PLAN NOISE ELEMENT ENVIRONMENTAL IMPACT REPORT

To support the General Plan Noise Element, the City of Beaumont adopted a Program Environmental Impact Report (EIR). (17) Section 5.12 of the EIR outlines the *regulations and policies intended to protect the community from excessive noise and vibration to ensure quality of life for residents and workers in the City*. In addition, Section 5.12.4 presents thresholds of significance for vibration and increases in off-site traffic noise levels. The CEQA significance thresholds outlined in the EIR that are used in this Noise and Vibration Analysis are presented in Section 4.

3.4 CITY OF BEAUMONT MUNICIPAL CODE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Beaumont Heights Business Center Project, stationary-source (operational) noise levels such as the expected cold storage loading dock activity, tractor trailer storage activity, parking lot vehicle movements, roof-top air conditioning units, trash enclosure activity, and truck movements, and noise from construction activities are typically evaluated against standards established under the City's Municipal Code included in Appendix 3.1.

3.4.1 STATIONARY OPERATIONAL NOISE STANDARDS

For noise-sensitive residential properties, the City of Beaumont Municipal Code, Section 9.02.050, identifies base ambient noise level (BANL) stationary-source noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 55 dBA L_{eq} and 45 dBA L_{eq} during the nighttime (10:00 p.m. to 7:00 a.m.) hours. For industrial and commercial land uses, the BANL established by the City's Municipal Code is 75 dBA L_{eq} for the daytime hours and 50 dBA L_{eq} during the nighttime hours. Section 9.40.050 states *that actual decibel measurements exceeding the levels set forth herein above at the times and within the zones corresponding thereto shall be employed as the "base ambient noise level".* In effect, when the ambient noise levels exceed the base exterior noise level limits, the noise level standard shall be adjusted as appropriate to encompass or reflect the ambient noise level. The noise level limit adjustments for the City of Beaumont noise standards are shown on Table 3-1.

TABLE 3-1: CITY OF BEAUMONT STATIONARY OPERATIONAL NOISE STANDARDS

Receiving Land Use	Time Period	Base Ambient Noise Level (dBA L_{eq})[1]	Exterior Noise Standards (dBA)[2]			
			L_{25} (15 mins)	L_8 (5 mins)	L_2 (1 min)	L_{max} (0 min)
Residential	Daytime	55	60	65	70	75
	Nighttime	45	50	55	60	65
Industrial and Commercial	Daytime	75	-[3]	-[3]	-[3]	-[3]
	Nighttime	50	-[3]	-[3]	-[3]	-[3]

[1] Section 9.02.050 base ambient noise level of the City of Beaumont Municipal Code.
[2] Noise levels shall not exceed for the duration periods specified in Section 9.02.070 City of Beaumont Municipal Code.
[3] No exterior noise level shall exceed the base ambient noise levels for nonresidential land uses Section 9.02.090 City of Beaumont Municipal Code.
The percent noise level is the level exceeded "n" percent of the time during the measurement period. L_{25} is the noise level exceeded 25% of the time. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

The City of Beaumont percentile noise descriptors are provided to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project stationary operational activities, the (base exterior noise level limit) or the average L_{eq} noise level metric best describes the cold storage loading dock activity, tractor trailer storage activity, parking lot vehicle movements, roof-top air conditioning units, trash enclosure activity, and truck movements. The equivalent L_{eq} noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In

addition, a review of the existing ambient noise level measurements shows that the L_{eq} is generally greater than the $L_{25.}$ Therefore, this noise study conservatively relies on the average L_{eq} sound level limits to describe the Project stationary operational noise levels. In addition, the City of Beaumont Municipal Code, Section 9.02.110.G states that *it shall be unlawful for any person to operate, cause to operate or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus or similar mechanical device, including but not limited to the use of any steam shovel, pneumatic hammer, derrick, steam or electric hoist, blower or power fan, or any internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, or other appliance, in any manner so as to create any noise which would cause the noise level at the property line of the property upon which the equipment or machinery is operated to exceed the base ambient noise level by five dB(A).*

3.4.2 CONSTRUCTION NOISE STANDARDS

The City of Beaumont has set restrictions to control noise impacts associated with the construction of the proposed Project. These restrictions are generally limited to the nearby noise sensitive receiver locations that may be impacted by the short-term construction noise activities. The City's Municipal Code identifies the following construction noise provisions in Section 9.02.110.F.1: *It shall be unlawful for any person to engage in or permit the generation of noise related to landscape maintenance, construction including erection, excavation, demolition, alteration or repair of any structure or improvement, at such sound levels, as measured at the property line of the nearest adjacent occupied property, as to be in excess of the sound levels permitted under this Chapter, at other times than between the hours of 7:00 a.m. and 6:00 p.m. The person engaged in such activity is hereby permitted to exceed sound levels otherwise set forth in this Chapter for the duration of the activity during the above-described hours for purposes of construction. However, nothing contained herein shall permit any person to cause sound levels to at any time exceed 55 dB(A) for intervals of more than 15 minutes per hour as measured in the interior of the nearest occupied residence or school*.

Section 9.02.110.F.3 of the Municipal Code indicates that *Construction related noise…may take place outside the time period set forth therein and above the relative sound levels in case of urgent necessity in the interest of public health and safety, and then only with the prior permission of the building inspector. Such a permit may be granted for a period not to exceed three days or until the emergency ends, whichever is less. The permit may be renewed for periods of three days while the emergency continues.* Project construction noise level standards are typically described as exterior noise level limits to assess the potential impacts. Therefore, to describe the Project construction noise levels at off-site sensitive receiver locations, an exterior construction-related noise level threshold of 75 dBA L_{eq} is used. This exterior construction noise level standard represents the combination of the City of Beaumont 55 dBA L_{eq} interior noise level limit and the Noise Reduction (NR) of approximately 20 dBA for typical buildings with "windows closed" (5 p. 31). Therefore, an unmitigated exterior noise level standard of 75 dBA L_{eq} when measured at the building façade is used to assess the daytime construction noise levels for the nearest noise sensitive residential uses. For potential nighttime construction noise activity, the unmitigated exterior noise level standard is reduced by 10 dBA L_{eq} to 65 dBA L_{eq} when measured at the building façade.

3.5 CONSTRUCTION VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. (9)

To analyze vibration impacts originating from the construction of the Beaumont Heights Business Center, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the City of Beaumont does not identify specific vibration level limits and instead relies on the 2006 Federal Transit Administration (FTA) methodology. (9) The FTA *Transit Noise and Vibration Impact Assessment* methodology provides guidelines for the maximum-acceptable vibration criteria for different types of land uses. Consistent with the thresholds of significance outlined in the City of Beaumont General Plan EIR (17), these guidelines allow 90 VdB for industrial (workshop) use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. (9 p. 131)

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4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) For the purposes of this report, impacts would be potentially significant if the Project results in or causes:

- (Threshold A) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- (Threshold B) Generation of excessive ground-borne vibration or ground-borne noise levels.
- (Threshold C) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

4.1 NOISE LEVEL INCREASES (THRESHOLD A)

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines. Under CEQA, consideration must be given to the magnitude of the increase, the existing baseline ambient noise levels, and the location of receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes *that there is no single noise increase that renders the noise impact significant.* (18) This is primarily because of the wide variation in individual thresholds of annoyance and differing individual experiences with noise. In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will typically be judged. Thus, an important way of determining a person's subjective reaction to a new noise is the comparison of it to the existing environment to which one has adapted—the so-called *ambient* environment. The *ambient noise level* is the composite of noise from all sources, excluding the alleged offensive noise. In this context, it represents the normal or existing level of environmental noise at a given location for a specified time of day or night.

4.1.1 TRANSPORTATION NOISE (SUBSTANTIAL PERMANENT NOISE LEVEL INCREASE)

Off-site transportation noise increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines described above at the closest sensitive receiver locations. Table 5.12-G of in the City of Beaumont General Plan Noise Element EIR outlines the allowable noise exposure increases that are derived from the Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual.* To describe the amount to which a given noise level increase is considered acceptable, the FTA criteria is used to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Threshold A. In effect, the amount to which a given noise level increase is considered acceptable is reduced based on existing ambient noise conditions.

4.1.2 NON-TRANSPORTATION NOISE (SUBSTANTIAL PERMANENT NOISE LEVEL INCREASE)

Consistent with the City of Beaumont Municipal Code, Section 9.02.110[G], the stationary operational Project noise source activities shall not create any noise which would cause the noise level at the property line to exceed the base ambient noise level by 5 dBA.

4.1.3 CONSTRUCTION NOISE (SUBSTANTIAL TEMPORARY NOISE LEVEL INCREASE)

To control the noise-generating construction activities, the temporary noise level increases over the existing *ambient* conditions must be considered under CEQA Significance Threshold A. In California a *substantial* noise increase occurs when the project's predicted noise level exceeds the existing ambient noise level by 12 dBA or more. (19) The use of 12 dB was established in California many years ago and is based on the concept that a 10 dB increase generally is perceived as a doubling of loudness. (3 pp. 3-2) Therefore, if the Project-related construction noise levels generate a temporary noise level increase above the existing ambient noise levels of up to 12 dBA L_{eq}, then the Project construction noise level increases will be considered a *potentially significant impact*.

4.2 VIBRATION (THRESHOLD B)

The vibration impacts originating from the construction of the Beaumont Heights Business Center are appropriately evaluated using the thresholds of significance outlined in the City of Beaumont General Plan EIR. (17) These guidelines allow 90 VdB for industrial (workshop) use, 84 VdB for office use and 78 VdB for daytime residential uses and 72 VdB for nighttime uses in buildings where people normally sleep. (9)

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest major airport is the March Air Reserve Base located roughly 15 miles west of the Project site. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant,* and no further noise analysis is conducted in relation to Appendix G to the CEQA Guidelines, Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-1 shows the significance criteria summary matrix.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

Analysis	Condition(s)	Significance Criteria	
		Daytime	Nighttime
Off-Site Traffic[1]	If ambient is < 50 dBA CNEL	≥ 7 dBA CNEL Project increase	
	If ambient is 50 - 55 dBA CNEL	≥ 5 dBA CNEL Project increase	
	If ambient is 55 - 60 dBA CNEL	≥ 3 dBA CNEL Project increase	
	If ambient is 60 - 65 dBA CNEL	≥ 2 dBA CNEL Project increase	
	If ambient is 65 - 75 dBA CNEL	≥ 1 dBA CNEL Project increase	
	If ambient is > 75 dBA CNEL	0 dBA CNEL Project increase	
Stationary Operational	Base Exterior Noise Level[2]	55 dBA L_{eq}	45 dBA L_{eq}
	Base Ambient Noise Level[3]	≥ 5 dBA L_{eq} Project increase	
Construction	Permitted between 7:00 a.m. to 6:00 p.m.[4]		
	Noise Level Threshold[5]	75 dBA L_{eq}	65 dBA L_{eq}
	Exterior Noise Level Increase	12 dBA L_{eq}[6]	
	Vibration Level Threshold[7]	78 VdB	n/a

[1] Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, consistent with the City of Beaumont General Plan DEIR.
[2] City of Beaumont General Plan Municipal Code, Section 9.02.050
[3] City of Beaumont General Plan Municipal Code, Section 9.02.110[G]
[4] City of Beaumont General Plan Municipal Code, Section 9.02.110[F]
[5] Acceptable exterior construction noise level threshold based on the City of Beaumont exterior noise level limit and the 20 dBA noise reduction associated with typical building construction.
[6] California Department of Transportation Traffic Noise Analysis Protocol
[7] Federal Transit Administration, Transit Noise and Vibration Impact Assessment.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at six locations in the Project study area. The noise level measurement locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Friday, February 16, 2024. Appendix 5.1 includes study area photos.

5.1 MEASUREMENT PROCEDURE AND CRITERIA

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the equivalent daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (20)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that, *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources*. (3) Further, FTA guidance states, t*hat it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community*. (9)

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (9) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels

and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels. Noise level measurements are generally limited to existing noise sensitive receiver locations potentially impacted by operational and construction noise levels. Off-site receivers potentially impacted by Project traffic noise levels are evaluated based on a comparison of the existing without and with Project traffic noise model forecasts.

5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the energy average hourly sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location.

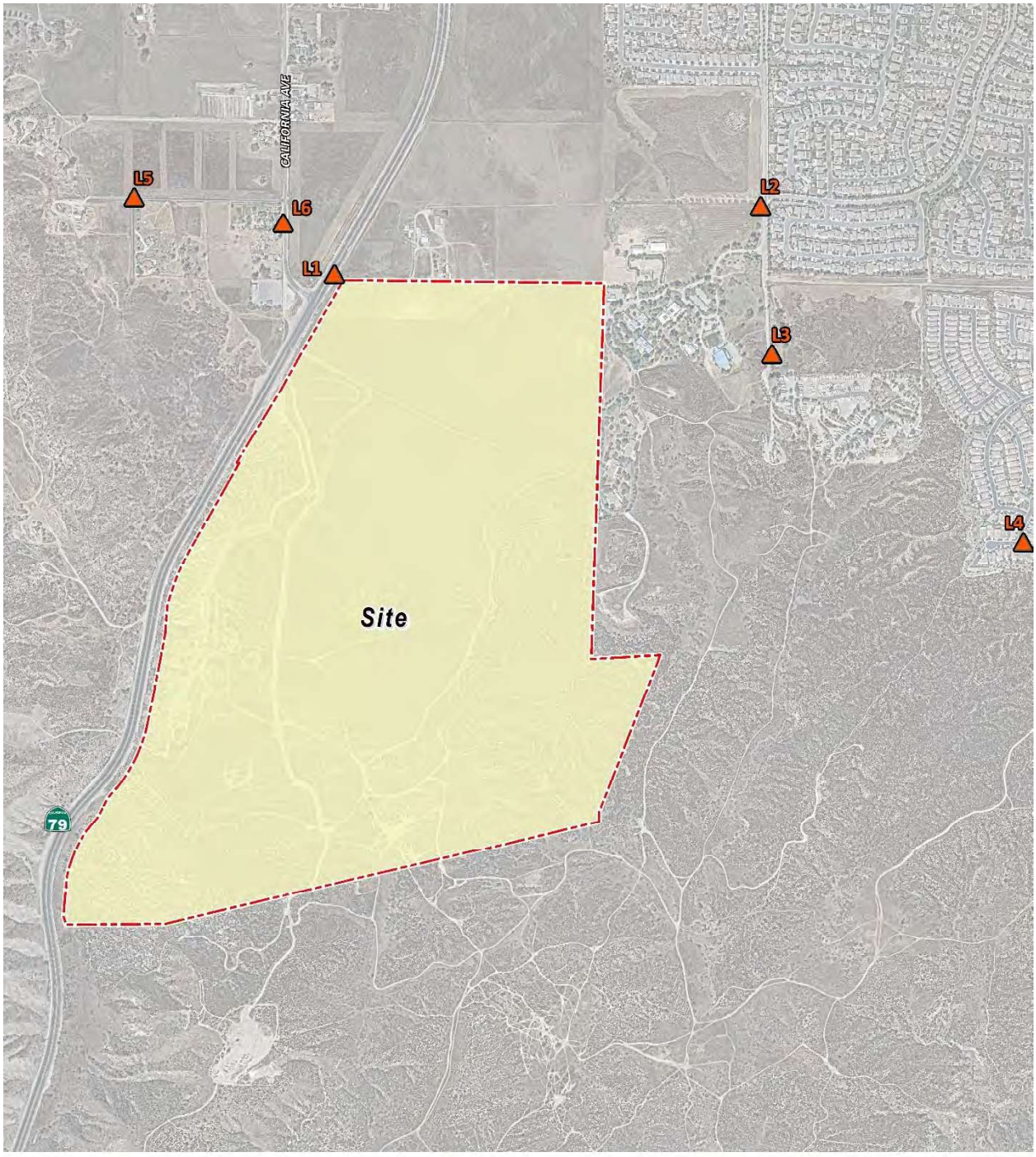
TABLE 5-1: 24-HOUR AMBIENT NOISE LEVEL MEASUREMENTS

Location[1]	Description	Energy Average Noise Level (dBA L_{eq})[2]		CNEL
		Daytime	Nighttime	
L1	Located northwest of the site near the residence at 14250 Beaumont Av.	74.3	72.9	79.9
L2	Located northeast of the site near the residence at 211 Logan Av.	61.7	58.1	65.6
L3	Located east of the site near the country Hills RV Park at 14711 Manzanita Park Rd.	56.7	52.1	59.8
L4	Located east of the site near the Four Seasons - Beaumont residence at 1451 Plymouth Rock	50.8	41.3	51.2
L5	Located northwest of the site near the residence at 14490 Green Acres Dr.	49.6	50.3	56.9
L6	Located northwest of the site near the residence at 14453 California Av.	67.5	65.7	72.7

[1] See Exhibit 5-A for the noise level measurement locations.
[2] Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.
"Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L_1, L_2, L_5, L_8, L_{25}, L_{50}, L_{90}, L_{95}, and L_{99} percentile noise levels observed during the daytime and nighttime periods.

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



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6 METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with City of Beaumont *Noise Compatibility by Land Use Type* (see Exhibit 3-A), all transportation related noise levels are presented in terms of the 24-hour CNEL's. Unlike a simple arithmetic average noise level, CNEL represents the logarithmic summation of the equivalent hourly noise levels with evening and nighttime noise penalties recognizing that noise may have different impacts on people depending on when it occurs.

6.1 FHWA TRAFFIC NOISE PREDICTION MODEL

The expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (21) This methodology is commonly used to describe the off-site traffic noise levels throughout southern California and is consistent with the County of Riverside Office of Industrial Hygiene *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures*, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (22) The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL) by vehicle type. REMEL represents the maximum sound level (L_{max}) of individual vehicle "pass by" events by vehicle type when measured at a "reference distance" of 50 feet from the center of the travel lane.

In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (23) Adjustments are then made to the REMEL to account for: the roadway classification (e.g., collector, secondary, major or arterial), the roadway active width (i.e., the distance between the center of the outermost travel lanes on each side of the roadway), the total average daily traffic (ADT), the travel speed, the percentages of automobiles, medium trucks, and heavy trucks in the traffic volume, the roadway grade, the angle of view (e.g., whether the roadway view is blocked), the site conditions ("hard" or "soft" relates to the absorption of the ground, pavement, or landscaping), and the percentage of total ADT which flows each hour throughout a 24-hour period. Research conducted by Caltrans has shown that the use of soft site conditions is appropriate for the application of the FHWA traffic noise prediction model used in this analysis. (24)

6.2 OFF-SITE TRAFFIC NOISE PREDICTION MODEL INPUTS

Table 6-1 presents the roadway parameters used to assess the Project's off-site dBA CNEL transportation noise impacts. Table 6-1 identifies the 19 off-site study area roadway segments shown on Exhibit 6-A, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Beaumont General Plan Circulation Element, and the vehicle speeds. To describe the Project off-site traffic impacts, the receiving land use adjacent to each roadway segment is identified as a sensitive or non-sensitive land use. Sensitive land uses are limited to the existing noise sensitive residential uses based on a review of aerial imagery. It is expected that only the existing receivers will experience a change in the ambient

noise levels over time. The ADT volumes used in this study area presented in Tables 6-2 and 6-3 are based on the *Beaumont Heights Business Center Traffic Analysis* (2), prepared by Urban Crossroads, Inc. for the following traffic conditions:

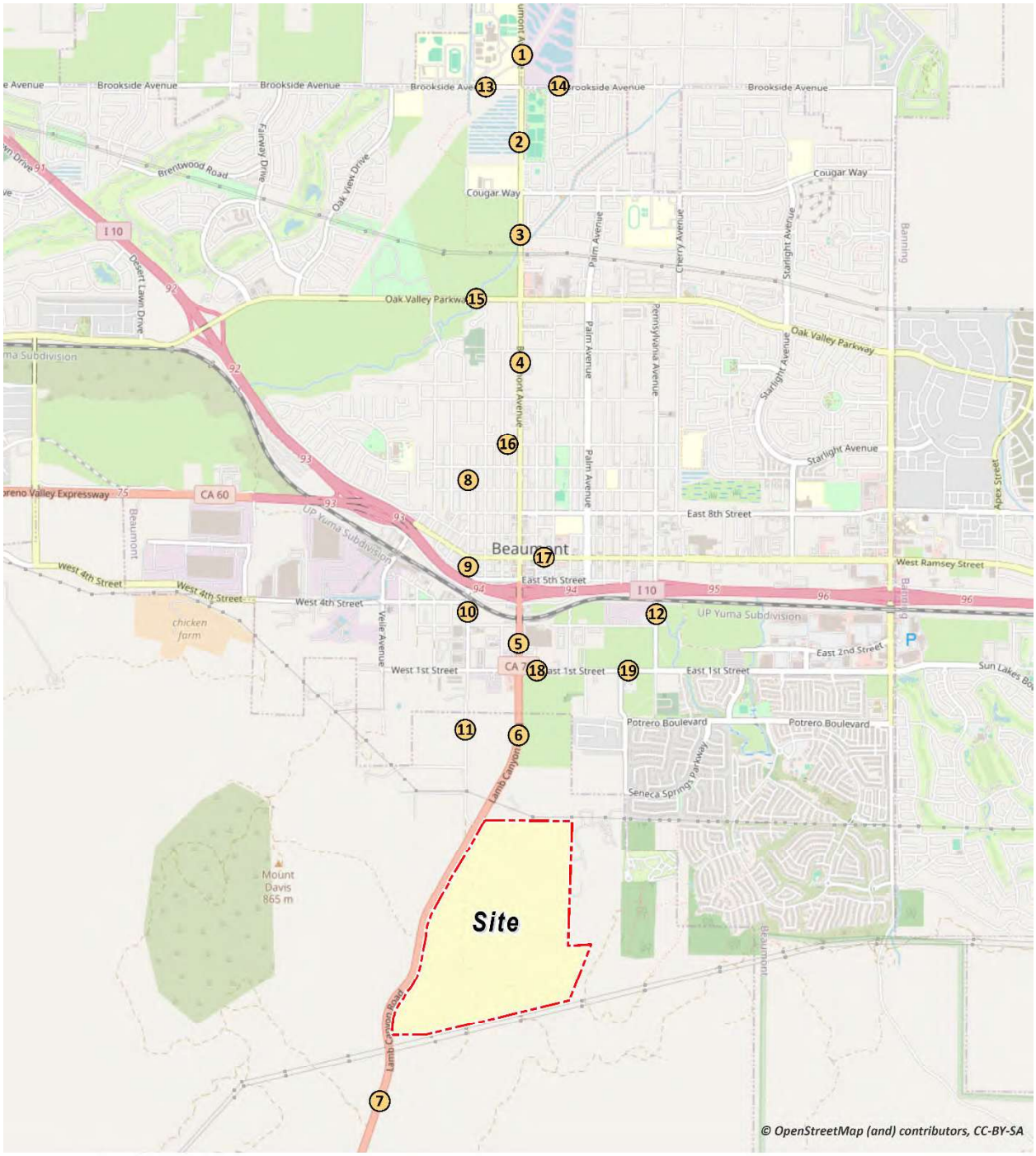
- Existing (2024) Conditions
- Existing With Project Conditions
- Background (2028) Without Project
- Background (2028 – Phase 1) With Project
- Background (2029) Without Project
- Background (2029 – Phase 1 + Phase 2) With Project
- Background (2030) Without Project
- Background (2030 – Phase 1 through Phase 3) With Project Conditions
- Background (2032) Without Project
- Background (2032 – Phase 1 through Phase 4 or Project Buildout) With Project
- Cumulative No Project Conditions (2045)
- Cumulative With Project Conditions (2045 – Project Buildout)

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Classification[1]	Distance from Centerline to Receiving Land Use (Feet)[2]	Vehicle Speed (mph)
1	Beaumont Av.	n/o Brookside Av.	Arterial	55'	50
2	Beaumont Av.	s/o Brookside Av.	Arterial	55'	50
3	Beaumont Av.	n/o Oak Valley Pkwy.	Arterial	55'	50
4	Beaumont Av.	s/o Oak Valley Pkwy.	Arterial	55'	50
5	Beaumont Av.	n/o 1st St.	Expressway	110'	55
6	Beaumont Av.	s/o 1st St.	Expressway	110'	55
7	Beaumont Av.	n/o Gilman Springs Rd.	Expressway	110'	55
8	California Av.	s/o 11th St.	Secondary	44'	45
9	California Av.	n/o 4th St.	Secondary	44'	45
10	California Av.	s/o 4th St.	Secondary	44'	45
11	California Av.	s/o 1st St.	Secondary	44'	45
12	Pennsylvania Av.	n/o 1st St.	Major	59'	50
13	Brookside Av.	w/o Beaumont Av.	Secondary	44'	45
14	Brookside Av.	e/o Beaumont Av.	Secondary	44'	45
15	Oak Valley Pkwy.	w/o Beaumont Av.	Arterial	55'	50
16	11th St.	w/o Beaumont Av.	Collector	37'	40
17	6th St.	e/o Beaumont Av.	Collector	37'	40
18	1st St.	w/o Pennsylvania Av.	Major	59'	50
19	1st St.	e/o Pennsylvania Av.	Major	59'	50

[1] City of Beaumont General Plan Circulation Element functional roadway classifications.
[2] Distance to receiving land use is based upon the right-of-way distances.

EXHIBIT 6-A: OFF-SITE STUDY AREA ROADWAY SEGMENTS



LEGEND:

Site Boundary

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES (OPTION A)

ID	Roadway	Segment	Average Daily Traffic Volumes[1]											
			Existing		Background (2028)		Background (2029)		Background (2030)		Background (2032)		Cumulative (2045)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Beaumont Av.	n/o Brookside Av.	12,099	12,244	14,496	14,514	14,546	14,603	14,571	14,669	14,622	14,767	14,953	15,098
2	Beaumont Av.	s/o Brookside Av.	12,524	12,958	15,556	15,610	15,605	15,775	15,630	15,925	15,680	16,114	16,007	16,441
3	Beaumont Av.	n/o Oak Valley Pkwy.	16,717	17,296	21,895	21,967	22,036	22,263	22,106	22,499	22,248	22,827	23,193	23,772
4	Beaumont Av.	s/o Oak Valley Pkwy.	14,011	14,735	19,966	20,056	20,062	20,345	20,110	20,601	20,207	20,931	20,847	21,571
5	Beaumont Av.	n/o 1st St.	32,585	41,730	45,833	46,968	44,662	48,243	44,087	50,294	42,961	52,106	36,307	45,453
6	Beaumont Av.	s/o 1st St.	40,943	50,813	56,223	57,448	54,988	58,852	54,380	61,078	53,186	63,055	46,035	55,904
7	Beaumont Av.	n/o Gilman Springs Rd.	49,316	53,076	66,086	66,552	67,381	68,853	68,038	70,590	69,371	73,131	78,695	82,455
8	California Av.	s/o 11th St.	694	1,852	1,024	1,168	1,212	1,665	1,318	2,104	1,559	2,717	4,655	5,813
9	California Av.	n/o 4th St.	13,147	14,885	22,807	23,022	23,342	24,022	23,615	24,794	24,169	25,907	28,104	29,841
10	California Av.	s/o 4th St.	11,249	13,131	14,326	14,559	15,314	16,050	15,833	17,110	16,925	18,807	26,109	27,991
11	California Av.	s/o 1st St.	7,154	9,905	7,744	8,085	8,503	9,579	8,909	10,776	9,782	12,533	17,959	20,710
12	Pennsylvania Av.	n/o 1st St.	15,272	15,707	18,639	18,693	20,969	21,139	22,241	22,536	25,021	25,455	53,801	54,235
13	Brookside Av.	w/o Beaumont Av.	5,751	5,896	8,425	8,443	9,060	9,117	9,394	9,492	10,102	10,247	16,195	16,340
14	Brookside Av.	e/o Beaumont Av.	7,551	7,696	9,774	9,792	9,855	9,912	9,896	9,994	9,978	10,123	10,527	10,672
15	Oak Valley Pkwy.	w/o Beaumont Av.	17,978	18,123	27,060	27,078	27,325	27,382	27,459	27,557	27,728	27,873	29,542	29,687
16	11th St.	w/o Beaumont Av.	1,318	2,331	1,426	1,552	1,715	2,111	1,880	2,568	2,260	3,273	7,487	8,500
17	6th St.	e/o Beaumont Av.	15,570	15,859	17,385	17,421	17,524	17,637	17,594	17,790	17,735	18,025	18,678	18,968
18	1st St.	w/o Pennsylvania Av.	14,082	14,806	17,167	17,257	17,233	17,516	17,266	17,757	17,332	18,056	17,768	18,492
19	1st St.	e/o Pennsylvania Av.	17,482	18,206	19,048	19,138	19,950	20,233	20,418	20,909	21,385	22,109	28,892	29,616

[1] Beaumont Heights Business Center Traffic Analysis, Urban Crossroads, Inc.

TABLE 6-3: AVERAGE DAILY TRAFFIC VOLUMES (OPTION B)

ID	Roadway	Segment	Average Daily Traffic Volumes[1]											
			Existing		Background (2028)		Background (2029)		Background (2030)		Background (2032)		Cumulative (2045)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Beaumont Av.	n/o Brookside Av.	12,099	12,246	14,496	14,514	14,546	14,604	14,571	14,685	14,622	14,769	14,953	15,100
2	Beaumont Av.	s/o Brookside Av.	12,524	12,966	15,556	15,611	15,605	15,778	15,630	15,972	15,680	16,122	16,007	16,449
3	Beaumont Av.	n/o Oak Valley Pkwy.	16,717	17,307	21,895	21,968	22,036	22,267	22,106	22,562	22,248	22,838	23,193	23,783
4	Beaumont Av.	s/o Oak Valley Pkwy.	14,011	14,748	19,966	20,057	20,062	20,350	20,110	20,680	20,207	20,944	20,847	21,584
5	Beaumont Av.	n/o 1st St.	32,585	41,994	45,833	47,002	44,662	48,343	44,087	51,197	42,961	52,370	36,307	45,717
6	Beaumont Av.	s/o 1st St.	40,943	51,090	56,223	57,483	54,988	58,958	54,380	62,060	53,186	63,332	46,035	56,182
7	Beaumont Av.	n/o Gilman Springs Rd.	49,316	53,161	66,086	66,563	67,381	68,885	68,038	70,982	69,371	73,216	78,695	82,540
8	California Av.	s/o 11th St.	694	1,873	1,024	1,170	1,212	1,673	1,318	2,230	1,559	2,738	4,655	5,834
9	California Av.	n/o 4th St.	13,147	14,916	22,807	23,026	23,342	24,034	23,615	24,982	24,169	25,938	28,104	29,873
10	California Av.	s/o 4th St.	11,249	13,165	14,326	14,563	15,314	16,064	15,833	17,314	16,925	18,841	26,109	28,025
11	California Av.	s/o 1st St.	7,154	9,955	7,744	8,091	8,503	9,599	8,909	11,074	9,782	12,582	17,959	20,759
12	Pennsylvania Av.	n/o 1st St.	15,272	15,714	18,639	18,694	20,969	21,142	22,241	22,583	25,021	25,463	53,801	54,243
13	Brookside Av.	w/o Beaumont Av.	5,751	5,898	8,425	8,443	9,060	9,118	9,394	9,508	10,102	10,249	16,195	16,342
14	Brookside Av.	e/o Beaumont Av.	7,551	7,699	9,774	9,792	9,855	9,913	9,896	10,010	9,978	10,125	10,527	10,674
15	Oak Valley Pkwy.	w/o Beaumont Av.	17,978	18,125	27,060	27,078	27,325	27,383	27,459	27,573	27,728	27,875	29,542	29,689
16	11th St.	w/o Beaumont Av.	1,318	2,349	1,426	1,554	1,715	2,119	1,880	2,678	2,260	3,292	7,487	8,519
17	6th St.	e/o Beaumont Av.	15,570	15,865	17,385	17,422	17,524	17,639	17,594	17,822	17,735	18,030	18,678	18,973
18	1st St.	w/o Pennsylvania Av.	14,082	14,819	17,167	17,258	17,233	17,521	17,266	17,836	17,332	18,069	17,768	18,505
19	1st St.	e/o Pennsylvania Av.	17,482	18,219	19,048	19,139	19,950	20,238	20,418	20,988	21,385	22,122	28,892	29,629

[1] Beaumont Heights Business Center Traffic Analysis, Urban Crossroads, Inc.

The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of Project traffic distributions. This analysis relies on a comparative evaluation of the off-site traffic noise impacts at the boundary of the right-of-way of the receiving adjacent land use, without and with project ADT traffic volumes from the Project traffic analysis. As evaluated in the *Beaumont Heights Business Center Traffic Analysis* (2), under Option A the Project is expected to generate a total of 16,380 two-way trips per day at buildout, including 14,478 two-way passenger vehicle trips per day and 1,902 two-way truck trips per day. Under Option B the Project is expected to generate a total of 16,792 two-way trips per day at buildout, including 14,738 two-way passenger vehicle trips per day and 2,054 two-way truck trips per day. In addition, the off-site traffic noise analysis maintains a peak hour to average daily traffic (peak-to-daily) relationship of approximately 6.44%. (9)

To quantify the off-site noise levels, the Project related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits.

The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Beaumont Heights Business Center Traffic Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Time of Day	Vehicle Mix[1]			Time of Day Split[1]
	Autos[2]	Medium Trucks[3]	Heavy Trucks[4]	
Daytime	74.03%	0.80%	0.12%	74.95%
Evening	11.92%	0.02%	0.01%	11.95%
Nighttime	12.83%	0.17%	0.11%	13.11%
Daily	98.78%	0.99%	0.23%	100.00%

[1] Based on the May 9, 2024, 24-hour directional vehicle classification count collected on Oak Valley Parkway west of Beaumont Avenue (Beaumont Heights Business Center Traffic Analysis, Urban Crossroads, Inc.)
[2] All vehicles with two axles and four wheels designed primarily for transportation of nine or fewer passengers (automobiles) or transportation of cargo (light trucks).
[3] All vehicles with two axles and six wheels designed for transportation of cargo.
[4] All vehicles with three or more axles designed for the transportation of cargo.

7 OFF-SITE TRAFFIC NOISE IMPACTS

As described in Section 4.1, the off-site traffic noise impacts are evaluated based on noise level increases resulting from the Project. Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. To describe the amount to which a given noise level increase is considered substantial (Threshold A), the City of Beaumont General Plan EIR (17) outlines criteria to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Noise Threshold A. Based on off-site traffic noise increase criteria, the City of Beaumont General Plan EIR (17) indicates that *with implementation of proposed Project policies and implementation actions, increases in roadway noise at existing noise sensitive receptors would be reduced to the degree feasible.* However, the EIR determined that *future noise levels could still exceed thresholds* and the *impacts from permanent noise are considered significant and unavoidable.*

To describe the off-site Project-related traffic noise levels, this noise study relies on the actual Project automobile and truck trips established in the *Beaumont Heights Business Center Traffic Analysis* (as opposed to the passenger car equivalents) to accurately account for the effect of individual car and truck trips on the study area roadway network.

7.1 TRAFFIC NOISE CONTOURS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on the *Beaumont Heights Business Center Traffic Analysis*. (2) Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours represent the distance to noise levels of constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not reflect noise contributions from the surrounding stationary noise sources within the Project study area.

Table 7-1 presents a summary of the Project (Option A) exterior dBA CNEL traffic noise levels for each traffic condition. Appendix 7.1 includes Project (Option A) dBA CNEL traffic noise level contour worksheets. Table 7-2 presents a summary of Project (Option B) exterior dBA CNEL traffic noise levels for each traffic condition. Appendix 7.2 includes Project (Option B) dBA CNEL traffic noise level contour worksheets.

TABLE 7-1: PROJECT (OPTION A) OFF-SITE TRAFFIC NOISE LEVELS

ID	Roadway	Segment	CNEL at Receiving Land Use (dBA)[1]											
			Existing		Background (2028)		Background (2029)		Background (2030)		Background (2032)		Cumulative (2045)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Beaumont Av.	n/o Brookside Av.	69.0	69.0	69.7	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.9	69.9
2	Beaumont Av.	s/o Brookside Av.	69.1	69.2	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.2	70.2	70.3
3	Beaumont Av.	n/o Oak Valley Pkwy.	70.4	70.5	71.5	71.5	71.6	71.6	71.6	71.6	71.6	71.7	71.8	71.9
4	Beaumont Av.	s/o Oak Valley Pkwy.	69.6	69.8	71.1	71.2	71.2	71.2	71.2	71.2	71.2	71.3	71.3	71.4
5	Beaumont Av.	n/o 1st St.	70.5	75.9	72.0	72.8	71.8	74.2	71.8	75.3	71.7	76.2	70.9	76.0
6	Beaumont Av.	s/o 1st St.	71.5	76.2	72.8	73.6	72.8	74.7	72.7	75.7	72.6	76.6	72.0	76.4
7	Beaumont Av.	n/o Gilman Springs Rd.	72.3	73.5	73.5	73.7	73.6	74.0	73.7	74.3	73.8	74.7	74.3	75.1
8	California Av.	s/o 11th St.	56.3	59.9	58.0	58.5	58.8	59.9	59.1	60.8	59.9	61.8	64.6	65.4
9	California Av.	n/o 4th St.	69.1	69.5	71.5	71.5	71.6	71.7	71.7	71.8	71.8	72.0	72.4	72.6
10	California Av.	s/o 4th St.	68.4	69.0	69.5	69.5	69.8	69.9	69.9	70.2	70.2	70.6	72.1	72.3
11	California Av.	s/o 1st St.	66.5	67.6	66.8	67.0	67.2	67.6	67.4	68.1	67.8	68.7	70.5	71.0
12	Pennsylvania Av.	n/o 1st St.	69.4	69.5	70.2	70.2	70.7	70.8	71.0	71.0	71.5	71.6	74.8	74.9
13	Brookside Av.	w/o Beaumont Av.	65.5	65.6	67.2	67.2	67.5	67.5	67.7	67.7	68.0	68.0	70.0	70.1
14	Brookside Av.	e/o Beaumont Av.	66.7	66.8	67.8	67.8	67.9	67.9	67.9	67.9	67.9	68.0	68.2	68.2
15	Oak Valley Pkwy.	w/o Beaumont Av.	70.7	70.7	72.5	72.5	72.5	72.5	72.5	72.5	72.6	72.6	72.8	72.9
16	11th St.	w/o Beaumont Av.	58.4	60.4	58.8	59.0	59.6	60.3	60.0	61.0	60.8	62.0	66.0	66.4
17	6th St.	e/o Beaumont Av.	69.2	69.2	69.6	69.6	69.7	69.7	69.7	69.7	69.7	69.8	69.9	70.0
18	1st St.	w/o Pennsylvania Av.	69.0	69.2	69.9	69.9	69.9	69.9	69.9	70.0	69.9	70.0	70.0	70.2
19	1st St.	e/o Pennsylvania Av.	69.9	70.1	70.3	70.3	70.5	70.6	70.6	70.7	70.8	70.9	72.1	72.2

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

TABLE 7-2: PROJECT (OPTION B) OFF-SITE TRAFFIC NOISE LEVELS

ID	Roadway	Segment	CNEL at Receiving Land Use (dBA)[1]											
			Existing		Background (2028)		Background (2029)		Background (2030)		Background (2032)		Cumulative (2045)	
			Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project	Without Project	With Project
1	Beaumont Av.	n/o Brookside Av.	69.0	69.0	69.7	69.8	69.8	69.8	69.8	69.8	69.8	69.8	69.9	69.9
2	Beaumont Av.	s/o Brookside Av.	69.1	69.2	70.1	70.1	70.1	70.1	70.1	70.1	70.1	70.2	70.2	70.3
3	Beaumont Av.	n/o Oak Valley Pkwy.	70.4	70.5	71.5	71.5	71.6	71.6	71.6	71.6	71.6	71.7	71.8	71.9
4	Beaumont Av.	s/o Oak Valley Pkwy.	69.6	69.8	71.1	71.2	71.2	71.2	71.2	71.3	71.2	71.3	71.3	71.4
5	Beaumont Av.	n/o 1st St.	70.5	76.1	72.0	72.9	71.8	74.3	71.8	75.5	71.7	76.4	70.9	76.2
6	Beaumont Av.	s/o 1st St.	71.5	76.4	72.8	73.6	72.8	74.8	72.7	75.9	72.6	76.8	72.0	76.6
7	Beaumont Av.	n/o Gilman Springs Rd.	72.3	73.6	73.5	73.7	73.6	74.0	73.7	74.4	73.8	74.7	74.3	75.2
8	California Av.	s/o 11th St.	56.3	60.0	58.0	58.5	58.8	59.9	59.1	61.0	59.9	61.8	64.6	65.4
9	California Av.	n/o 4th St.	69.1	69.5	71.5	71.5	71.6	71.7	71.7	71.8	71.8	72.0	72.4	72.6
10	California Av.	s/o 4th St.	68.4	69.0	69.5	69.5	69.8	69.9	69.9	70.2	70.2	70.6	72.1	72.3
11	California Av.	s/o 1st St.	66.5	67.6	66.8	67.0	67.2	67.6	67.4	68.2	67.8	68.7	70.5	71.0
12	Pennsylvania Av.	n/o 1st St.	69.4	69.5	70.2	70.2	70.7	70.8	71.0	71.0	71.5	71.6	74.8	74.9
13	Brookside Av.	w/o Beaumont Av.	65.5	65.6	67.2	67.2	67.5	67.5	67.7	67.7	68.0	68.0	70.0	70.1
14	Brookside Av.	e/o Beaumont Av.	66.7	66.8	67.8	67.8	67.9	67.9	67.9	67.9	67.9	68.0	68.2	68.2
15	Oak Valley Pkwy.	w/o Beaumont Av.	70.7	70.7	72.5	72.5	72.5	72.5	72.5	72.5	72.6	72.6	72.8	72.9
16	11th St.	w/o Beaumont Av.	58.4	60.4	58.8	59.1	59.6	60.3	60.0	61.2	60.8	62.0	66.0	66.4
17	6th St.	e/o Beaumont Av.	69.2	69.2	69.6	69.6	69.7	69.7	69.7	69.7	69.7	69.8	69.9	70.0
18	1st St.	w/o Pennsylvania Av.	69.0	69.2	69.9	69.9	69.9	69.9	69.9	70.0	69.9	70.1	70.0	70.2
19	1st St.	e/o Pennsylvania Av.	69.9	70.1	70.3	70.3	70.5	70.6	70.6	70.7	70.8	70.9	72.1	72.2

[1] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.

7.2 OFF-SITE TRUCK TRAFFIC

Consistent with the *Beaumont Heights Business Center Traffic Analysis,* the Project truck trips will be primarily limited to Beaumont Avenue, and I-10 Freeway. The noise level calculations present the maximum sound levels (L_{max}) of individual "pass by" events (REMEL) by vehicle type for each of the study area roadway segments. To demonstrate compliance with the City of Beaumont *Noise Compatibility by Land Use Type* guidelines, all exterior noise levels are first expressed using the equivalent hourly noise levels for the peak, daytime, evening, and nighttime hours. This approach permits the calculation of the 24-hour CNEL necessary to demonstrate compliance with the established thresholds of significance.

CNEL is commonly used for planning purposes and to assess changes in the long-term traffic noise exposure in a way that reflects its impact on communities over time, considering both daytime and nighttime periods when people may be more sensitive to noise. Since the CNEL noise levels include penalties for the evening and nighttime hours, the CNEL level will always be higher than any of the equivalent hourly noise levels. Both the City of Beaumont Noise Element and the *General Plan Guidelines* published by the Governor's Office of Planning and Research (OPR) (15) rely on the CNEL noise metric to assess land use noise compatibility.

7.3 EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the Project Buildout conditions has been included in this report. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. However, since the Existing with Project conditions generally represent the conservative worst-case traffic noise increases, this traffic scenario is commonly used to describe the Project related impacts. Table 7-3 shows that Existing with Project (Option A) will increase the off-site traffic noise levels by 0.0 to 5.4 dBA CNEL and 0.0 to 5.6 dBA CNEL for Existing with Project (Option B) conditions. Based on the significance criteria for off-site traffic noise presented in Table 4-1, five of the study area roadway segments are shown to experience *potentially significant* off-site traffic noise increases due to the Existing with Project Buildout conditions. The segments are described below.

- Beaumont Av. n/o 1st St. (Segment #5)
- Beaumont Av. s/o 1st St. (Segment #6)
- Beaumont Av. n/o Gilman Springs Rd. (Segment #7)
- California s/o 11th St. (Segment #8)
- California s/o 1st St. (Segment #11)

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase of traffic noise levels over time and the off-site traffic impacts are generally limited to noise sensitive residential receivers that are likely to perceive this increase. Section 7.9 describes the off-site traffic noise mitigation measures considered in this analysis. All other roadway segments would experience *less than significant* noise level increases due to the Project traffic under existing conditions.

TABLE 7-3: EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Roadway	Segment	Receiving Land Use[1]	Incremental Noise Level Increase		Increase Threshold[3]	
				Option A	Option B	Limit	Exceeded?
1	Beaumont Av.	n/o Brookside Av.	Sensitive	0.0	0.0	1	No
2	Beaumont Av.	s/o Brookside Av.	Sensitive	0.1	0.1	1	No
3	Beaumont Av.	n/o Oak Valley Pkwy.	Sensitive	0.1	0.1	1	No
4	Beaumont Av.	s/o Oak Valley Pkwy.	Non-Sensitive	0.2	0.2	1	No
5	Beaumont Av.	n/o 1st St.	Non-Sensitive	5.4	5.6	1	**Yes**
6	Beaumont Av.	s/o 1st St.	Sensitive	4.7	4.9	1	**Yes**
7	Beaumont Av.	n/o Gilman Springs Rd.	Sensitive	1.2	1.3	1	**Yes**
8	California Av.	s/o 11th St.	Sensitive	3.6	3.7	3	**Yes**
9	California Av.	n/o 4th St.	Sensitive	0.4	0.4	1	No
10	California Av.	s/o 4th St.	Sensitive	0.6	0.6	1	No
11	California Av.	s/o 1st St.	Non-Sensitive	1.1	1.1	1	**Yes**
12	Pennsylvania Av.	n/o 1st St.	Non-Sensitive	0.1	0.1	1	No
13	Brookside Av.	w/o Beaumont Av.	Non-Sensitive	0.1	0.1	1	No
14	Brookside Av.	e/o Beaumont Av.	Non-Sensitive	0.1	0.1	1	No
15	Oak Valley Pkwy.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
16	11th St.	w/o Beaumont Av.	Non-Sensitive	2.0	2.0	3	No
17	6th St.	e/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
18	1st St.	w/o Pennsylvania Av.	Non-Sensitive	0.2	0.2	1	No
19	1st St.	e/o Pennsylvania Av.	Non-Sensitive	0.2	0.2	1	No

[1] Based on a review of existing aerial imagery. Noise-sensitive land use is generally limited to residential areas because residents are more likely to be impacted by noise over time, especially during the nighttime hours when noise can disrupt sleep and overall quality of life.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.3 BACKGROUND (2028) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-4 shows that the Background (2028) (Option A) will increase the off-site traffic noise levels by 0.0 to 0.8 dBA CNEL and 0.0 to 0.9 dBA CNEL for the Background (2028) (Option B) conditions. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise impacts due to Background (2028) with Project traffic noise levels.

TABLE 7-4: BACKGROUND (2028) WITH PROJECT TRAFFIC NOISE INCREASES

ID	Roadway	Segment	Receiving Land Use[1]	Incremental Noise Level Increase		Increase Threshold[3]	
				Option A	Option B	Limit	Exceeded?
1	Beaumont Av.	n/o Brookside Av.	Sensitive	0.1	0.1	1	No
2	Beaumont Av.	s/o Brookside Av.	Sensitive	0.0	0.0	1	No
3	Beaumont Av.	n/o Oak Valley Pkwy.	Sensitive	0.0	0.0	1	No
4	Beaumont Av.	s/o Oak Valley Pkwy.	Non-Sensitive	0.1	0.1	1	No
5	Beaumont Av.	n/o 1st St.	Non-Sensitive	0.8	0.9	1	No
6	Beaumont Av.	s/o 1st St.	Sensitive	0.8	0.8	1	No
7	Beaumont Av.	n/o Gilman Springs Rd.	Sensitive	0.2	0.2	1	No
8	California Av.	s/o 11th St.	Sensitive	0.5	0.5	3	No
9	California Av.	n/o 4th St.	Sensitive	0.0	0.0	1	No
10	California Av.	s/o 4th St.	Sensitive	0.0	0.0	1	No
11	California Av.	s/o 1st St.	Non-Sensitive	0.2	0.2	1	No
12	Pennsylvania Av.	n/o 1st St.	Non-Sensitive	0.0	0.0	1	No
13	Brookside Av.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
14	Brookside Av.	e/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
15	Oak Valley Pkwy.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
16	11th St.	w/o Beaumont Av.	Non-Sensitive	0.2	0.3	3	No
17	6th St.	e/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
18	1st St.	w/o Pennsylvania Av.	Non-Sensitive	0.0	0.0	1	No
19	1st St.	e/o Pennsylvania Av.	Non-Sensitive	0.0	0.0	1	No

[1] Based on a review of existing aerial imagery. Noise-sensitive land use is generally limited to residential areas because residents are more likely to be impacted by noise over time, especially during the nighttime hours when noise can disrupt sleep and overall quality of life.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.4 BACKGROUND (2029) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-5 shows that the Background (2029) (Option A) will increase the off-site traffic noise levels by 0.0 to 2.4 dBA CNEL and 0.0 to 2.5 dBA CNEL for the Background (2029) (Option B) conditions. Based on the significance criteria for off-site traffic noise presented in Table 4-1, two of the study area roadway segments are shown to experience *potentially significant* off-site traffic noise increases due to the Existing with Project Buildout conditions. The segments are described below.

- Beaumont Av. n/o 1st St. (Segment #5)
- Beaumont Av. s/o 1st St. (Segment #6)

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase in traffic noise levels over time and the off-site traffic impacts are generally limited to noise sensitive residential receivers that are likely to perceive this increase. Section 7.9 describes the off-site traffic noise mitigation measures considered in this analysis. All other

roadway segments would experience *less than significant* noise level increases due to the Project traffic under existing conditions.

TABLE 7-5: BACKGROUND (2029) WITH PROJECT TRAFFIC NOISE INCREASES

ID	Roadway	Segment	Receiving Land Use[1]	Incremental Noise Level Increase		Increase Threshold[3]	
				Option A	Option B	Limit	Exceeded?
1	Beaumont Av.	n/o Brookside Av.	Sensitive	0.0	0.0	1	No
2	Beaumont Av.	s/o Brookside Av.	Sensitive	0.0	0.0	1	No
3	Beaumont Av.	n/o Oak Valley Pkwy.	Sensitive	0.0	0.0	1	No
4	Beaumont Av.	s/o Oak Valley Pkwy.	Non-Sensitive	0.0	0.0	1	No
5	Beaumont Av.	n/o 1st St.	Non-Sensitive	2.4	2.5	1	**Yes**
6	Beaumont Av.	s/o 1st St.	Sensitive	1.9	2.0	1	**Yes**
7	Beaumont Av.	n/o Gilman Springs Rd.	Sensitive	0.4	0.4	1	No
8	California Av.	s/o 11th St.	Sensitive	1.1	1.1	3	No
9	California Av.	n/o 4th St.	Sensitive	0.1	0.1	1	No
10	California Av.	s/o 4th St.	Sensitive	0.1	0.1	1	No
11	California Av.	s/o 1st St.	Non-Sensitive	0.4	0.4	1	No
12	Pennsylvania Av.	n/o 1st St.	Non-Sensitive	0.1	0.1	1	No
13	Brookside Av.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
14	Brookside Av.	e/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
15	Oak Valley Pkwy.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
16	11th St.	w/o Beaumont Av.	Non-Sensitive	0.7	0.7	3	No
17	6th St.	e/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
18	1st St.	w/o Pennsylvania Av.	Non-Sensitive	0.0	0.0	1	No
19	1st St.	e/o Pennsylvania Av.	Non-Sensitive	0.1	0.1	1	No

[1] Based on a review of existing aerial imagery. Noise-sensitive land use is generally limited to residential areas because residents are more likely to be impacted by noise over time, especially during the nighttime hours when noise can disrupt sleep and overall quality of life.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.5 BACKGROUND (2030) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-6 shows that the Background (2030) (Option A) will increase the off-site traffic noise levels by 0.0 to 3.5 dBA CNEL and 0.0 to 3.7 dBA CNEL for the Background (2030) (Option B) conditions. Based on the significance criteria for off-site traffic noise presented in Table 4-1, two of the study area roadway segments are shown to experience *potentially significant* off-site traffic noise increases due to the Existing with Project Buildout conditions. The segments are described below.

- Beaumont Av. n/o 1st St. (Segment #5)
- Beaumont Av. s/o 1st St. (Segment #6)

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase in traffic noise levels over time and the off-site traffic impacts are generally limited

to noise sensitive residential receivers that are likely to perceive this increase. Section 7.9 describes the off-site traffic noise mitigation measures considered in this analysis. All other roadway segments would experience *less than significant* noise level increases due to the Project traffic under existing conditions.

TABLE 7-6: BACKGROUND (2030) WITH PROJECT TRAFFIC NOISE INCREASES

ID	Roadway	Segment	Receiving Land Use[1]	Incremental Noise Level Increase		Increase Threshold[3]	
				Option A	Option B	Limit	Exceeded?
1	Beaumont Av.	n/o Brookside Av.	Sensitive	0.0	0.0	1	No
2	Beaumont Av.	s/o Brookside Av.	Sensitive	0.0	0.0	1	No
3	Beaumont Av.	n/o Oak Valley Pkwy.	Sensitive	0.0	0.0	1	No
4	Beaumont Av.	s/o Oak Valley Pkwy.	Non-Sensitive	0.0	0.1	1	No
5	Beaumont Av.	n/o 1st St.	Non-Sensitive	3.5	3.7	1	**Yes**
6	Beaumont Av.	s/o 1st St.	Sensitive	3.0	3.2	1	**Yes**
7	Beaumont Av.	n/o Gilman Springs Rd.	Sensitive	0.6	0.7	1	No
8	California Av.	s/o 11th St.	Sensitive	1.7	1.9	3	No
9	California Av.	n/o 4th St.	Sensitive	0.1	0.1	1	No
10	California Av.	s/o 4th St.	Sensitive	0.3	0.3	1	No
11	California Av.	s/o 1st St.	Non-Sensitive	0.7	0.8	1	No
12	Pennsylvania Av.	n/o 1st St.	Non-Sensitive	0.0	0.0	1	No
13	Brookside Av.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
14	Brookside Av.	e/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
15	Oak Valley Pkwy.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
16	11th St.	w/o Beaumont Av.	Non-Sensitive	1.0	1.2	2	No
17	6th St.	e/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
18	1st St.	w/o Pennsylvania Av.	Non-Sensitive	0.1	0.1	1	No
19	1st St.	e/o Pennsylvania Av.	Non-Sensitive	0.1	0.1	1	No

[1] Based on a review of existing aerial imagery. Noise-sensitive land use is generally limited to residential areas because residents are more likely to be impacted by noise over time, especially during the nighttime hours when noise can disrupt sleep and overall quality of life.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.6 BACKGROUND (2032) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-7 shows that the Background (2032) (Option A) will increase the off-site traffic noise levels by 0.0 to 4.5 dBA CNEL and 0.0 to 4.7 dBA CNEL for the Background (2032) (Option B) conditions. Based on the significance criteria for off-site traffic noise presented in Table 4-1, two of the study area roadway segments are shown to experience *potentially significant* off-site traffic noise increases due to the Existing with Project Buildout conditions. The segments are described below.

- Beaumont Av. n/o 1st St. (Segment #5)
- Beaumont Av. s/o 1st St. (Segment #6)

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase in traffic noise levels over time and the off-site traffic impacts are generally limited to noise sensitive residential receivers that are likely to perceive this increase. Section 7.9 describes the off-site traffic noise mitigation measures considered in this analysis. All other roadway segments would experience *less than significant* noise level increases due to the Project traffic under existing conditions.

TABLE 7-7: BACKGROUND (2032) WITH PROJECT TRAFFIC NOISE INCREASES

ID	Roadway	Segment	Receiving Land Use[1]	Incremental Noise Level Increase		Increase Threshold[3]	
				Option A	Option B	Limit	Exceeded?
1	Beaumont Av.	n/o Brookside Av.	Sensitive	0.0	0.0	1	No
2	Beaumont Av.	s/o Brookside Av.	Sensitive	0.1	0.1	1	No
3	Beaumont Av.	n/o Oak Valley Pkwy.	Sensitive	0.1	0.1	1	No
4	Beaumont Av.	s/o Oak Valley Pkwy.	Non-Sensitive	0.1	0.1	1	No
5	Beaumont Av.	n/o 1st St.	Non-Sensitive	4.5	4.7	1	**Yes**
6	Beaumont Av.	s/o 1st St.	Sensitive	4.0	4.2	1	**Yes**
7	Beaumont Av.	n/o Gilman Springs Rd.	Sensitive	0.9	0.9	1	No
8	California Av.	s/o 11th St.	Sensitive	1.9	1.9	3	No
9	California Av.	n/o 4th St.	Sensitive	0.2	0.2	1	No
10	California Av.	s/o 4th St.	Sensitive	0.4	0.4	1	No
11	California Av.	s/o 1st St.	Non-Sensitive	0.9	0.9	1	No
12	Pennsylvania Av.	n/o 1st St.	Non-Sensitive	0.1	0.1	1	No
13	Brookside Av.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
14	Brookside Av.	e/o Beaumont Av.	Non-Sensitive	0.1	0.1	1	No
15	Oak Valley Pkwy.	w/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
16	11th St.	w/o Beaumont Av.	Non-Sensitive	1.2	1.2	2	No
17	6th St.	e/o Beaumont Av.	Non-Sensitive	0.1	0.1	1	No
18	1st St.	w/o Pennsylvania Av.	Non-Sensitive	0.1	0.2	1	No
19	1st St.	e/o Pennsylvania Av.	Non-Sensitive	0.1	0.1	1	No

[1] Based on a review of existing aerial imagery. Noise-sensitive land use is generally limited to residential areas because residents are more likely to be impacted by noise over time, especially during the nighttime hours when noise can disrupt sleep and overall quality of life.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.7 CUMULATIVE (2045) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-8 shows that the Cumulative (2045) (Option A) will increase the off-site traffic noise levels by 0.0 to 5.1 dBA CNEL and 0.0 to 5.3 dBA CNEL for the Cumulative (2045) (Option B) conditions. Based on the significance criteria for off-site traffic noise presented in Table 4-1, two of the study area roadway segments are shown to experience *potentially significant* off-site traffic noise increases due to the Existing with Project Buildout conditions. The segments are described below.

- Beaumont Av. n/o 1st St. (Segment #5)
- Beaumont Av. s/o 1st St. (Segment #6)

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase in traffic noise levels over time and the off-site traffic impacts are generally limited to noise sensitive residential receivers that are likely to perceive this increase. Section 7.9 describes the off-site traffic noise mitigation measures considered in this analysis. All other roadway segments would experience *less than significant* noise level increases due to the Project traffic under existing conditions.

TABLE 7-8: CUMULATIVE (2045) WITH PROJECT TRAFFIC NOISE INCREASES

ID	Roadway	Segment	Receiving Land Use[1]	Incremental Noise Level Increase		Increase Threshold[3]	
				Option A	Option B	Limit	Exceeded?
1	Beaumont Av.	n/o Brookside Av.	Sensitive	0.0	0.0	1	No
2	Beaumont Av.	s/o Brookside Av.	Sensitive	0.1	0.1	1	No
3	Beaumont Av.	n/o Oak Valley Pkwy.	Sensitive	0.1	0.1	1	No
4	Beaumont Av.	s/o Oak Valley Pkwy.	Non-Sensitive	0.1	0.1	1	No
5	Beaumont Av.	n/o 1st St.	Non-Sensitive	5.1	5.3	1	**Yes**
6	Beaumont Av.	s/o 1st St.	Sensitive	4.4	4.6	1	**Yes**
7	Beaumont Av.	n/o Gilman Springs Rd.	Sensitive	0.8	0.9	1	No
8	California Av.	s/o 11th St.	Sensitive	0.8	0.8	2	No
9	California Av.	n/o 4th St.	Sensitive	0.2	0.2	1	No
10	California Av.	s/o 4th St.	Sensitive	0.2	0.2	1	No
11	California Av.	s/o 1st St.	Non-Sensitive	0.5	0.5	1	No
12	Pennsylvania Av.	n/o 1st St.	Non-Sensitive	0.1	0.1	1	No
13	Brookside Av.	w/o Beaumont Av.	Non-Sensitive	0.1	0.1	1	No
14	Brookside Av.	e/o Beaumont Av.	Non-Sensitive	0.0	0.0	1	No
15	Oak Valley Pkwy.	w/o Beaumont Av.	Non-Sensitive	0.1	0.1	1	No
16	11th St.	w/o Beaumont Av.	Non-Sensitive	0.4	0.4	1	No
17	6th St.	e/o Beaumont Av.	Non-Sensitive	0.1	0.1	1	No
18	1st St.	w/o Pennsylvania Av.	Non-Sensitive	0.2	0.2	1	No
19	1st St.	e/o Pennsylvania Av.	Non-Sensitive	0.1	0.1	1	No

[1] Based on a review of existing aerial imagery. Noise-sensitive land use is generally limited to residential areas because residents are more likely to be impacted by noise over time, especially during the nighttime hours when noise can disrupt sleep and overall quality of life.
[2] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

7.8 OFF-SITE CUMULATIVE TRAFFIC NOISE IMPACTS

Table 7-9 presents a summary of the cumulative and Project (Option A) incremental noise level increases for each of the study area roadway segments. The cumulative traffic noise analysis describes the future changes in noise levels in comparison to the existing baseline noise levels. As shown in Table 7-9 the overall increase in off-site traffic noise levels from the Existing (baseline) to Cumulative 2045 with Project (Option A) conditions ranges from 0.8 to 9.1 dBA CNEL. The cumulative off-site traffic noise level increases are expected to range from 0.0 to 5.1 dBA CNEL and will exceed the cumulative off-site traffic noise level increase thresholds on two of the study area roadway segments. The Project's (Option A) contribution to the future noise level is considered *cumulatively considerable*.

Table 7-10 presents a summary of the cumulative and Project (Option B) incremental noise level increases for each of the study area roadway segments. The cumulative traffic noise analysis describes the future changes in noise levels in comparison to the existing baseline noise levels. As shown on Table 7-10 the overall increase in off-site traffic noise levels from the Existing (baseline) to Cumulative 2045 with Project (Option B) conditions ranges from 0.8 to 9.1 dBA CNEL. The cumulative off-site traffic noise level increases are expected to range from 0.0 to 5.3 dBA CNEL and will exceed the cumulative off-site traffic noise level increase thresholds on two of the study area roadway segments. The Project's (Option B) contribution to the future noise level is considered *cumulatively considerable*.

TABLE 7-9: PROJECT (OPTION A) INCREMENTAL NOISE INCREASE SUMMARY

ID	Roadway	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA CNEL)[2]					Incremental Noise	
				Existing No Project (a)	Future Without Project (b)	Future With Project (c)	Cumulative Increase (c-a)	Cumulative Contribution (c-b)	Limit	Exceeded?[3]
1	Beaumont Av.	n/o Brookside Av.	Sensitive	69.0	69.9	69.9	0.9	0.0	1	No
2	Beaumont Av.	s/o Brookside Av.	Sensitive	69.1	70.2	70.3	1.2	0.1	1	No
3	Beaumont Av.	n/o Oak Valley Pkwy.	Sensitive	70.4	71.8	71.9	1.5	0.1	1	No
4	Beaumont Av.	s/o Oak Valley Pkwy.	Non-Sensitive	69.6	71.3	71.4	1.8	0.1	1	No
5	Beaumont Av.	n/o 1st St.	Non-Sensitive	70.5	70.9	76.0	5.5	5.1	1	**Yes**
6	Beaumont Av.	s/o 1st St.	Sensitive	71.5	72.0	76.4	4.9	4.4	1	**Yes**
7	Beaumont Av.	n/o Gilman Springs Rd.	Sensitive	72.3	74.3	75.1	2.8	0.8	1	No
8	California Av.	s/o 11th St.	Sensitive	56.3	64.6	65.4	9.1	0.8	3	No
9	California Av.	n/o 4th St.	Sensitive	69.1	72.4	72.6	3.5	0.2	1	No
10	California Av.	s/o 4th St.	Sensitive	68.4	72.1	72.3	3.9	0.2	1	No
11	California Av.	s/o 1st St.	Non-Sensitive	66.5	70.5	71.0	4.5	0.5	1	No
12	Pennsylvania Av.	n/o 1st St.	Non-Sensitive	69.4	74.8	74.9	5.5	0.1	1	No
13	Brookside Av.	w/o Beaumont Av.	Non-Sensitive	65.5	70.0	70.1	4.6	0.1	1	No
14	Brookside Av.	e/o Beaumont Av.	Non-Sensitive	66.7	68.2	68.2	1.5	0.0	1	No
15	Oak Valley Pkwy.	w/o Beaumont Av.	Non-Sensitive	70.7	72.8	72.9	2.2	0.1	1	No
16	11th St.	w/o Beaumont Av.	Non-Sensitive	58.4	66.0	66.4	8.0	0.4	3	No
17	6th St.	e/o Beaumont Av.	Non-Sensitive	69.2	69.9	70.0	0.8	0.1	1	No
18	1st St.	w/o Pennsylvania Av.	Non-Sensitive	69.0	70.0	70.2	1.2	0.2	1	No
19	1st St.	e/o Pennsylvania Av.	Non-Sensitive	69.9	72.1	72.2	2.3	0.1	1	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-10: PROJECT (OPTION B) INCREMENTAL NOISE INCREASE SUMMARY

ID	Roadway	Segment	Receiving Land Use[1]	CNEL at Receiving Land Use (dBA CNEL)[2]					Incremental Noise	
				Existing No Project (a)	Future Without Project (b)	Future With Project (c)	Cumulative Increase (c-a)	Cumulative Contribution (c-b)	Limit	Exceeded?[3]
1	Beaumont Av.	n/o Brookside Av.	Sensitive	69.0	69.9	69.9	0.9	0.0	1	No
2	Beaumont Av.	s/o Brookside Av.	Sensitive	69.1	70.2	70.3	1.2	0.1	1	No
3	Beaumont Av.	n/o Oak Valley Pkwy.	Sensitive	70.4	71.8	71.9	1.5	0.1	1	No
4	Beaumont Av.	s/o Oak Valley Pkwy.	Non-Sensitive	69.6	71.3	71.4	1.8	0.1	1	No
5	Beaumont Av.	n/o 1st St.	Non-Sensitive	70.5	70.9	76.2	5.7	5.3	1	**Yes**
6	Beaumont Av.	s/o 1st St.	Sensitive	71.5	72.0	76.6	5.1	4.6	1	**Yes**
7	Beaumont Av.	n/o Gilman Springs Rd.	Sensitive	72.3	74.3	75.2	2.9	0.9	1	No
8	California Av.	s/o 11th St.	Sensitive	56.3	64.6	65.4	9.1	0.8	3	No
9	California Av.	n/o 4th St.	Sensitive	69.1	72.4	72.6	3.5	0.2	1	No
10	California Av.	s/o 4th St.	Sensitive	68.4	72.1	72.3	3.9	0.2	1	No
11	California Av.	s/o 1st St.	Non-Sensitive	66.5	70.5	71.0	4.5	0.5	1	No
12	Pennsylvania Av.	n/o 1st St.	Non-Sensitive	69.4	74.8	74.9	5.5	0.1	1	No
13	Brookside Av.	w/o Beaumont Av.	Non-Sensitive	65.5	70.0	70.1	4.6	0.1	1	No
14	Brookside Av.	e/o Beaumont Av.	Non-Sensitive	66.7	68.2	68.2	1.5	0.0	1	No
15	Oak Valley Pkwy.	w/o Beaumont Av.	Non-Sensitive	70.7	72.8	72.9	2.2	0.1	1	No
16	11th St.	w/o Beaumont Av.	Non-Sensitive	58.4	66.0	66.4	8.0	0.4	3	No
17	6th St.	e/o Beaumont Av.	Non-Sensitive	69.2	69.9	70.0	0.8	0.1	1	No
18	1st St.	w/o Pennsylvania Av.	Non-Sensitive	69.0	70.0	70.2	1.2	0.2	1	No
19	1st St.	e/o Pennsylvania Av.	Non-Sensitive	69.9	72.1	72.2	2.3	0.1	1	No

[1] Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.
[2] The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.
[3] Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

This finding is consistent with the City's General Plan EIR that determined that buildout of the City's General Plan could result in new vehicular traffic which could exceed the FHWA thresholds and could substantially increase the ambient noise levels in the city and its sphere of influence. The City's General Plan recognizes that an increase in noise levels will occur in industrial areas due to truck traffic. The City's General Plan goals and policies, therefore, are focused on protecting noise sensitive receivers from road noise, while encouraging timely and efficient goods movement that does not significantly contribute to noise in the City. The Project is located adjacent to the Truck Priority Network identified in General Plan Figure 4.9. Truck priority routes include Beaumont Avenue (SR-79), 1st Street, and Pennsylvania Avenue.

In addition, the City incorporated a number of General Plan policies and implementation programs to reduce traffic-related noise impacts, including the following polices: 10.1.2 (enforce noise standards), 10.1.3 (protect noise sensitive uses), 10.1.4 (require noise mitigation in the design of new development), 10.1.5 (require to new development to implement measures to normally compatible range), 10.1.8 (promote effective enforcement of federal, State, and City noise standards), 10.2.1 (work with Caltrans and FHA), 10.2.2 (enforce speed limits to reduce noise and enforce truck and bus routes), 10.2.3 (prohibit truck routes through neighborhoods with sensitive receptors), 10.2.4 (reduce roadway noise), 10.2.5 (traffic calming measures), 10.2.6 (encourage noise-reducing paving materials), and 10.2.7 (reduce noise generated from City-owned vehicles). Applicable implementation actions include: N2 (requirement for acoustical studies) and N5 (traffic noise assessments). Compliance with the City's General Plan policies and implementation actions would reduce impacts to the furthest extent feasible, but the potential off-site Project related traffic noise level increases on the study area roadway segments would remain *significant and unavoidable*. Section 7.9 describes the off-site traffic noise mitigation measures considered in this analysis.

7.9 OFF-SITE TRAFFIC NOISE MITIGATION

The off-site Traffic Noise Analysis shows that Project traffic noise level increases on two study area roadway segments will exceed the incremental noise level increase thresholds identified in the City of Beaumont General Plan DEIR and shown on Table 4-1. To reduce the *potentially significant* Project traffic noise level increases on the two study area roadway segments, potential noise mitigation measures were considered in this analysis. Potential mitigation measures discussed below include rubberized asphalt hot mix pavement and off-site noise barriers for the existing noise sensitive residential land uses adjacent to impacted roadway segments.

7.9.1 RUBBERIZED ASPHALT

Due to the potential noise attenuation benefits, rubberized asphalt is considered as a mitigation measure for the off-site Project-related traffic noise level increases. To reduce traffic noise levels at the noise source, Caltrans research has shown that rubberized asphalt can provide noise attenuation of approximately 4 dBA for automobile traffic noise levels. (9) Changing the pavement type of a roadway has been shown to reduce the amount of tire/pavement noise produced at the source under both near-term and long-term conditions. Traffic noise is generated primarily by the interaction of the tires and pavement, the engine, and exhaust systems. For automobiles noise, as much as 75 to 90-percent of traffic noise is generated by the

interaction of the tires and pavement, especially when traveling at higher and constant speeds. (3) According to research conducted by Caltrans (9) and(18) the Canadian Ministry of Transportation and Highways (25) a 4 dBA reduction in tire/pavement noise is attainable using rubberized asphalt under typical operating conditions.

The effectiveness of reducing traffic noise levels is higher on roadways with low percentages of heavy trucks, since the heavy truck engine and exhaust noise is not reduced by rubberized pavement. This is due to the height of the truck engine exhaust stack above the pavement. (9) Per Caltrans guidance a truck stack height is modeled using a height of 11.5 feet above the road. (5) (26) With the primary off-site traffic noise source for this Project consisting of heavy trucks with a stack height of 11.5 feet off the ground, the tire/pavement noise reduction benefits associated with rubberized asphalt will be primarily limited to autos.

While the off-site Project-related traffic noise level increases would theoretically be reduced with the 4 dBA reduction provided by rubberized asphalt, the reduction would not provide reliable benefits for the noise levels generated by heavy truck traffic. This is, as previously stated, due to the noise source height difference between automobiles and trucks. While rubberized asphalt will provide some noise reduction, this noise study recognizes that this is only effective for tire-on-pavement noise at higher speeds and would not reduce truck-related off-site traffic noise levels associated with truck engine and exhaust stacks to less than significant levels. Since the use of rubberized asphalt would not lower the off-site traffic noise levels below a level of significance, rubberized asphalt is not proposed as mitigation for the Project and the off-site Project-related traffic noise level increases at adjacent land uses under Existing Conditions would remain *significant.*

7.9.2 OFF-SITE NOISE BARRIERS

While noise barriers are commonly used to reduce the potential traffic noise levels from nearby transportation noise source activities, they are typically developed in coordination with new noise sensitive residential development or as part of a roadway widening project. Even though off-site noise barriers are typically not developed by individual off-site projects that contribute to the cumulative off-site traffic noise levels, off-site noise barriers were considered in this analysis as a potential traffic noise mitigation measure to reduce the Project-related impacts.

Off-site noise barriers are estimated to provide a *readily perceptible* 5 dBA reduction which, according to the FHWA, is *simple* to attain when blocking the line-of-sight from the noise source to the receiver. (5) Caltrans guidance in the Highway Design Manual, Section 1102.3(3), indicates that for design purposes, *the noise barrier should intercept the line of sight from the exhaust stack of a truck to the receptor*, and an 11.5-foot-high truck stack height is assumed to represent the truck engine and exhaust noise source. (26) As a result, any external noise barriers at noise-sensitive land uses affected by Project-related traffic noise increases would need to be sufficiently tall and long to obstruct the line-of-sight between the noise source (11.5 feet high, per Caltrans) and the receiver (5 feet high, per FHWA guidance) to achieve a 5 dBA noise reduction, as recommended by FHWA guidance. Consequently, off-site noise barriers are not considered feasible, as they would not reduce off-site traffic noise levels to below a level of significance.

Lastly, the Applicant cannot autonomously construct off-site walls or other features at property owned or controlled by others. As such, off-site noise barriers would not be feasible and would not lower the off-site traffic noise levels below a level of significance, and therefore, noise barriers are not proposed as mitigation for the Project.

7.9.3 SIGNIFICANT OFF-SITE TRAFFIC NOISE IMPACTS

Both rubberized asphalt and off-site noise barriers are considered as potential noise mitigation measures to reduce the *potentially significant* off-site traffic noise level increases shown on Table 7-7. However, due to the reasons outlined above, neither form of mitigation is recommended for implementation since they would not eliminate the off-site traffic noise level increases at the adjacent land uses to the impacted roadway segments. Therefore, the Project-related off-site traffic noise increases at adjacent noise-sensitive land uses are considered a *significant and unavoidable* impact.

8 RECEIVER LOCATIONS

To assess the potential for long-term stationary operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2.

Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the project boundary to each receiver location. To describe the potential off-site Project noise levels, five receiver locations in the vicinity of the Project site were identified.

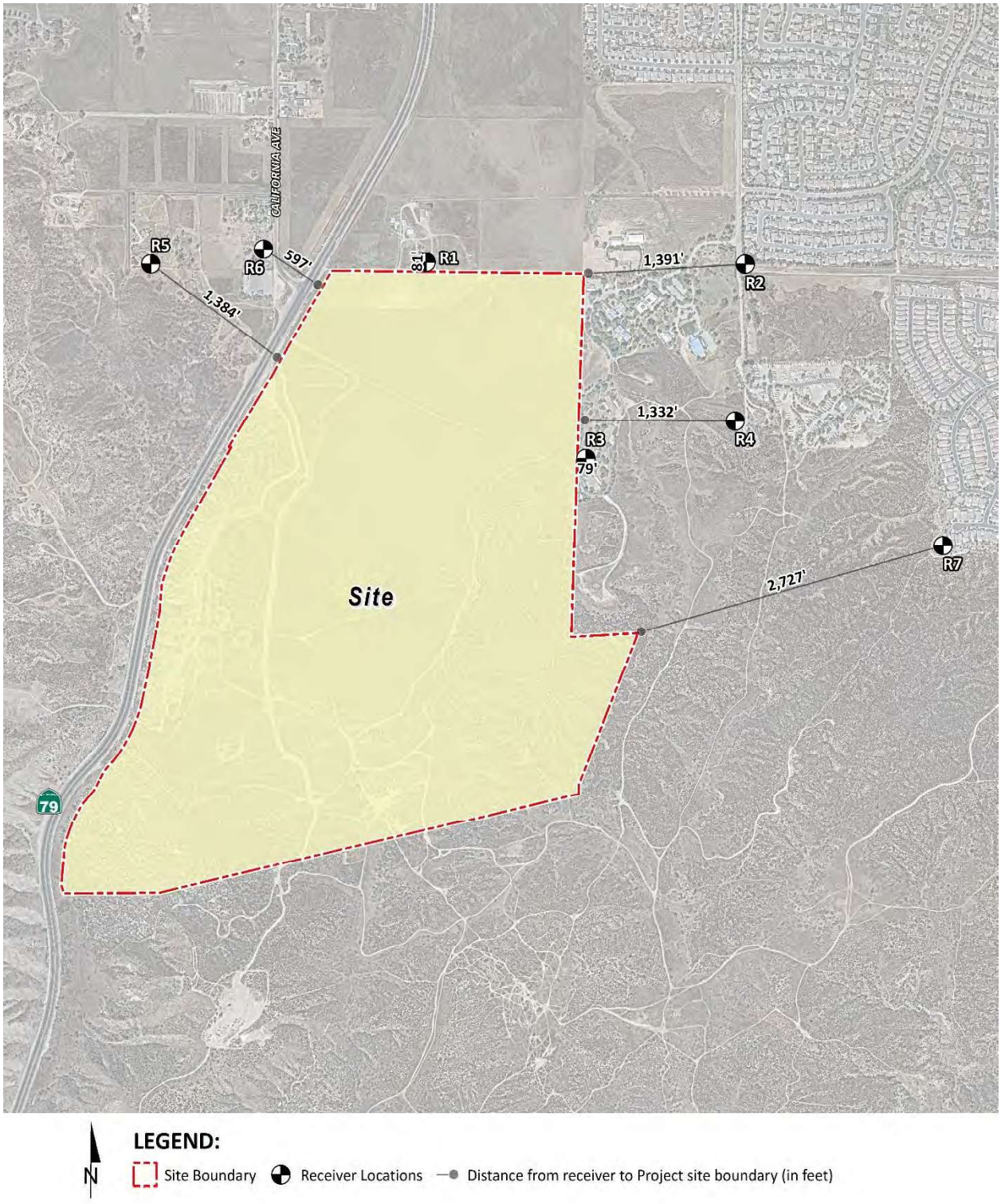
R1: Location R1 represents the existing residence at 14250 Beaumont Avenue, approximately 81 feet north of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, R1 is placed at the building façade. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment.

R2: Location R3 represents the existing residence at 239 Logan Avenue, approximately 1,391 feet east of the Project site. R2 is placed in the private outdoor living area (backyard) facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.

R3: Location R3 represents the Harmony Haven Children and Youth Center at 14700 Manzanita Park Road, approximately 79 feet east of the Project site. R3 is placed at the building façade nearest the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

R4: Location R4 represents the Country Hills RV Park at 14711 Manzanita Park Road, approximately 1,332 feet east of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R4 is placed at the building façade. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.

EXHIBIT 8-A: RECEIVER LOCATIONS



R5: Location R5 represents the existing residence at 14490 Green Acres Drive, approximately 1,384 feet northwest of the Project site. R5 is placed in the private outdoor living area (backyard) facing the Project site. A 24-hour noise measurement was taken near this location, L5, to describe the existing ambient noise environment.

R6: Location R6 represents the existing residence at 14455 California Avenue, approximately 597 feet northwest of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, R6 is placed at the building façade. A 24-hour noise measurement was taken near this location, L6, to describe the existing ambient noise environment.

R7: Location R7 represents the existing residence at 1451 Plymouth Rock, approximately 2,727 feet east of the Project site. R7 is placed in the private outdoor living area (backyard) facing the Project site. A 24-hour noise measurement was taken near this location, L4, to describe the existing ambient noise environment.

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9 STATIONARY OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source (i.e., on-site) operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the stationary operation of the proposed Beaumont Heights Business Center Project. At the time this noise analysis was prepared, the future tenants and building locations of the proposed non-residential land uses were unknown, and therefore, this noise study includes a conservative analysis of the potential worst-case noise environment. Exhibit 9-A identifies the 98 individual noise source locations used to assess the hourly average L_{eq} stationary operational noise levels.

9.1 STATIONARY OPERATIONAL NOISE SOURCES

This stationary operational noise analysis is intended to describe noise level impacts associated with the expected typical daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. Consistent with similar warehouse uses, the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movements, parking lot activities, as well as loading and unloading of trucks and vans at designated loading bays. The on-site Project-related noise sources are expected to include: cold storage loading dock activity, tractor trailer storage activity, parking lot vehicle movements, roof-top air conditioning units, trash enclosure activity, and truck movements.

9.2 REFERENCE NOISE LEVELS

To estimate the Project stationary operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a description of the reference noise level measurements shown on Table 9-1 used to estimate the Project stationary operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the cold storage loading dock activity, tractor trailer storage activity, parking lot vehicle movements, roof-top air conditioning units, trash enclosure activity, and truck movements all operating continuously, 24 hours per day, seven days per week. These sources of noise activity will likely vary throughout the day.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precision sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (20)

EXHIBIT 9-A: STATIONARY OPERATIONAL NOISE SOURCE LOCATIONS

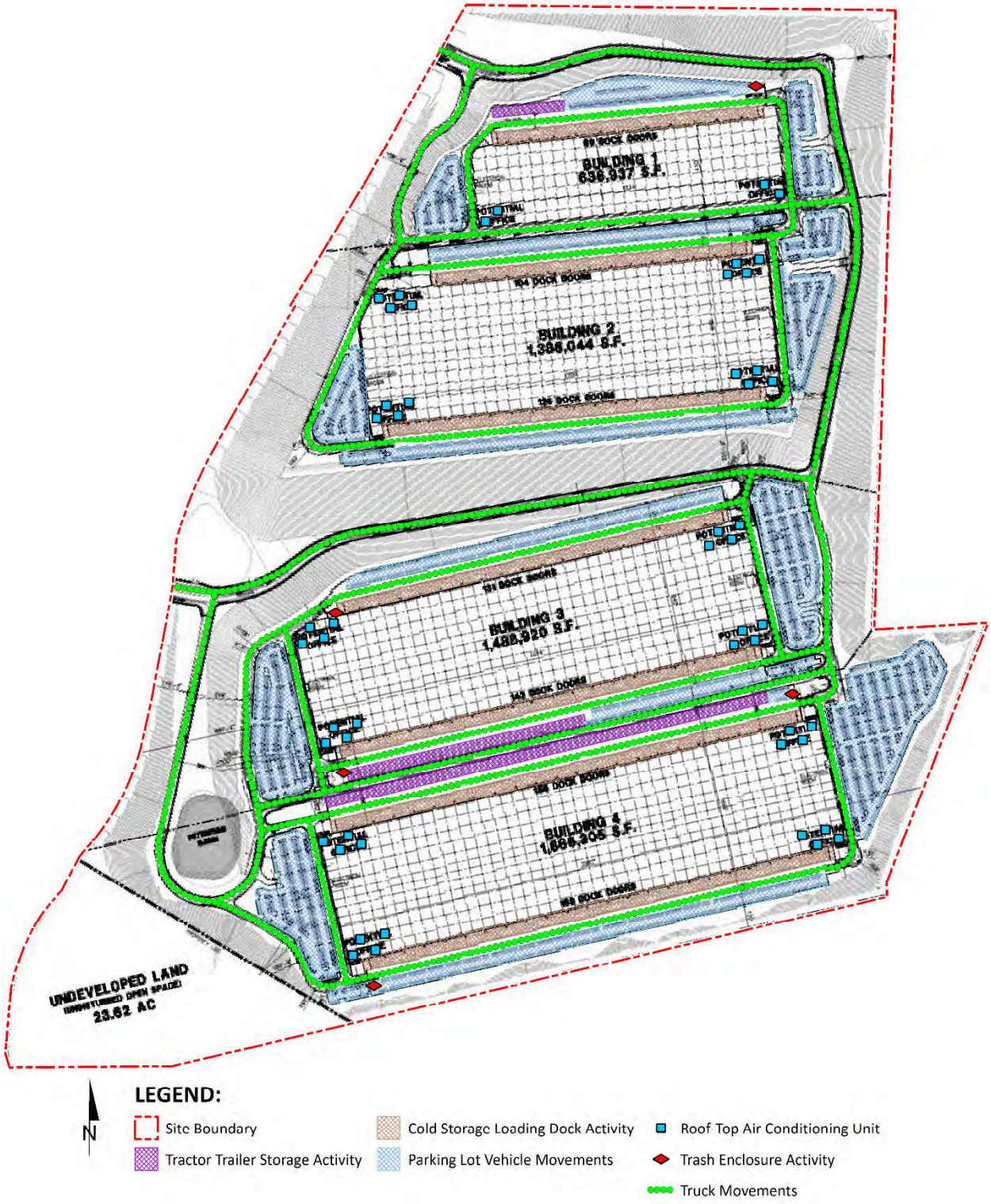


TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Reference Noise Source	Noise Source Height (Feet)	Min./ Hour[1]		Reference Noise Level (dBA L_{eq}) @ 50 Feet	Sound Power Level (dBA)[2]
		Day	Night		
Cold Storage Loading Dock Activity	8'	60	60	65.7	111.5
Tractor Trailer Storage Activity	8'	60	60	62.8	103.4
Parking Lot Vehicle Movements	5'	60	60	52.6	81.1
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Trash Enclosure Activity	5'	60	30	57.3	89.0
Truck Movements	8'	60	60	59.8	93.2

[1] Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

[2] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

9.2.2 COLD STORAGE LOADING DOCK ACTIVITY

The reference cold storage loading dock activities are intended to describe the typical outdoor operational noise activities associated with the Project. This includes truck idling, reefer activity (refrigerator truck/cold storage), deliveries, backup alarms, trailer docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background operation activities. Since the noise levels generated by cold storage loading dock activity can be higher due to the use of refrigerated trucks or reefers, this reference noise level conservatively assumes that all loading dock activity is associated with cold storage facilities even though cold storage is only anticipated for a portion of the Option B development. (27) The reference noise level measurement was taken in the center of the loading dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 65.7 dBA L_{eq} at a uniform distance of 50 feet. Specifically, the reference noise level measurement represents one truck located approximately 30 feet from the noise level meter with another truck passing by to park roughly 20 feet away, both with their engines idling. Throughout the reference noise level measurement, a separate docked and running reefer truck was located approximately 50 feet east of the measurement location. Additional background noise sources included truck pass-by noise, truck drivers talking to each other next to docked trucks, and air brake release noise when trucks parked.

9.2.3 TRACTOR TRAILER STORAGE ACTIVITY

To evaluate the noise levels associated with truck idling, backup alarms, trailer movements and storage activities, Urban Crossroads collected a reference noise level measurement at an existing parcel hub facility to describe the potential operational noise levels associated with Project tractor trailer storage activities. The measured reference noise level at 50 feet from activity was measured at 62.8 dBA L_{eq}. The reference noise level measurement includes a semi-truck with

trailer pass-by event, background switcher cab trailer towing, drop-off, idling, and backup alarm events. Tractor trailer activity is estimated during all the daytime, evening, and nighttime hours.

9.2.4 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity, a long-term reference noise level measurement was collected in the center of activity within the staff parking lot of a warehouse distribution center. At 50 feet from the center of activity, the parking lot produced a reference noise level of 52.6 dBA L_{eq}. Parking activities are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due to cars pulling in and out of parking spaces in combination with car doors opening and closing.

9.2.5 ROOF-TOP AIR CONDITIONING UNITS

The noise level measurements describe a single mechanical roof-top air conditioning unit. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise level is 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

9.2.6 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project Site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building.

9.2.7 TRUCK MOVEMENTS

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represent multiple heavy trucks entering and exiting the outdoor loading dock area producing a reference noise level of 59.8 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for trucks entering and existing the Project driveways and maneuvering in and out of the outdoor loading dock activity area.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels. Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources.

While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the CadnaA noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 9.1 includes the detailed noise model inputs including the planned screenwall used to estimate the Project operational noise levels presented in this section.

9.4 PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include cold storage loading dock activity, tractor trailer storage activity, parking lot vehicle movements, roof-top air conditioning units, trash enclosure activity, and truck movements, Urban Crossroads, Inc. calculated the stationary source operational noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Table 9-2 shows the Project stationary operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 37.1 to 51.0 dBA L_{eq}.

TABLE 9-2: DAYTIME PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)						
	R1	R2	R3	R4	R5	R6	R7
Cold Storage Loading Dock Activity	49.8	36.3	41.2	36.1	39.5	42.2	36.2
Loading Dock Activity	44.0	25.9	30.5	25.6	31.5	35.8	26.2
Parking Lot Vehicle Movements	19.6	6.7	23.5	10.3	13.0	14.4	10.3
Roof-Top Air Conditioning Units	30.3	24.8	36.6	27.7	28.0	29.0	25.5
Trash Enclosure Activity	19.5	12.6	16.5	7.6	11.6	14.8	12.8
Truck Movements	35.5	20.1	31.8	21.5	30.3	33.8	21.3
Total (All Noise Sources)	**51.0**	**37.1**	**43.2**	**37.1**	**40.8**	**43.7**	**37.1**

[1] See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

Table 9-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 36.9 to 51.0 dBA L_{eq}. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 9-1). Appendix 9.1 includes the detailed noise model inputs.

TABLE 9-3: NIGHTTIME PROJECT STATIONARY OPERATIONAL NOISE LEVELS

Noise Source[1]	Operational Noise Levels by Receiver Location (dBA Leq)						
	R1	R2	R3	R4	R5	R6	R7
Cold Storage Loading Dock Activity	49.8	36.3	41.2	36.1	39.5	42.2	36.2
Loading Dock Activity	44.0	25.9	30.5	25.6	31.5	35.8	26.2
Parking Lot Vehicle Movements	19.6	6.7	23.5	10.3	13.0	14.4	10.3
Roof-Top Air Conditioning Units	27.9	22.4	34.2	25.3	25.6	26.6	23.1
Trash Enclosure Activity	15.5	8.6	12.5	3.6	7.7	10.9	8.8
Truck Movements	35.5	20.1	31.8	21.5	30.3	33.8	21.3
Total (All Noise Sources)	**51.0**	**36.9**	**42.7**	**36.9**	**40.7**	**43.7**	**36.9**

[1] See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

9.5 PROJECT STATIONARY OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only stationary operational noise levels are evaluated against exterior noise level thresholds based on the City of Beaumont exterior noise level standards at the nearest noise-sensitive receiver locations. Based on the CadnaA noise prediction model results that account for the noise attenuation due to distance from the noise source activities, Table 9-4 shows the stationary operational noise levels associated with the Beaumont Heights Business Center Project will not exceed the City of Beaumont exterior noise level standards adjusted to reflect the ambient conditions at the nearest receiver locations. Therefore, the stationary operational noise impacts are considered *less than significant* at the nearest noise-sensitive receiver locations.

TABLE 9-4: STATIONARY OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location[1]	Project Operational Noise Levels (dBA L_{eq})[2]		Noise Level Standards (dBA L_{eq})[3]		Noise Level Standards Exceeded?[4]	
	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	51.0	51.0	67.5	65.7	No	No
R2	37.1	36.9	61.7	58.1	No	No
R3	43.2	42.7	56.7	52.1	No	No
R4	37.1	36.9	56.7	52.1	No	No
R5	40.8	40.7	49.6	50.3	No	No
R6	43.7	43.7	67.5	65.7	No	No
R7	37.1	36.9	50.8	41.3	No	No

[1] See Exhibit 8-A for the receiver locations.
[2] Proposed Project operational noise levels as shown on Tables 9-2 and 9-3.
[3] Exterior noise level standards, adjusted to reflect the ambient noise levels (see Table 5-1) per the City of Beaumont Municipal Code Section 9.02.050[e].
[4] Do the estimated Project stationary operational noise source activities exceed the noise level standards? "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.

9.6 PROJECT STATIONARY OPERATIONAL NOISE LEVEL INCREASES

To describe the Project stationary operational noise level increases, the Project stationary operational noise levels are combined with the existing ambient noise levels measurements for the nearest receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (3) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10\log_{10}[10^{SPL1/10} + 10^{SPL2/10} + \ldots 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project stationary operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented in Tables 9-5 and 9-6, respectively. As indicated in Table 9-5, the Project will generate a daytime stationary operational noise level increase ranging from 0.0 to 0.5 dBA L_{eq} at the nearest receiver locations. Table 9-6 shows that the Project will generate a nighttime stationary operational noise level increase ranging from 0.0 to 1.4 dBA L_{eq} at the nearest receiver locations. Based on the significance criteria presented in Table 4-1, the Project-related stationary operational noise level increases will not exceed the operational noise increase criteria at the nearest sensitive receiver locations, and the impact will be *less than significant.*

TABLE 9-5: DAYTIME PROJECT STATIONARY OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	51.0	L6	67.5	67.6	0.1	5	No
R2	37.1	L2	61.7	61.7	0.0	5	No
R3	43.2	L3	56.7	56.9	0.2	5	No
R4	37.1	L3	56.7	56.7	0.0	5	No
R5	40.8	L5	49.6	50.1	0.5	5	No
R6	43.7	L6	67.5	67.5	0.0	5	No
R7	37.1	L4	50.8	51.0	0.2	5	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project daytime operational noise levels as shown on Table 9-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

TABLE 9-6: NIGHTTIME STATIONARY OPERATIONAL NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Operational Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	51.0	L6	65.7	65.8	0.1	5	No
R2	36.9	L2	58.1	58.1	0.0	5	No
R3	42.7	L3	52.1	52.6	0.5	5	No
R4	36.9	L3	52.1	52.2	0.1	5	No
R5	40.7	L5	50.3	50.8	0.5	5	No
R6	43.7	L6	65.7	65.7	0.0	5	No
R7	36.9	L4	41.3	42.7	1.4	5	No

[1] See Exhibit 8-A for the receiver locations.
[2] Total Project nighttime operational noise levels as shown on Table 9-3.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed nighttime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project activities.
[6] The noise level increase expected with the addition of the proposed Project activities.
[7] Significance increase criteria as shown on Table 4-1.

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10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 8. To prevent high levels of construction noise from impacting noise-sensitive land uses, Section 9.02.110(F) of the City of Beaumont Municipal Code limits construction activities to the hours of 7:00 a.m. and 6:00 p.m. In addition, the Project construction noise source activities, off-site Project construction trips would occur throughout the construction period and would be associated with the delivery of building materials, construction workers, supplies, and concrete to the Project Site.

10.1 CONSTRUCTION ACTIVITIES

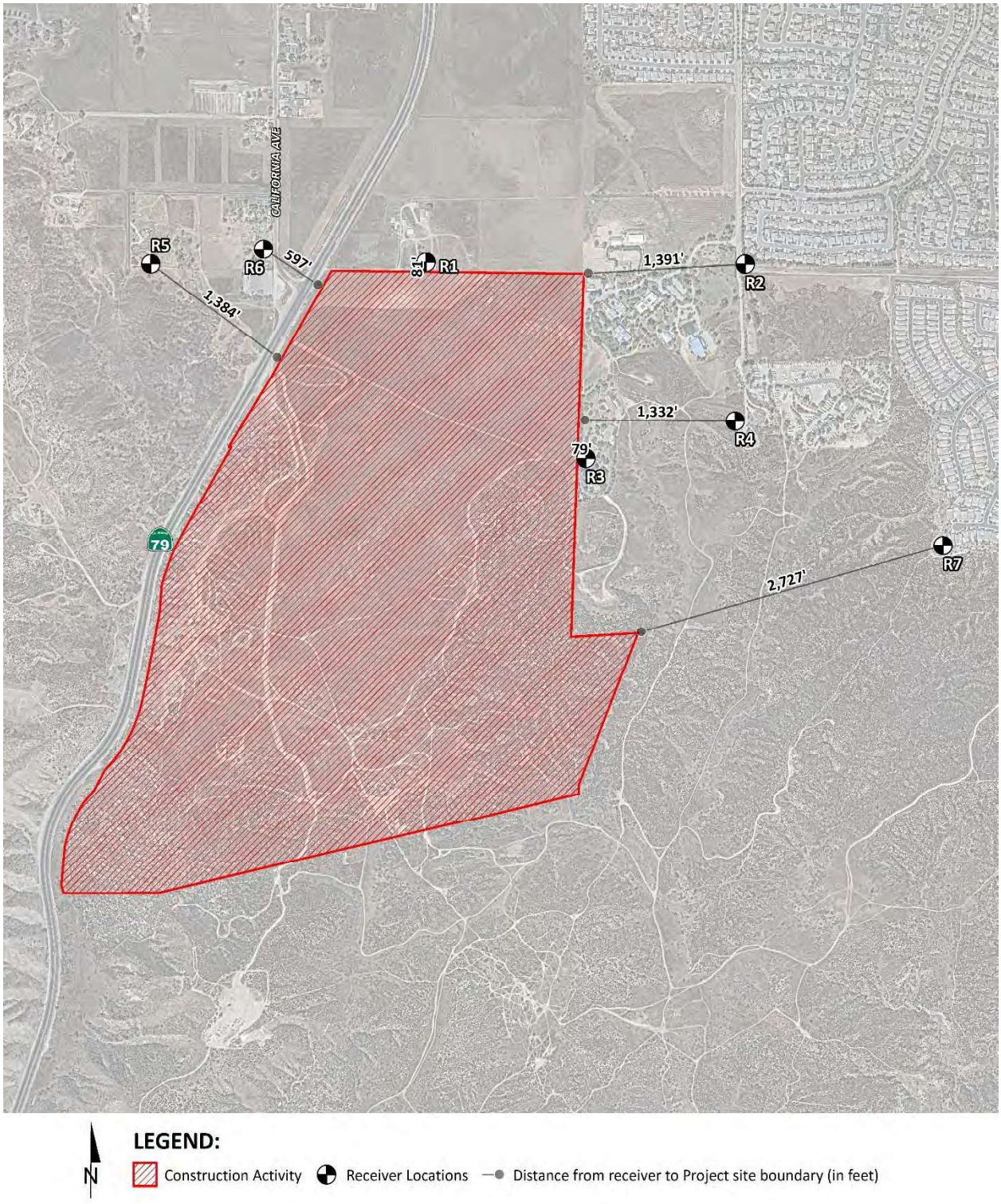
The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (28) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



10.3 ON-SITE CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for detailed construction noise assessment, Table 10-1 presents the combined noise levels for the loudest construction equipment, assuming all equipment operates at the same time. To account for the dynamic nature of construction activities, the CadnaA construction noise analysis evaluates the equipment as multiple moving point sources within the construction area (Project site boundary). Construction impacts are based on the highest noise level calculated at each receiver location. As shown on Table 10-2, the construction noise levels are expected to range from 33.0 to 59.8 dBA L_{eq} at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Equipmnet[1]	Reference Noise Level @ 50 Feet (dBA L_{eq})	Composite Reference Noise Level (dBA L_{eq})[2]	Reference Power Level (dBA L_w)[3]
Site Preparation	Tractor	80	84.0	115.6
	Backhoe	74		
	Grader	81		
Grading	Scraper	80	83.3	114.9
	Excavator	77		
	Dozer	78		
Building Construction	Crane	73	80.6	112.2
	Generator	78		
	Front End Loader	75		
Paving	Paver	74	77.8	109.5
	Dump Truck	72		
	Roller	73		
Architectural Coating	Man Lift	68	76.2	107.8
	Compressor (air)	74		
	Generator (<25kVA)	70		

[1] FHWA Road Construction Noise Model.
[2] Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.
[3] Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings.

TABLE 10-2: ON-SITE CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})					
	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels[2]
R1	56.6	55.9	53.2	50.5	48.8	59.4
R2	41.2	40.5	37.8	35.1	33.4	44.0
R3	57.0	56.3	53.6	50.9	49.2	59.8
R4	43.7	43.0	40.3	37.6	35.9	46.5
R5	48.9	48.2	45.5	42.8	41.1	51.7
R6	50.8	50.1	47.4	44.7	43.0	53.6
R7	40.8	40.1	37.4	34.7	33.0	43.6

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Construction noise level calculations based on distance from the construction activity area to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

10.4 PROJECT SITE CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at nearby receiver locations, a construction-related noise level threshold of 75 dBA L_{eq} is used as acceptable thresholds to assess construction noise level impacts. This exterior construction noise level standard represents the combination of the City of Beaumont 55 dBA L_{eq} daytime interior noise level limit and the Noise Reduction (NR) of approximately 20 dBA for typical buildings with "windows closed" (5). The construction noise analysis shows that the impacts on nearby residential receiver locations will fall below the 75 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

TABLE 10-3: PROJECT SITE CONSTRUCTION NOISE LEVEL COMPLIANCE

Receiver Location[1]	Construction Noise Levels (dBA L_{eq})		
	Highest Construction Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	59.4	75	No
R2	44.0	75	No
R3	59.8	75	No
R4	46.5	75	No
R5	51.7	75	No
R6	53.6	75	No
R7	43.6	75	No

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Highest construction noise level calculations based on distance from the construction noise source activity area to the nearest receiver locations as shown on Table 10-2.
[3] Acceptable exterior construction noise level thresholds based on the City of Beaumont 55 dBA Leq interior noise level limit and the 20 dBA noise reduction associated with typical building construction.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.5 TEMPORARY CONSTRUCTION NOISE LEVEL INCREASES

To describe the temporary Project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels were combined with the existing ambient noise levels measurements at the nearest off-site receiver locations. The difference between the combined Project-construction and ambient noise levels is used to describe the construction noise level contributions. Temporary noise level increases that would be experienced at sensitive receiver locations when Project construction-source noise is added to the ambient daytime conditions are presented on Table 10-4. A temporary noise level increase of 12 dBA is considered a *potentially significant* impact based on Caltrans substantial noise level increase criteria. (19)

TABLE 10-4: DAYTIME CONSTRUCTION NOISE LEVEL INCREASES

Receiver Location[1]	Total Project Construction Noise Level[2]	Measurement Location[3]	Reference Ambient Noise Levels[4]	Combined Project and Ambient[5]	Project Increase[6]	Increase Criteria[7]	Increase Criteria Exceeded?
R1	59.4	L6	67.5	68.1	0.6	12	No
R2	44.0	L2	61.7	61.8	0.1	12	No
R3	59.8	L3	56.7	61.6	4.9	12	No
R4	46.5	L3	56.7	57.1	0.4	12	No
R5	51.7	L5	49.6	53.8	4.2	12	No
R6	53.6	L6	67.5	67.7	0.2	12	No
R7	43.6	L4	50.8	51.6	0.8	12	No

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Total Project daytime construction noise levels as shown on Table 10-2.
[3] Reference noise level measurement locations as shown on Exhibit 5-A.
[4] Observed daytime ambient noise levels as shown on Table 5-1.
[5] Represents the combined ambient conditions plus the Project construction activities.
[6] The noise level increase expected with the addition of the proposed Project construction activities.
[7] Significance increase criteria as shown on Table 4-1.

As indicated in Table 10-4, the Project will contribute construction noise increases ranging from 0.1 to 4.9 dBA L_{eq} during the daytime hours at the nearest receiver locations. The unmitigated construction noise analysis shows that the nearest receiver locations will not exceed Caltrans *substantial* 12 dBA L_{eq} noise level increase significance threshold during Project construction activities. The temporary construction noise level increase analysis shows that the noise impacts due to Project construction noise are considered *less than significant*.

10.6 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

It is our understanding that nighttime concrete pouring activities will occur as a part of Project building construction activities. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours and are generally limited to the actual building pad area. Since the nighttime concrete pours will take place outside the permitted City of Beaumont Municipal Code 9.02.110.F.1 hours of 7:00 a.m. to 6:00 p.m., the Project Applicant will be required to obtain authorization for nighttime work from the City of Beaumont. Any nighttime construction noise activities are evaluated against the City of Beaumont nighttime exterior construction noise level threshold of 65 dBA L_{eq}.

10.6.1 NIGHTTIME CONCRETE POUR REFERENCE NOISE LEVEL MEASUREMENTS

To estimate the noise levels due to nighttime concrete pouring activities, sample reference noise level measurements were taken during a nighttime concrete pouring at a construction site. Urban Crossroads, Inc. collected short-term nighttime concrete pour reference noise level measurements during the noise-sensitive nighttime hours between 1:00 a.m. to 2:00 a.m. at 27334 San Bernardino Avenue in the City of Redlands. The reference noise levels describe the expected concrete pour noise sources that may include concrete mixer truck movements and pouring activities, concrete paving equipment, rear mounted concrete mixer truck backup alarms, engine idling, air brakes, generators, and workers communicating/whistling. To describe the nighttime concrete pour noise levels associated with the construction of the Beaumont Heights Business Center, this analysis relies on reference sound pressure level of 67.7 dBA L_{eq} at 50 feet representing a sound power level of 100.3 dBA L_w. While the Project noise levels will depend on the actual duration of activities and specific equipment fleet in use at the time of construction, the reference sound power level of 100.3 dBA L_w is used to describe the expected Project nighttime concrete pour noise activities.

10.6.2 NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

As shown on Table 10-5, the noise levels associated with the nighttime concrete pour activities are estimated to range from 25.5 to 41.7 dBA $L_{eq.}$ The analysis shows that the unmitigated nighttime concrete pour activities will not exceed the construction noise level threshold at all the nearest noise sensitive receiver locations. Therefore, the noise impacts due to Project construction nighttime concrete pour noise activity are considered *less than significant* at all receiver locations with prior authorization for nighttime work from the City of Beaumont. Appendix 10.2 includes the CadnaA nighttime concrete pour noise model inputs.

TABLE 10-5: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

Receiver Location[1]	Concrete Pour Construction Noise Levels (dBA L_{eq})		
	Exterior Noise Levels[2]	Threshold[3]	Threshold Exceeded?[4]
R1	41.3	65	No
R2	25.9	65	No
R3	41.7	65	No
R4	28.4	65	No
R5	33.6	65	No
R6	35.5	65	No
R7	25.5	65	No

[1] Construction noise source and receiver locations are shown on Exhibit 10-A.
[2] Nighttime Concrete Pour noise model inputs are included in Appendix 10.2.
[3] Acceptable exterior construction noise level thresholds based on the City of Beaumont interior noise level limit and the 20 dBA noise reduction associated with typical building construction.
[4] Do the estimated Project construction noise levels exceed the construction noise level threshold?

10.7 CONSTRUCTION VIBRATION LEVELS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected receivers and soil type. It is expected that ground-borne vibration from Project construction activities would cause only intermittent, localized intrusion. The human response (annoyance) to ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration (FTA). (9)

Ground vibration levels associated with various types of construction equipment are summarized on Table 10-6. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. To describe the human response (annoyance) associated with vibration impacts the FTA provides the following equation:
$L_{VdB}(D) = L_{VdB}(25\text{ ft}) - 30\log(D/25)$

TABLE 10-6: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Vibration Decibels (VdB) at 25 feet
Small bulldozer	58
Jackhammer	79
Loaded Trucks	86
Large bulldozer	87

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 10-7 presents the expected construction equipment vibration levels at the nearest receiver locations. At distances ranging from 79 feet to 2,727 feet from Project construction activities (at the Project site boundary), construction vibration levels are estimated to range from 25.9 to 72.0 VdB and will remain below the *FTA Transit Noise and Vibration Impact Assessment Manual* maximum acceptable vibration criteria of 78 VdB for daytime residential uses at all receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 10-7: CONSTRUCTION EQUIPMENT VIBRATION LEVELS

Receiver Location[1]	Distance to Construction Activity (Feet)	Receiver Vibration Levels (VdB)[2]					Threshold VdB[3]	Threshold Exceeded?[4]
		Small Bulldozer	Jack-hammer	Loaded Trucks	Large Bulldozer	Highest Vibration Levels		
R1	81'	42.7	63.7	70.7	71.7	71.7	78	No
R2	1,391'	5.6	26.6	33.6	34.6	34.6	78	No
R3	1,332'	6.2	27.2	34.2	35.2	35.2	78	No
R4	79'	43.0	64.0	71.0	72.0	72.0	78	No
R5	1,384'	5.7	26.7	33.7	34.7	34.7	78	No
R6	597'	16.7	37.7	44.7	45.7	45.7	78	No
R7	2,727'	0.0	17.9	24.9	25.9	25.9	78	No

[1] Noise receiver locations are shown on Exhibit 10-A.
[2] Based on the Vibration Source Levels of Construction Equipment included on Table 10-4.
[3] FTA Transit Noise and Vibration Impact Assessment maximum acceptable vibration criteria as shown in Section 3.5.
[4] Does the vibration level exceed the maximum acceptable vibration threshold?

11 REFERENCES

1. **State of California.** *California Environmental Quality Act, Appendix G.* 2022.
2. **Urban Crossroads, Inc.** *Beaumont Heights Business Center Traffic Analysis.* September 2025.
3. **California Department of Transportation Environmental Program.** *Technical Noise Supplement - A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA : s.n., September 2013.
4. **Environmental Protection Agency Office of Noise Abatement and Control.** *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* March 1974. EPA/ONAC 550/9/74-004.
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19. **California Department of Transportation.** *Traffic Noise Analysis Protocol.* April 2020.
20. **American National Standards Institute (ANSI).** *Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.*
21. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.

22. **County of Riverside, Office of Industrial Hygiene.** *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures.* April 2015.

23. **California Department of Transportation Environmental Program, Office of Environmental Engineering.** *Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction.* September 1995. TAN 95-03.

24. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.

25. **Canadian Ministry of Transportation and Highways, Highway Environment Branch.** *Open-Graded Asphalt 'Quiet Pavement' - Assessment of Traffic Noise Reduction Performance.* November 1995.

26. **California Department of Transportation.** *Highway Design Manual, Chapter 1100 Highway Traffic Noise Abatement.* November 2017.

27. **Urban Crossroads, Inc.** *Bell Mountain Commerce Center Traffic Analysis.* September 2025.

28. **U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning.** *FHWA Roadway Construction Noise Model.* January, 2006.

12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Beaumont Heights Business Center Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

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EDUCATION

Master of Science in Civil and Environmental Engineering
California Polytechnic State University, San Luis Obispo • December, 1993

Bachelor of Science in City and Regional Planning
California Polytechnic State University, San Luis Obispo • June, 1992

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009
AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012
PTP – Professional Transportation Planner • May, 2007 – May, 2013
INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

ASA – Acoustical Society of America
ITE – Institute of Transportation Engineers

PROFESSIONAL CERTIFICATIONS

Certified Acoustical Consultant – County of San Diego • March, 2018
Certified Acoustical Consultant – County of Orange • February, 2011
FHWA-NHI-142051 Highway Traffic Noise Certificate of Training • February, 2013

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APPENDIX 3.1:

CITY OF BEAUMONT MUNICIPAL CODE

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Chapter 9.02 NOISE CONTROL[1]

9.02.010 Purpose.

The purpose of this Chapter is to establish criteria and standards for the regulation of noise levels within the City and to implement the noise provisions contained in the City's General Plan.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.020 Findings.

It is hereby found and declared that:

A. The making, creation or maintenance of excessive, unnecessary, unnatural or unusually loud noises which are prolonged, unusual and unnatural in their time, place and use, affect and are a detriment to public health, comfort, convenience, safety, welfare and prosperity of the residents of the City; and

B. The necessity for the provisions and prohibitions hereinafter contained and enacted is hereby declared as a matter of legislative determination and public policy. It is further declared that the provisions and prohibitions hereinafter contained and enacted are in pursuance of and for the purpose of securing and promoting the public health, comfort, convenience, safety, welfare and prosperity and the peace and quiet of the City.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.030 Definitions.

"Ambient noise" shall mean the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding any intrusive noise.

"Capital improvement" shall mean major construction, acquisition or maintenance/repair projects. Examples of capital improvements include street improvements, park development and construction of public buildings or structures, treatment plants. Structures include lighting, sewer and water pipelines and other related utility structures including treatment plants, gas, electric and other infrastructure, landscaping and drainage facilities and all other public infrastructure. "Acquisitions" include the acquisition of land or interest in land. Major maintenance/repairs may include street resurfacing and modifications to public buildings and structures.

"Commercial purpose" shall mean the use, operation or maintenance of any sound-amplifying equipment for the purpose of advertising any business, goods or services and/or for the purpose of advertising or attracting the attention of the public to or soliciting patronage for any performance, entertainment, exhibition or event, or for the purpose of demonstrating any such sound equipment.

[1]Ord. No. 1067 , § 1(Exh. A), adopted Jan. 19, 2016, amended Ch. 9.02 in its entirety to read as herein set out. Former Ch. 9.02, §§ 9.02.010—9.02.110, pertained to similar subject matter, and derived from Ord. No. 914, § 1, adopted July 3, 2007; Ord. 997, adopted May 3, 2011.

"Cumulative time period" shall mean a period of time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" shall mean a measurement unit of sound pressure level which denotes the ratio between two quantities which are proportional to power; the number of decibels corresponding to the ratio of two amounts of power is ten times the logarithm to the base ten of this ratio.

"Governmental agency" shall mean the United States (federal government), the State of California, the County of Riverside, the City of Beaumont, the school district and any special district within Riverside County or any combination of these agencies.

"Impact noise" shall mean the sound produced by the impact or collision of one moving object or mass with a second object or mass that is stationary or moving.

"Intrusive noise" shall mean a sound which intrudes over and above the existing ambient noise level at a given location.

"Motor-driven vehicle" shall include, but not be limited to, any automobile, truck, van, bus, motorcycle, minibike, go-cart or other self-propelled vehicle, on or off road, and aircraft.

"Noise" shall mean any sound that is loud or disturbing or that interferes with one's ability to hear some other sound.

"Noise level" shall mean the "A" weighted sound pressure level in decibels audible to humans obtained by using a sound level meter. The unit of noise level measurement shall be designated as dB(A).

"Person" shall mean a person, firm, association, partnership, joint venture, corporation or any entity, public or private in nature.

"Public property" shall mean property that is owned by any governmental agency as indicated in this section or held by the public, including, but not limited to, parks, streets, sidewalks, and alleys.

"Simple tone noise" shall mean a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Sound pressure level of a sound, in decibels" shall mean 20 times the logarithm to the base ten of the ratio of the pressure of this sound to the reference pressure, which reference pressure shall be explicitly stated.

As used in Section 9.02.110(H), "public nuisance'' is defined by Civil Code Section 3479.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.040 Noise level measurement criteria.

A. Any noise level measurement, made pursuant to the provisions of this Chapter, shall be determined by using a sound level meter that meets the minimum requirements of the American National Standard Institute for sound level meters, or by using an instrument with associated recording and analyzing equipment that will provide equivalent data.

B. The factors which shall be considered in determining whether a violation of the provisions of this section exists shall include, but not be limited to, the following:

   1. The sound level of the objectionable noise;

   2. The sound level of the ambient noise;

   3. The proximity of the noise to residential sleeping facilities;

   4. The nature and zoning of the area within which the noise emanates;

5. The number of persons affected by the noise source;

6. The time of day or night the noise occurs;

7. The duration of the noise and its tonal, informational or musical content;

8. Whether the noise is produced by a commercial or noncommercial activity.

C. The above factors shall be considered in addition to the noise levels set forth in this section in determining a violation. However, noises do not necessarily need to exceed those noise level limits to be considered unnecessary or unusual so as to cause discomfort or annoyance to persons in the area.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.050 Base ambient noise level.

All ambient noise measurements shall commence at the base ambient noise levels in decibels within the respective times and zones as follows:

Decibels	Time	Zone Use
45 dB(A)	10:00 p.m. — 7:00 a.m.	Residential
55 dB(A)	7:00 a.m. — 10:00 p.m.	Residential
50 dB(A)	10:00 p.m. — 7:00 a.m.	Industrial and Commercial
75 dB(A)	7:00 a.m. — 10:00 p:m.	Industrial and Commercial

Actual decibel measurements exceeding the levels set forth hereinabove at the times and within the zones corresponding thereto shall be employed as the "base ambient noise level" referred to in this Chapter. Otherwise, no ambient noise shall be deemed to be less than the above specified levels.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.060 Exterior noise level measurement.

Except as otherwise specifically provided herein, all reference to "exterior noise" or "exterior noise levels" as used in this Chapter shall be as measured at any point relative to the closest point of the source of the noise at the property line of the complaining party. Measurements will not be made during extraordinary times, such as during the movement of a nearby train or airplane.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.070 Maximum residential noise levels.

No noise level shall exceed the following for the duration periods specified:

Noise Level Exceeded	Maximum Duration Period
5 dB(A) above BANL	15 minutes any hour
10 dB(A) above BANL	5 minutes any hour
15 dB(A) above BANL	1 minute any hour
20 dB(A) above BANL	Not permitted

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.080 Maximum interior noise levels.

A. No person shall operate or cause to be operated, any source of sound which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:

Decibels	Time	Land Use
35 dB(A)	10:00 p.m. — 7:00 a.m.	Residential
45 dB(A)	7:00 a.m. — 10:00 p.m.	Residential
45 dB(A)	7:00 a.m. — 10:00 p.m. (while school is in session)	School
45 dB(A)	Anytime	Hospital

B. No person shall operate or cause to be operated, any source of sound which causes the noise level, when measured inside another dwelling unit, school or hospital, to exceed:

Noise Level Exceeded	Maximum Duration Period
5 dB(A) above interior BANL	5 minutes any hour
10 dB(A) above interior BANL	1 minutes any hour
Over 10 dB(A) above interior BANL	Not permitted

C. If the measured interior ambient noise level exceeds that permissible within the first two noise limit categories in this section, the allowable noise exposure standard shall be increased in five decibel increments in each category as appropriate to reflect the interior ambient noise level. In the event the interior ambient noise level exceeds the third noise limit category, the maximum allowable interior noise level under said category shall be increased to reflect the maximum interior ambient noise level.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.090 Maximum nonresidential noise levels.

Any provision contained herein to the contrary notwithstanding, no exterior noise level shall exceed the base ambient noise levels (BANL) for nonresidential land uses set forth in any development agreement applicable to such development or as otherwise specifically set forth in any development standard which is by its terms enforceable by the City against the noise maker.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.100 Exemptions.

Sound emanating from the following sources is exempt from the provisions of this Chapter:

A. Capital improvement projects of a governmental agency.

B. Maintenance and repair of public properties by a governmental agency.

C. Utility and street repairs, street sweepers, garbage services, emergency response warning noises, emergency generators and fire alarm systems are exempt from this Chapter.

D. Other public/governmental services or operations including, but not limited to trains and railway or airplanes and helicopter machinery, equipment or vehicles.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.110 Special provisions.

A. *Sound Performances and Special Events.* Sound performances and special events not exceeding 95 dB measured at a distance of 50 feet from the loudest source are exempt from this Chapter when approval therefore has been obtained from the appropriate governmental entity.

B. *Vehicle Horns.* Vehicle horns, back-up warning devices, or other devices primarily intended to create a loud noise for warning purposes, shall be used only when the vehicle is in a situation where life, health or property are endangered or as required by law.

C. *Alarm System.* An audible alarm system affixed to a motor vehicle shall be equipped with an automatic shutoff, which shuts off the alarm within a maximum of 15 minutes from the time of activation. Such alarm may not emit a sound similar to the sound emitted by sirens in use on emergency vehicles or to those used for civil defense purposes. For purposes of this section, any variable tone, as opposed to one steady pitch, shall be considered similar to the sound emitted by an emergency vehicle siren. The Police Department is authorized to abate the nuisance of an audible alarm system affixed to a motor vehicle, which sounds beyond 15 minutes by using any means necessary to disconnect the vehicle alarm. The expense of disconnecting the alarm shall be a lien against the motor vehicle and shall be the personal obligation of the owner thereof.

D. *Radios, Televisions, Stereos, Speakers, etc.* It shall be unlawful for any person, without special permit or as may otherwise be provided in this Chapter, to play, use, operate or permit to be played, used or operated, any radio, television, musical instrument, stereo equipment, or other machine or device used for producing, reproducing or amplifying sound at such sound levels as to cause the sound level to exceed 40 dB(A) as measured within the residence of any complaining person.

E. *Animals, Fowl, etc.* It shall be unlawful to keep or harbor any animal which emits, between the hours of 11:00 p.m. and 7:00 a.m., any unreasonable sound or cry which disturbs or may disturb the peace and comfort or repose of a reasonable person of normal sensitiveness who resides in the neighborhood or area in which such animal is located or kept. For barking dog, see limitations set forth in Section 6.04.080. This provision shall not apply to farm animals within any zone in which such farm animals are permitted under the Municipal Code.

F. *Construction, Landscape, Maintenance or Repair.*

1. It shall be unlawful for any person to engage in or permit the generation of noise related to landscape maintenance, construction including erection, excavation, demolition, alteration or repair of any structure or improvement, at such sound levels, as measured at the property line of the nearest adjacent occupied property, as to be in excess of the sound levels permitted under this Chapter, at other times than between the hours of 7:00 a.m. and 6:00 p.m. The person engaged in such activity is hereby permitted to exceed sound levels otherwise set forth in this Chapter for the duration of the activity during the above described hours for purposes of construction. However, nothing contained herein shall permit any person to cause sound levels to at any time exceed 55 dB(A) for intervals of more than 15 minutes per hour as measured in the interior of the nearest occupied residence or school.

2. Whenever a construction site is within one-quarter of a mile of an occupied residence or residences, no construction activities shall be undertaken between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Exceptions to these standards shall be allowed only with the written consent of the building official.

3. Construction related noise as defined in subsection (F)(1) and (2) above may take place outside the time period set forth therein and above the relative sound levels in case of urgent necessity in the interest of public health and safety, and then only with the prior permission of the building inspector. Such permit may be granted for a period not to exceed three days or until the emergency ends, whichever is less. The permit may be renewed for periods of three days while the emergency continues.

4. Unless exempted by this Chapter, if the building official should determine that the public health and safety will not be impaired by the construction related noise, the building inspector may issue a permit for construction within the hours of 6:00 p.m. and 7:00 a.m., upon application being made at the time the permit for the work is awarded or during the progress of the work. The building official may place such conditions on the issuance of the permit that are appropriate to maintain the public health and safety, as determined by the building official.

G. *Machinery, Equipment, Fans and Air Conditioning.* It shall be unlawful for any person to operate, cause to operate or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus or similar mechanical device, including but not limited to the use of any steam shovel, pneumatic hammer, derrick, steam or electric hoist, blower or power fan, or any internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, or other appliance, in any manner so as to create any noise which would cause the noise level at the property line of the property upon which the equipment or machinery is operated to exceed the base ambient noise level by five dB(A).

H. *Motor Driven Vehicles.* It shall be unlawful for any person to operate any motor driven vehicle within the City that, due to the nature of the operation of the vehicle, or due to the operating condition of the vehicle, or due to any modification made to the vehicle, in such manner as to exceed noise levels set forth in Section 9.02.050 hereof.

1. Exhaust. It shall be unlawful for any person to discharge into the open air the exhaust of any steam engine, stationary internal combustion engine, motorboat or motor driven vehicle except through a muffler or other device which will effectively prevent loud or explosive noises there from.

2. No person shall use or operate a stereo system, radio, electronic music device, television or similar device in a vehicle on a public street which is audible to a person of normal hearing sensitivity, more than 50 feet from said vehicle.

I. Notwithstanding any other provisions of this Chapter and in addition thereto, it shall be unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary and unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or creates a public nuisance. The standard which may be considered in determining whether a violation of the provisions of this section exists may include, but not be limited to, the following:

1. The level of noise;

2. Whether the nature of the noise is usual or unusual;

3. Whether the origin of the noise is natural or unnatural;

4. The level and intensity of the background noise, if any;

5. The proximity of the noise to residential sleeping facilities;

6. The nature of the zoning of the area within which the noise emanates;

7. The density of the inhabitation of the area within which the noise emanates;

8. The time of the day and night the noise occurs;

9. Whether the noise is recurrent, intermittent, or constant;

10. The duration of the noise; and

11. Whether the noise is produced by a commercial or noncommercial activity.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.120 Exception permits.

If the applicant can show to the City manager or designee, that a diligent investigation of available noise abatement techniques indicates that immediate compliance with the requirements of this Chapter would be impractical or unreasonable, a permit to allow exception from the provisions contained in this Chapter may be issued, with appropriate conditions to minimize the public detriment caused by such exceptions. Any such permit shall be of as short duration as possible, but in no case for longer than six months. These permits are renewable upon a showing of good cause, and shall be conditioned by a schedule for compliance and details of compliance methods in appropriate cases.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.130 Application between zones.

In applying the regulations set forth in this Chapter, each source of noise shall be subject only to such regulation as shall apply to the zone, including any designated truck route, within which it is located. A use lying adjacent to a zone with a more restrictive noise requirement hereunder shall not be required to conform to that more restrictive requirement. For purposes of this subsection, "zone" shall be as utilized in Title 17 of the Beaumont Municipal Code.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.140 Penalty for violation.

In the discretion of the Enforcement Officer, any person violating the provisions of this Chapter may be issued an Administrative Citation pursuant to Beaumont Municipal Code Chapter 1.17 or shall be guilty of an infraction pursuant to Beaumont Municipal Code Chapter 1.16. In either case, the amount of the fine shall be the appropriate amount set forth in Section 1.16.030 of this Code. Each such violation shall be deemed a separate offense as specified in Section 1.16.040.

Notwithstanding the foregoing, a first offense may be charged and prosecuted as a misdemeanor, punishable by a fine of $1,000.00, or six months in jail, or both

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.150 Additional remedy—Injunction.

As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provision hereof and which causes discomfort or annoyance to reasonable persons of normal sensitiveness or which endangers the comfort, repose, health or peace of residents in the area shall be deemed, and is declared to be a public nuisance and may be subject to abatement summarily by a restraining order or injunction issued by a court of competent jurisdiction.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

9.02.160 No mandatory duty created.

No section of this Chapter shall impose a mandatory duty on the City, or on any officer, official, agent, employee, board, council, or commission of the City. Instead, if any section purports to impose a mandatory duty of enforcement, that section shall be deemed to invest the City, and the appropriate officer, official, agent, employee, board, council, or commission with discretion to enforce the section or not to enforce it. A police officer, for example, shall have the discretion to quiet a nuisance without applying standards detailed herein.

(Ord. No. 1067 , § 1(Exh. A), 1-19-2016)

APPENDIX 5.1:

STUDY AREA PHOTOS

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15718_L1_B 1.North
33, 54' 41.780000", 116, 58' 48.260000"



15718_L1_B 2.South
33, 54' 41.630000", 116, 58' 48.260000"



15718_L1_B 3.East
33, 54' 41.600000", 116, 58' 48.230000"



15718_L1_B 4.West
33, 54' 41.630000", 116, 58' 48.180000"

JN:15718



15718_L2_C 1.North
33, 54' 47.890000", 116, 58' 6.070000"



15718_L2_C 2.South
33, 54' 47.910000", 116, 58' 6.020000"



15718_L2_C 3.East
33, 54' 47.920000", 116, 58' 5.990000"



15718_L2_C 4.West
33, 54' 47.800000", 116, 58' 6.350000"



15718_L3_H 1.North
33, 54' 35.520000", 116, 58' 5.360000"



15718_L3_H 2.South
33, 54' 35.490000", 116, 58' 5.360000"



15718_L3_H 3.East
33, 54' 35.400000", 116, 58' 4.590000"



15718_L3_H 4.West
33, 54' 35.420000", 116, 58' 4.370000"



15718_L4_I 1.North
33, 54' 20.290000", 116, 57' 40.580000"



15718_L4_I 2.South
33, 54' 20.280000", 116, 57' 40.560000"



15718_L4_I 3.East
33, 54' 20.260000", 116, 57' 40.560000"



15718_L4_I 4.West
33, 54' 20.250000", 116, 57' 40.580000"



15718_L5_L 1.North
33, 54' 47.970000", 116, 59' 7.920000"



15718_L5_L 2.South
33, 54' 47.850000", 116, 59' 7.980000"



15718_L5_L 3.East
33, 54' 47.740000", 116, 59' 8.030000"



15718_L5_L 4.West
33, 54' 47.770000", 116, 59' 8.060000"



15718_L6_J 1.North
33, 54' 45.940000", 116, 58' 53.310000"



15718_L6_J 2.South
33, 54' 45.850000", 116, 58' 53.340000"



15718_L6_J 3.East
33, 54' 45.790000", 116, 58' 53.180000"



15718_L6_J 4.West
33, 54' 45.690000", 116, 58' 53.200000"

APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS

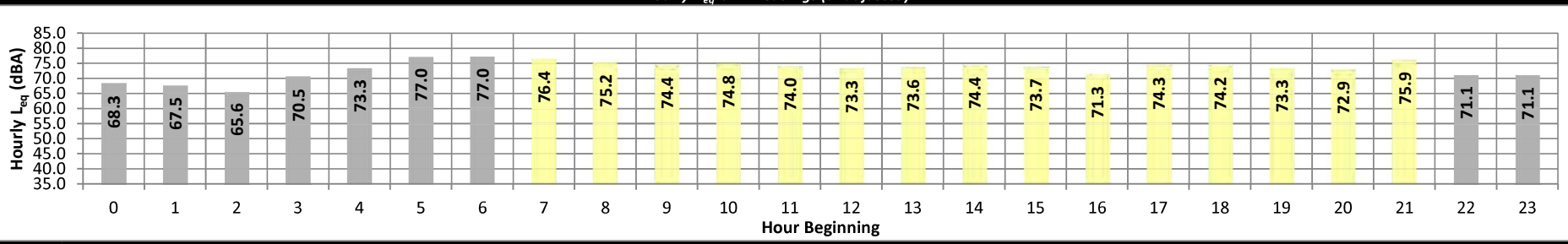
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24-Hour Noise Level Measurement Summary

Date: Friday, February 16, 2024 *Location:* L1 - Located north of the site near the residence at 14250 *Meter:* Piccolo II *JN:* 15718

Project: Beaumont Ave. *Source:* Beaumont Av. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	68.3	79.0	49.6	78.5	77.4	75.1	73.5	68.1	62.5	52.2	50.8	49.8	68.3	10.0	78.3
	1	67.5	79.2	46.7	78.7	77.7	74.7	72.8	66.2	59.2	49.1	47.9	46.9	67.5	10.0	77.5
	2	65.6	77.0	47.5	76.5	75.5	72.6	70.9	64.5	58.0	49.3	48.2	47.6	65.6	10.0	75.6
	3	70.5	81.2	52.2	80.6	79.6	77.2	75.6	70.5	64.7	54.3	53.3	52.3	70.5	10.0	80.5
	4	73.3	82.7	57.6	82.2	81.2	79.1	77.8	74.3	70.0	60.9	59.1	57.7	73.3	10.0	83.3
	5	77.0	88.1	62.3	87.5	86.1	82.6	80.4	77.0	74.1	66.8	64.5	62.6	77.0	10.0	87.0
	6	77.0	86.0	65.7	85.5	84.5	82.0	80.4	77.7	75.4	69.6	68.0	66.0	77.0	10.0	87.0
Day	7	76.4	84.1	66.0	83.6	82.7	80.6	79.7	77.3	75.2	69.7	68.1	66.3	76.4	0.0	76.4
	8	75.2	84.3	63.0	83.8	82.6	79.9	78.7	76.0	73.6	67.1	65.4	63.2	75.2	0.0	75.2
	9	74.4	83.1	61.5	82.5	81.5	79.5	78.3	75.5	72.5	65.3	63.6	61.8	74.4	0.0	74.4
	10	74.8	85.1	61.2	84.6	83.4	80.0	78.2	75.1	72.4	65.7	63.7	61.5	74.8	0.0	74.8
	11	74.0	83.9	59.5	83.4	82.2	79.4	77.9	74.5	71.3	64.1	62.0	59.8	74.0	0.0	74.0
	12	73.3	81.5	61.2	81.0	80.2	78.1	77.1	74.2	71.7	65.6	64.0	61.6	73.3	0.0	73.3
	13	73.6	81.9	61.9	81.4	80.5	78.5	77.4	74.6	71.9	65.7	64.2	62.2	73.6	0.0	73.6
	14	74.4	83.4	64.5	82.7	81.6	78.9	77.8	75.0	72.7	67.8	66.4	64.8	74.4	0.0	74.4
	15	73.7	81.5	64.5	81.0	80.1	77.9	77.0	74.5	72.5	67.7	66.3	64.7	73.7	0.0	73.7
	16	71.3	78.6	62.7	78.2	77.5	75.6	74.7	72.2	70.2	65.7	64.5	63.0	71.3	0.0	71.3
	17	74.3	82.4	64.4	81.9	81.0	78.9	77.7	75.1	72.9	68.0	66.5	64.7	74.3	0.0	74.3
	18	74.2	82.7	63.8	82.2	81.3	79.0	77.7	75.0	72.7	67.0	65.5	64.0	74.2	0.0	74.2
	19	73.3	81.5	61.9	81.1	80.1	78.0	77.1	74.3	71.6	65.8	64.2	62.2	73.3	5.0	78.3
	20	72.9	82.2	59.9	81.6	80.6	78.2	77.0	73.9	70.5	63.2	61.6	60.1	72.9	5.0	77.9
	21	75.9	88.1	58.4	87.9	87.0	82.9	79.8	73.8	70.3	61.7	59.9	58.5	75.9	5.0	80.9
Night	22	71.1	80.2	54.5	79.7	78.8	76.8	75.5	72.0	68.2	58.8	56.3	54.8	71.1	10.0	81.1
	23	71.1	82.6	53.1	82.0	80.8	78.3	75.5	70.2	65.9	56.1	54.5	53.3	71.1	10.0	81.1

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	71.3	78.6	58.4	78.2	77.5	75.6	74.7	72.2	70.2	61.7	59.9	58.5
	Max	76.4	88.1	66.0	87.9	87.0	82.9	79.8	77.3	75.2	69.7	68.1	66.3
Energy Average		74.3	Average:		82.5	81.5	79.0	77.7	74.7	72.1	66.0	64.4	62.6
Night	Min	65.6	77.0	46.7	76.5	75.5	72.6	70.9	64.5	58.0	49.1	47.9	46.9
	Max	77.0	88.1	65.7	87.5	86.1	82.6	80.4	77.7	75.4	69.6	68.0	66.0
Energy Average		72.9	Average:		81.3	80.2	77.6	75.8	71.2	66.4	57.4	55.9	54.6

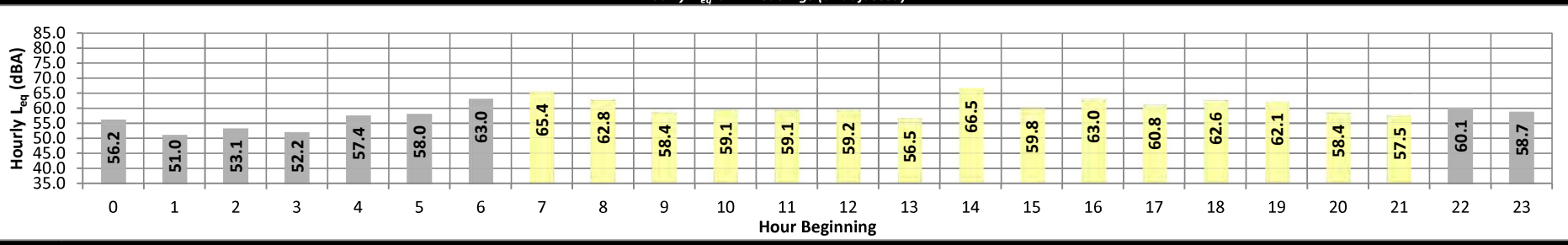
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
79.9	**74.3**	**72.9**

24-Hour Noise Level Measurement Summary

Date: Friday, February 16, 2024 *Location:* L2 - Located northeast of the site near the residence at 211 *Meter:* Piccolo II *JN:* 15718

Project: Beaumont Ave. *Source:* Logan Av. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	56.2	67.8	45.8	67.5	67.0	64.4	61.4	51.7	48.1	46.4	46.2	45.9	56.2	10.0	66.2
	1	51.0	59.3	46.1	59.0	58.7	57.3	55.6	50.5	48.1	46.8	46.5	46.2	51.0	10.0	61.0
	2	53.1	60.1	49.7	59.7	59.3	57.5	56.1	53.4	51.7	50.3	50.1	49.8	53.1	10.0	63.1
	3	52.2	62.1	44.7	61.9	61.5	59.8	57.7	49.8	47.3	45.3	45.1	44.8	52.2	10.0	62.2
	4	57.4	70.0	42.6	69.7	68.9	65.6	62.6	51.7	47.6	43.7	43.3	42.8	57.4	10.0	67.4
	5	58.0	69.9	46.1	69.5	68.7	66.2	63.5	53.9	50.1	46.9	46.5	46.2	58.0	10.0	68.0
	6	63.0	74.1	52.4	73.7	73.0	70.8	68.6	60.4	55.9	53.1	52.8	52.5	63.0	10.0	73.0
Day	7	65.4	77.8	54.9	77.3	76.5	72.6	69.5	62.6	58.1	55.6	55.3	55.0	65.4	0.0	65.4
	8	62.8	75.0	47.7	74.6	73.9	70.7	68.4	58.3	52.9	48.7	48.2	47.9	62.8	0.0	62.8
	9	58.4	69.9	41.0	69.5	68.8	66.5	64.3	55.0	48.0	42.6	42.0	41.3	58.4	0.0	58.4
	10	59.1	71.0	40.1	70.7	70.1	67.5	64.8	55.1	47.7	41.3	40.8	40.3	59.1	0.0	59.1
	11	59.1	71.3	39.5	70.9	70.2	67.3	64.7	55.2	46.8	40.7	40.2	39.6	59.1	0.0	59.1
	12	59.2	71.2	39.9	70.8	70.1	67.5	64.8	55.7	47.9	40.9	40.5	40.0	59.2	0.0	59.2
	13	56.5	68.6	39.0	68.3	67.6	64.8	62.2	52.5	45.3	40.1	39.6	39.2	56.5	0.0	56.5
	14	66.5	79.4	41.6	79.0	78.1	74.6	72.5	59.8	51.2	43.3	42.4	41.8	66.5	0.0	66.5
	15	59.8	71.0	42.0	70.6	70.0	67.7	65.7	57.5	51.3	43.8	43.0	42.2	59.8	0.0	59.8
	16	63.0	76.7	45.8	76.2	74.9	70.5	67.0	58.3	52.4	46.9	46.3	45.9	63.0	0.0	63.0
	17	60.8	72.3	49.1	71.9	71.1	68.8	66.3	58.2	52.9	49.8	49.5	49.2	60.8	0.0	60.8
	18	62.6	74.0	54.1	73.6	72.9	70.1	67.5	59.7	56.4	54.6	54.4	54.2	62.6	0.0	62.6
	19	62.1	71.6	56.2	71.3	70.7	68.3	66.6	61.4	58.6	56.7	56.5	56.3	62.1	5.0	67.1
	20	58.4	69.1	50.9	68.6	68.0	65.4	63.2	56.5	52.9	51.4	51.2	51.0	58.4	5.0	63.4
	21	57.5	69.3	47.7	68.9	68.2	65.1	62.3	54.5	51.0	48.4	48.1	47.8	57.5	5.0	62.5
Night	22	60.1	72.7	47.0	72.3	71.6	68.3	64.9	55.1	49.9	47.7	47.4	47.1	60.1	10.0	70.1
	23	58.7	69.9	48.1	69.5	68.9	66.6	64.5	55.3	50.7	48.8	48.5	48.3	58.7	10.0	68.7

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	56.5	68.6	39.0	68.3	67.6	64.8	62.2	52.5	45.3	40.1	39.6	39.2
	Max	66.5	79.4	56.2	79.0	78.1	74.6	72.5	62.6	58.6	56.7	56.5	56.3
Energy Average		61.7	Average:		72.1	71.4	68.5	66.0	57.4	51.6	47.0	46.5	46.1
Night	Min	51.0	59.3	42.6	59.0	58.7	57.3	55.6	49.8	47.3	43.7	43.3	42.8
	Max	63.0	74.1	52.4	73.7	73.0	70.8	68.6	60.4	55.9	53.1	52.8	52.5
Energy Average		58.1	Average:		67.0	66.4	64.0	61.7	53.5	49.9	47.7	47.4	47.1

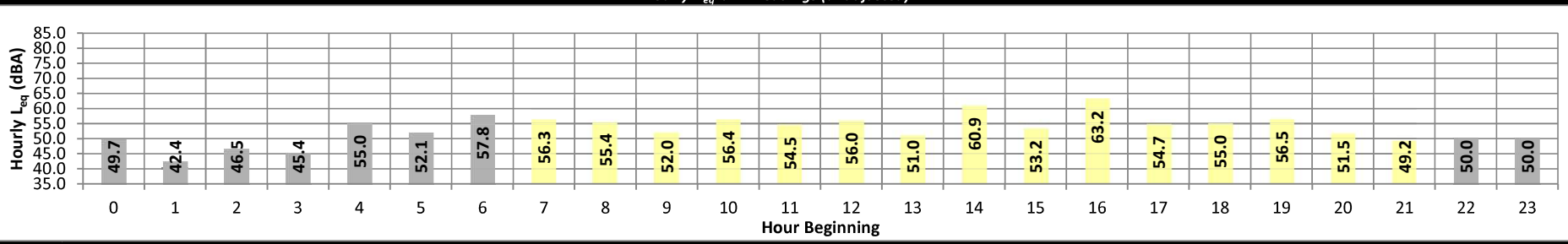
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
65.6	**61.7**	**58.1**

24-Hour Noise Level Measurement Summary

Date: Friday, February 16, 2024 *Location:* L3 - Located east of the site near the country Hills RV Park at *Meter:* Piccolo II *JN:* 15718

Project: Beaumont Ave. *Source:* 14711 Manzanita Park Rd. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	49.7	62.9	35.8	62.2	61.0	57.6	54.7	44.1	38.2	36.5	36.2	35.9	49.7	10.0	59.7
	1	42.4	52.2	37.8	51.7	51.2	48.5	45.9	41.2	39.8	38.5	38.2	37.9	42.4	10.0	52.4
	2	46.5	56.9	42.4	56.3	55.4	51.8	49.2	45.2	44.1	43.0	42.8	42.5	46.5	10.0	56.5
	3	45.4	57.8	37.4	57.4	56.3	52.3	49.2	41.7	39.7	38.2	37.9	37.6	45.4	10.0	55.4
	4	55.0	69.3	35.9	68.6	67.5	62.8	58.3	45.8	38.8	36.5	36.3	36.0	55.0	10.0	65.0
	5	52.1	65.5	40.8	65.1	63.9	59.6	56.1	45.7	43.1	41.5	41.2	40.9	52.1	10.0	62.1
	6	57.8	71.1	47.1	70.7	69.6	65.2	61.7	52.4	48.6	47.5	47.4	47.1	57.8	10.0	67.8
Day	7	56.3	70.2	46.3	69.6	68.0	63.2	59.7	50.6	47.7	46.7	46.5	46.3	56.3	0.0	56.3
	8	55.4	68.6	39.5	68.1	67.1	63.2	60.2	49.6	44.4	40.5	40.1	39.7	55.4	0.0	55.4
	9	52.0	64.3	37.9	64.0	63.1	59.8	57.3	48.0	41.6	38.7	38.4	38.1	52.0	0.0	52.0
	10	56.4	70.3	37.2	69.7	68.7	64.2	59.9	49.3	43.9	39.3	38.6	37.4	56.4	0.0	56.4
	11	54.5	67.9	36.7	67.5	66.6	62.5	58.6	46.6	41.7	38.0	37.5	36.9	54.5	0.0	54.5
	12	56.0	69.7	37.6	69.1	67.8	63.3	60.1	51.4	44.2	38.9	38.4	37.8	56.0	0.0	56.0
	13	51.0	64.2	35.8	63.9	63.0	59.2	55.1	43.7	39.7	36.8	36.4	36.0	51.0	0.0	51.0
	14	60.9	74.8	36.4	74.0	72.5	68.6	67.3	48.2	42.3	38.0	37.3	36.7	60.9	0.0	60.9
	15	53.2	65.8	36.6	65.2	64.2	61.0	58.3	49.4	43.5	38.3	37.6	36.9	53.2	0.0	53.2
	16	63.2	78.1	39.7	77.4	76.0	70.2	65.0	52.8	47.2	41.2	40.6	39.9	63.2	0.0	63.2
	17	54.7	67.0	42.0	66.7	65.8	62.5	60.0	50.0	45.2	42.7	42.5	42.1	54.7	0.0	54.7
	18	55.0	66.8	48.0	66.3	65.4	61.9	59.0	52.0	49.8	48.6	48.4	48.1	55.0	0.0	55.0
	19	56.5	68.8	48.7	68.4	67.4	63.4	60.5	52.9	50.4	49.2	49.0	48.8	56.5	5.0	61.5
	20	51.5	63.7	42.2	63.3	62.4	58.6	55.9	48.2	45.4	43.1	42.7	42.3	51.5	5.0	56.5
	21	49.2	61.4	38.6	61.0	60.2	56.8	53.9	45.7	42.3	39.4	39.1	38.7	49.2	5.0	54.2
Night	22	50.0	63.1	39.1	62.5	61.5	57.1	53.9	45.4	42.6	40.0	39.6	39.2	50.0	10.0	60.0
	23	50.0	63.1	39.0	62.6	61.5	57.4	54.3	45.0	41.7	39.6	39.4	39.1	50.0	10.0	60.0

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	49.2	61.4	35.8	61.0	60.2	56.8	53.9	43.7	39.7	36.8	36.4	36.0
	Max	63.2	78.1	48.7	77.4	76.0	70.2	67.3	52.9	50.4	49.2	49.0	48.8
Energy Average		56.7	Average:		67.6	66.5	62.6	59.4	49.2	44.6	41.3	40.9	40.4
Night	Min	42.4	52.2	35.8	51.7	51.2	48.5	45.9	41.2	38.2	36.5	36.2	35.9
	Max	57.8	71.1	47.1	70.7	69.6	65.2	61.7	52.4	48.6	47.5	47.4	47.1
Energy Average		52.1	Average:		61.9	60.9	56.9	53.7	45.2	41.9	40.1	39.9	39.6

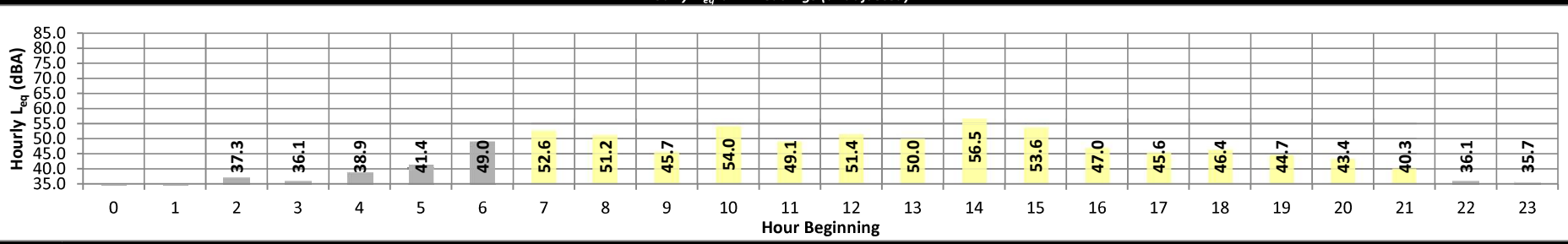
24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
59.8	56.7	52.1

24-Hour Noise Level Measurement Summary

Date: Friday, February 16, 2024 *Location:* L4 - Located east of the site near the Four Seasons -Beaumont *Meter:* Piccolo II *JN:* 15718

Project: Beaumont Ave. *Source:* residence at 1451 Plymouth Rock *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	31.7	34.6	30.6	34.2	34.0	33.3	33.0	32.0	31.4	30.8	30.7	30.6	31.7	10.0	41.7
	1	32.8	35.4	31.5	35.1	34.8	34.2	34.0	33.2	32.5	31.8	31.7	31.6	32.8	10.0	42.8
	2	37.3	40.6	35.5	40.3	40.0	39.3	39.0	37.7	36.9	35.9	35.8	35.6	37.3	10.0	47.3
	3	36.1	38.3	34.6	38.1	37.9	37.6	37.3	36.6	36.0	35.0	34.9	34.7	36.1	10.0	46.1
	4	38.9	51.2	32.7	50.6	49.9	45.3	40.8	36.2	34.2	33.1	33.0	32.8	38.9	10.0	48.9
	5	41.4	43.6	39.9	43.4	43.2	42.8	42.6	41.8	41.3	40.4	40.2	40.0	41.4	10.0	51.4
	6	49.0	54.6	45.8	54.0	53.5	52.5	51.9	49.6	47.9	46.5	46.2	45.9	49.0	10.0	59.0
Day	7	52.6	62.9	42.0	62.1	61.3	59.4	58.0	52.5	46.9	43.2	42.7	42.2	52.6	0.0	52.6
	8	51.2	60.7	37.5	60.2	59.8	58.4	57.3	50.8	43.7	38.9	38.4	37.8	51.2	0.0	51.2
	9	45.7	54.9	40.1	54.5	54.1	52.7	50.7	44.3	42.4	40.7	40.5	40.2	45.7	0.0	45.7
	10	54.0	63.3	48.6	62.8	61.9	60.1	58.7	53.5	51.1	49.0	48.8	48.7	54.0	0.0	54.0
	11	49.1	57.8	43.5	57.2	56.7	55.5	54.0	48.6	45.9	44.0	43.8	43.6	49.1	0.0	49.1
	12	51.4	60.2	42.0	59.5	58.7	57.0	55.8	52.1	49.0	43.1	42.7	42.2	51.4	0.0	51.4
	13	50.0	59.3	38.6	58.4	57.6	55.8	54.5	50.7	46.6	41.4	40.5	39.1	50.0	0.0	50.0
	14	56.5	66.0	44.3	65.1	64.0	62.1	61.0	57.2	53.8	47.7	46.2	44.9	56.5	0.0	56.5
	15	53.6	61.4	42.9	60.6	59.9	58.3	57.4	54.4	52.3	47.1	45.7	43.8	53.6	0.0	53.6
	16	47.0	54.7	39.1	54.3	54.0	52.8	51.7	47.0	44.3	40.5	40.1	39.4	47.0	0.0	47.0
	17	45.6	56.2	36.7	55.6	55.0	52.9	50.6	44.1	40.8	37.7	37.3	36.9	45.6	0.0	45.6
	18	46.4	54.8	42.2	54.5	54.1	52.5	50.8	45.4	43.9	42.7	42.5	42.3	46.4	0.0	46.4
	19	44.7	49.9	42.5	49.5	49.2	47.9	46.6	44.9	44.1	43.0	42.8	42.6	44.7	5.0	49.7
	20	43.4	50.9	37.3	50.7	50.4	49.5	48.5	43.7	40.3	37.8	37.6	37.4	43.4	5.0	48.4
	21	40.3	50.6	34.1	50.2	49.7	46.9	44.7	38.7	36.2	34.5	34.4	34.2	40.3	5.0	45.3
Night	22	36.1	37.9	34.8	37.7	37.5	37.3	37.1	36.5	35.9	35.2	35.0	34.8	36.1	10.0	46.1
	23	35.7	41.8	33.1	41.0	40.4	39.1	38.4	35.7	34.7	33.5	33.3	33.2	35.7	10.0	45.7

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	40.3	49.9	34.1	49.5	49.2	46.9	44.7	38.7	36.2	34.5	34.4	34.2
	Max	56.5	66.0	48.6	65.1	64.0	62.1	61.0	57.2	53.8	49.0	48.8	48.7
Energy Average		50.8	Average:		57.0	56.4	54.8	53.4	48.5	45.4	42.1	41.6	41.0
Night	Min	31.7	34.6	30.6	34.2	34.0	33.3	33.0	32.0	31.4	30.8	30.7	30.6
	Max	49.0	54.6	45.8	54.0	53.5	52.5	51.9	49.6	47.9	46.5	46.2	45.9
Energy Average		41.3	Average:		41.6	41.2	40.1	39.3	37.7	36.7	35.8	35.7	35.5

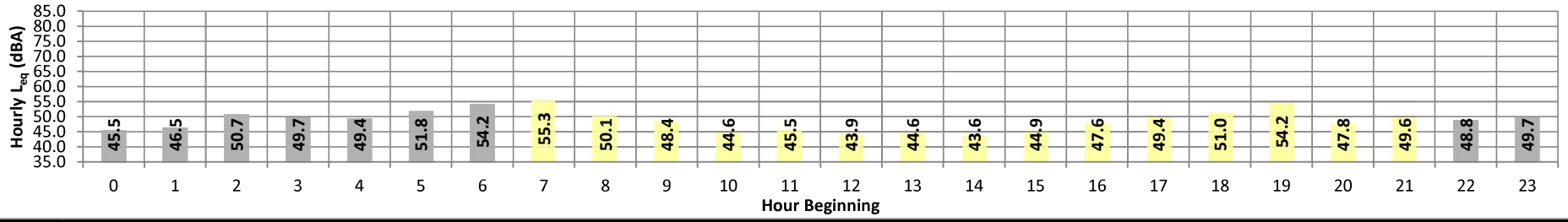
24-Hour CNEL	*Leq (dBA)* *Daytime (7am-10pm)*	*Nighttime (10pm-7am)*
51.2	**50.8**	**41.3**

24-Hour Noise Level Measurement Summary

Date: Friday, February 16, 2024 *Location:* L5 - Located northwest of the site near the residence at 14490 *Meter:* Piccolo II *JN:* 15718

Project: Beaumont Ave. *Source:* Green Acres Dr. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	45.5	54.4	39.1	54.2	53.9	51.8	50.7	44.1	41.9	39.8	39.5	39.2	45.5	10.0	55.5
	1	46.5	53.5	41.7	53.2	52.9	52.2	50.6	46.9	44.1	42.4	42.1	41.8	46.5	10.0	56.5
	2	50.7	56.6	47.4	56.3	55.8	54.3	53.7	51.1	49.5	48.1	47.8	47.5	50.7	10.0	60.7
	3	49.7	54.6	44.7	54.4	54.1	53.2	52.7	50.9	48.6	45.9	45.3	44.8	49.7	10.0	59.7
	4	49.4	52.8	46.3	52.6	52.3	51.7	51.3	50.2	49.1	47.2	46.7	46.4	49.4	10.0	59.4
	5	51.8	58.1	48.4	57.8	57.4	55.4	54.3	52.0	50.9	49.2	48.9	48.5	51.8	10.0	61.8
	6	54.2	58.8	51.4	58.6	58.2	57.0	56.1	54.7	53.8	52.3	52.0	51.6	54.2	10.0	64.2
Day	7	55.3	60.7	53.0	60.3	59.9	58.4	57.2	55.4	54.7	53.5	53.3	53.1	55.3	0.0	55.3
	8	50.1	52.9	48.5	52.6	52.3	51.7	51.4	50.5	49.9	49.0	48.8	48.6	50.1	0.0	50.1
	9	48.4	53.7	43.6	53.3	53.0	52.4	51.9	49.6	47.1	44.4	44.1	43.8	48.4	0.0	48.4
	10	44.6	48.9	42.3	48.5	48.1	47.3	46.6	45.2	44.1	42.9	42.7	42.4	44.6	0.0	44.6
	11	45.5	49.9	42.7	49.5	49.1	48.3	47.9	46.2	44.8	43.3	43.1	42.8	45.5	0.0	45.5
	12	43.9	49.0	41.1	48.4	47.9	46.9	46.3	44.6	43.1	41.7	41.5	41.2	43.9	0.0	43.9
	13	44.6	53.7	39.6	52.5	51.3	49.3	48.1	44.7	42.7	40.6	40.2	39.8	44.6	0.0	44.6
	14	43.6	48.4	40.2	48.0	47.6	46.8	46.3	44.4	42.8	41.0	40.7	40.3	43.6	0.0	43.6
	15	44.9	52.0	40.6	51.1	50.5	49.4	48.5	45.2	43.2	41.4	41.1	40.8	44.9	0.0	44.9
	16	47.6	54.7	42.4	54.2	53.8	52.6	51.5	48.3	45.6	43.1	42.8	42.5	47.6	0.0	47.6
	17	49.4	57.3	46.1	56.9	56.4	54.3	52.5	48.9	47.8	46.6	46.4	46.2	49.4	0.0	49.4
	18	51.0	55.8	49.0	55.4	55.1	53.9	53.3	51.2	50.2	49.4	49.3	49.1	51.0	0.0	51.0
	19	54.2	59.1	52.1	58.6	58.0	57.0	56.3	54.5	53.6	52.6	52.4	52.2	54.2	5.0	59.2
	20	47.8	51.7	44.9	51.4	51.1	50.3	49.9	48.4	47.3	45.7	45.4	45.0	47.8	5.0	52.8
	21	49.6	55.0	45.8	54.7	54.4	53.6	52.5	50.1	48.6	46.8	46.4	45.9	49.6	5.0	54.6
Night	22	48.8	54.1	45.1	53.7	53.1	51.8	51.2	49.5	48.1	46.0	45.6	45.2	48.8	10.0	58.8
	23	49.7	57.1	44.2	56.7	55.8	53.8	52.9	50.5	48.4	45.3	44.8	44.3	49.7	10.0	59.7

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	43.6	48.4	39.6	48.0	47.6	46.8	46.3	44.4	42.7	40.6	40.2	39.8
	Max	55.3	60.7	53.0	60.3	59.9	58.4	57.2	55.4	54.7	53.5	53.3	53.1
Energy Average		49.6	Average:		53.0	52.6	51.5	50.7	48.5	47.0	45.5	45.2	44.9
Night	Min	45.5	52.8	39.1	52.6	52.3	51.7	50.6	44.1	41.9	39.8	39.5	39.2
	Max	54.2	58.8	51.4	58.6	58.2	57.0	56.1	54.7	53.8	52.3	52.0	51.6
Energy Average		50.3	Average:		55.3	54.8	53.5	52.6	50.0	48.3	46.2	45.9	45.5

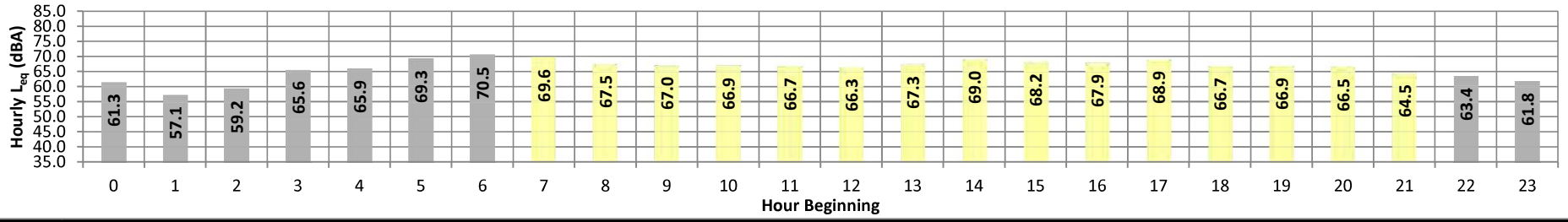
24-Hour CNEL	*Leq (dBA)* *Daytime (7am-10pm)*	*Nighttime (10pm-7am)*
56.9	**49.6**	**50.3**

24-Hour Noise Level Measurement Summary

Date: Friday, February 16, 2024 *Location:* L6 - Located northwest of the site near the residence at 14453 *Meter:* Piccolo II *JN:* 15718

Project: Beaumont Ave. *Source:* California Av. *Analyst:* Z. Ibrahim

Hourly L_{eq} dBA Readings (unadjusted)



Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L_{eq}	Adj.	Adj. L_{eq}
Night	0	61.3	73.4	43.5	73.0	72.1	69.2	66.9	57.8	52.4	45.9	44.8	43.7	61.3	10.0	71.3
	1	57.1	70.5	42.8	69.9	68.7	64.4	61.4	52.2	47.5	44.0	43.5	43.0	57.1	10.0	67.1
	2	59.2	72.1	48.0	71.7	70.8	66.7	63.3	54.4	51.8	49.0	48.6	48.1	59.2	10.0	69.2
	3	65.6	79.0	49.2	78.6	77.3	73.4	69.9	60.5	56.3	51.5	50.4	49.3	65.6	10.0	75.6
	4	65.9	77.0	53.2	76.3	75.2	72.8	71.1	65.0	59.8	55.0	54.1	53.4	65.9	10.0	75.9
	5	69.3	81.5	55.4	80.8	79.6	75.7	73.4	68.4	63.1	57.4	56.4	55.6	69.3	10.0	79.3
	6	70.5	79.6	58.3	79.2	78.3	76.2	74.9	71.4	67.6	60.4	59.3	58.5	70.5	10.0	80.5
Day	7	69.6	79.2	57.2	78.8	77.9	75.5	74.3	70.4	66.0	58.8	58.0	57.3	69.6	0.0	69.6
	8	67.5	78.1	49.4	77.6	76.6	73.7	72.3	68.1	62.6	52.5	50.6	49.6	67.5	0.0	67.5
	9	67.0	78.8	48.6	78.3	77.3	74.1	71.8	65.9	59.7	50.8	49.7	48.8	67.0	0.0	67.0
	10	66.9	78.7	48.2	78.2	77.3	74.1	71.7	65.8	59.3	50.3	49.3	48.4	66.9	0.0	66.9
	11	66.7	77.1	48.9	76.7	75.9	73.5	72.0	66.9	60.6	51.5	50.3	49.2	66.7	0.0	66.7
	12	66.3	76.2	48.4	75.7	74.9	73.0	71.7	67.1	60.6	50.9	49.9	48.6	66.3	0.0	66.3
	13	67.3	77.8	48.9	77.3	76.6	74.0	72.3	67.5	61.8	51.2	50.0	49.1	67.3	0.0	67.3
	14	69.0	79.2	51.3	78.7	77.7	75.4	73.9	69.4	64.8	54.6	53.0	51.7	69.0	0.0	69.0
	15	68.2	77.8	51.1	77.2	76.3	74.5	73.1	68.8	64.4	54.4	52.7	51.3	68.2	0.0	68.2
	16	67.9	77.8	49.8	77.5	76.7	74.5	72.8	68.4	63.2	52.5	50.8	50.0	67.9	0.0	67.9
	17	68.9	79.8	53.8	79.3	78.3	75.3	73.4	68.9	64.2	55.4	54.6	53.9	68.9	0.0	68.9
	18	66.7	76.8	54.1	76.1	75.1	72.7	71.5	67.3	62.2	55.4	54.8	54.2	66.7	0.0	66.7
	19	66.9	78.0	56.2	77.4	76.4	73.4	71.6	66.4	61.6	57.3	56.8	56.3	66.9	5.0	71.9
	20	66.5	80.7	50.5	79.7	78.2	73.3	70.0	62.1	57.3	52.4	51.5	50.7	66.5	5.0	71.5
	21	64.5	77.0	51.9	76.5	75.4	71.7	68.9	61.3	57.3	53.8	52.9	52.1	64.5	5.0	69.5
Night	22	63.4	75.5	50.5	74.8	73.7	70.6	68.4	61.1	56.3	52.2	51.4	50.6	63.4	10.0	73.4
	23	61.8	73.5	48.7	72.9	71.9	68.9	66.8	60.2	55.4	50.7	49.7	48.9	61.8	10.0	71.8

Timeframe	Hour	L_{eq}	L_{max}	L_{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%
Day	Min	64.5	76.2	48.2	75.7	74.9	71.7	68.9	61.3	57.3	50.3	49.3	48.4
	Max	69.6	80.7	57.2	79.7	78.3	75.5	74.3	70.4	66.0	58.8	58.0	57.3
Energy Average		67.5	Average:		77.7	76.7	73.9	72.1	66.9	61.7	53.4	52.3	51.4
Night	Min	57.1	70.5	42.8	69.9	68.7	64.4	61.4	52.2	47.5	44.0	43.5	43.0
	Max	70.5	81.5	58.3	80.8	79.6	76.2	74.9	71.4	67.6	60.4	59.3	58.5
Energy Average		65.7	Average:		75.2	74.2	70.9	68.5	61.2	56.7	51.8	50.9	50.1

24-Hour CNEL	Leq (dBA) Daytime (7am-10pm)	Leq (dBA) Nighttime (10pm-7am)
72.7	**67.5**	**65.7**

APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS (OPTION A)

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,099 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	779 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.43	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-23.42	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.69	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.7	63.8	59.4	67.3	67.8
Medium Trucks:	56.7	56.9	47.4	51.5	58.9	59.0
Heavy Trucks:	54.8	53.1	45.7	53.7	60.0	60.0
Vehicle Noise:	66.7	66.5	64.0	60.9	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	205	442
CNEL:	47	101	218	469

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,244 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	788 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.38	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-23.42	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.69	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	56.7	56.9	47.4	51.5	58.9	59.0
Heavy Trucks:	54.8	53.1	45.7	53.7	60.0	60.0
Vehicle Noise:	66.7	66.5	64.0	61.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	96	206	444
CNEL:	47	102	219	472

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,496 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	934 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.65	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.64	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.90	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.5	64.6	60.2	68.1	68.6
Medium Trucks:	57.5	57.7	48.1	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.4	67.3	64.8	61.7	69.4	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	107	231	498
CNEL:	53	114	246	529

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,514 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	935 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.64	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.64	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.90	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.5	64.6	60.2	68.1	68.6
Medium Trucks:	57.5	57.7	48.1	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.7	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	107	231	499
CNEL:	53	114	246	529

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,546 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	937 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.63	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.62	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.89	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.5	64.6	60.2	68.1	68.6
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.7	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	499
CNEL:	53	114	246	530

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,603 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	940 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.62	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.62	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.89	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.6	60.2	68.2	68.7
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	53	114	247	531

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,571 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	938 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.62	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.61	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.88	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.5	64.6	60.2	68.1	68.6
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	53	114	246	531

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,669 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	945 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.60	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.61	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.88	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	233	502
CNEL:	53	115	247	533

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,622 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	942 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.61	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.60	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.86	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.6	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	233	501
CNEL:	53	115	247	532

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,767 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	951 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.57	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.60	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.86	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.6	60.8	60.8
Vehicle Noise:	67.5	67.3	64.9	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	234	504
CNEL:	53	115	248	535

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,953 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	963 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.51	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.50	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.77	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.7	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.7	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	236	509
CNEL:	54	116	251	540

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,098 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	972 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.47	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.50	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.77	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.7	60.9	60.9
Vehicle Noise:	67.6	67.4	65.0	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	237	511
CNEL:	54	117	252	543

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,524 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	807 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.28	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-23.27	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.54	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	65.9	64.0	59.5	67.5	68.0
Medium Trucks:	56.9	57.0	47.5	51.6	59.1	59.1
Heavy Trucks:	55.0	53.3	45.9	53.9	60.1	60.2
Vehicle Noise:	66.8	66.6	64.1	61.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	210	452
CNEL:	48	103	223	480

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,958 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	835 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.13	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-23.27	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.54	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	66.0	64.1	59.7	67.6	68.1
Medium Trucks:	56.9	57.0	47.5	51.6	59.1	59.1
Heavy Trucks:	55.0	53.3	45.9	53.9	60.1	60.2
Vehicle Noise:	66.9	66.8	64.3	61.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	99	213	460
CNEL:	49	105	227	488

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,556 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,002 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.34	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.33	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.60	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.8	64.9	60.5	68.4	68.9
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.8	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.0	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	242	522
CNEL:	55	119	257	554

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,610 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,005 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.33	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.33	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.60	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.8	64.9	60.5	68.4	68.9
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.8	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.0	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	56	120	258	555

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,605 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,005 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.33	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.32	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.58	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.8	64.9	60.5	68.4	68.9
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.8	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	56	120	258	556

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,775 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,016 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.28	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.32	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.58	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.8	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	113	244	526
CNEL:	56	120	259	559

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,630 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,007 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.32	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.31	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.57	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	64.9	60.5	68.5	68.9
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.9	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	524
CNEL:	56	120	258	556

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,925 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,026 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.24	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.31	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.57	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	66.9	65.0	60.6	68.5	69.0
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.9	61.1	61.1
Vehicle Noise:	67.8	67.7	65.2	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	245	529
CNEL:	56	121	261	562

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,680 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,010 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.31	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.30	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.56	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.3	46.8	54.9	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	244	525
CNEL:	56	120	259	557

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,114 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,038 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.19	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.30	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.56	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.1	60.6	68.6	69.1
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.3	46.8	54.9	61.1	61.1
Vehicle Noise:	67.9	67.7	65.2	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	115	247	532
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,007 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.22	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.21	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.47	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.0	60.6	68.6	69.1
Medium Trucks:	57.9	58.1	48.6	52.7	60.1	60.2
Heavy Trucks:	56.0	54.3	46.9	55.0	61.2	61.2
Vehicle Noise:	67.9	67.7	65.2	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	115	247	532
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,441 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,059 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.10	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.21	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.47	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	67.1	65.2	60.7	68.7	69.2
Medium Trucks:	57.9	58.1	48.6	52.7	60.1	60.2
Heavy Trucks:	56.0	54.3	46.9	55.0	61.2	61.2
Vehicle Noise:	68.0	67.8	65.3	62.2	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	250	540
CNEL:	57	123	266	573

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,717 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,077 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.03	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.02	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.28	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	67.1	65.2	60.8	68.7	69.2
Medium Trucks:	58.1	58.3	48.8	52.9	60.3	60.4
Heavy Trucks:	56.2	54.5	47.1	55.1	61.4	61.4
Vehicle Noise:	68.1	67.9	65.4	62.3	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	548
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,296 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,114 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.88	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.02	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.28	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	67.3	65.4	60.9	68.9	69.4
Medium Trucks:	58.1	58.3	48.8	52.9	60.3	60.4
Heavy Trucks:	56.2	54.5	47.1	55.1	61.4	61.4
Vehicle Noise:	68.2	68.0	65.5	62.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	120	259	557
CNEL:	59	128	275	592

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,895 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,410 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.86	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.85	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.11	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.3	59.4	49.9	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.3	62.6	62.6
Vehicle Noise:	69.2	69.1	66.6	63.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	141	304	656
CNEL:	70	150	323	696

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,967 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,415 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.84	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.85	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.11	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.3	59.4	49.9	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.3	62.6	62.6
Vehicle Noise:	69.2	69.1	66.6	63.5	71.2	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	305	657
CNEL:	70	150	324	698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,036 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,419 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.83	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.82	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.08	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.3	62.6	62.6
Vehicle Noise:	69.3	69.1	66.6	63.5	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	306	659
CNEL:	70	151	325	699

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,263 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,434 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.78	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.82	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.08	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.5	62.0	70.0	70.5
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.3	62.6	62.6
Vehicle Noise:	69.3	69.1	66.6	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	307	662
CNEL:	70	151	326	703

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,106 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,424 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.81	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.80	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.07	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.4	62.0	70.0	70.5
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.4	62.6	62.6
Vehicle Noise:	69.3	69.1	66.6	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	306	660
CNEL:	70	151	325	701

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,499 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,449 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.74	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.80	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.07	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	68.4	66.5	62.1	70.0	70.5
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.4	62.6	62.6
Vehicle Noise:	69.3	69.2	66.7	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	143	309	666
CNEL:	71	152	328	707

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,248 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,433 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.79	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.78	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.04	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.5	62.0	70.0	70.5
Medium Trucks:	59.3	59.5	50.0	54.1	61.6	61.6
Heavy Trucks:	57.5	55.8	48.4	56.4	62.6	62.7
Vehicle Noise:	69.3	69.1	66.6	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	308	663
CNEL:	70	152	327	704

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,827 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,470 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.67	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.78	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.04	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	68.5	66.6	62.1	70.1	70.6
Medium Trucks:	59.3	59.5	50.0	54.1	61.6	61.6
Heavy Trucks:	57.5	55.8	48.4	56.4	62.6	62.7
Vehicle Noise:	69.4	69.2	66.7	63.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	145	312	672
CNEL:	71	154	331	713

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,193 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,494 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.61	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.60	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.86	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	68.6	66.7	62.2	70.2	70.7
Medium Trucks:	59.5	59.7	50.2	54.3	61.7	61.8
Heavy Trucks:	57.6	56.0	48.5	56.6	62.8	62.8
Vehicle Noise:	69.5	69.3	66.8	63.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	147	316	681
CNEL:	72	156	336	724

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,772 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,531 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.50	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.60	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.86	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	68.7	66.8	62.3	70.3	70.8
Medium Trucks:	59.5	59.7	50.2	54.3	61.7	61.8
Heavy Trucks:	57.6	56.0	48.5	56.6	62.8	62.8
Vehicle Noise:	69.6	69.4	66.9	63.8	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	149	320	690
CNEL:	73	158	340	733

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,011 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	902 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.79	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.79	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.05	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	66.4	64.5	60.0	68.0	68.5
Medium Trucks:	57.3	57.5	48.0	52.1	59.5	59.6
Heavy Trucks:	55.5	53.8	46.4	54.4	60.6	60.7
Vehicle Noise:	67.3	67.1	64.6	61.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	105	226	487
CNEL:	52	111	240	517

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,735 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	949 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.84%
Medium Trucks:	80.3%	2.2%	17.4%	0.94%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.57	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.79	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.05	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.3	57.5	48.0	52.1	59.5	59.6
Heavy Trucks:	55.5	53.8	46.4	54.4	60.6	60.7
Vehicle Noise:	67.5	67.3	64.8	61.7	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	53	114	246	531

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,966 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,286 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.26	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.25	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.51	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	67.9	66.0	61.6	69.5	70.0
Medium Trucks:	58.9	59.0	49.5	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.8	68.6	66.2	63.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	286	617
CNEL:	65	141	304	655

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,056 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,292 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.24	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.25	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.51	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	67.9	66.0	61.6	69.5	70.0
Medium Trucks:	58.9	59.0	49.5	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.1	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	287	618
CNEL:	66	141	305	656

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,062 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,292 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.24	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.23	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.49	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	67.9	66.0	61.6	69.5	70.0
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.1	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	287	619
CNEL:	66	142	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,345 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,310 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.17	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.23	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.49	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	68.0	66.1	61.6	69.6	70.1
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	623
CNEL:	66	143	307	662

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,110 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,295 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.23	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.22	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.48	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	67.9	66.0	61.6	69.5	70.0
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	288	620
CNEL:	66	142	305	658

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,601 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,327 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.12	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.22	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.48	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	68.1	66.1	61.7	69.7	70.1
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	69.0	68.8	66.3	63.2	70.9	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	135	291	627
CNEL:	67	144	309	666

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,207 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,301 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.20	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.19	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.46	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	68.0	66.1	61.6	69.6	70.1
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.4	47.9	56.0	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	622
CNEL:	66	142	306	660

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,931 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,348 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.05	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.19	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.46	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	68.1	66.2	61.8	69.7	70.2
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.4	47.9	56.0	62.2	62.2
Vehicle Noise:	69.0	68.8	66.4	63.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	294	633
CNEL:	67	145	312	672

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,847 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,343 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.07	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.06	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.32	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	68.1	66.2	61.7	69.7	70.2
Medium Trucks:	59.1	59.2	49.7	53.8	61.3	61.4
Heavy Trucks:	57.2	55.5	48.1	56.1	62.3	62.4
Vehicle Noise:	69.0	68.8	66.4	63.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	137	295	635
CNEL:	67	145	313	674

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,571 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,389 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.92	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.06	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.32	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.3	61.9	69.9	70.3
Medium Trucks:	59.1	59.2	49.7	53.8	61.3	61.4
Heavy Trucks:	57.2	55.5	48.1	56.1	62.3	62.4
Vehicle Noise:	69.2	69.0	66.5	63.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	139	300	646
CNEL:	69	148	318	686

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,585 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,098 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.46	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-19.53	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.80	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	67.3	65.4	61.0	68.9	69.4
Medium Trucks:	58.1	58.3	48.8	52.9	60.3	60.4
Heavy Trucks:	55.8	54.2	46.8	54.8	61.0	61.0
Vehicle Noise:	68.2	68.0	65.6	62.4	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	111	240	517	1,114
CNEL:	118	255	549	1,184

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,730 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,687 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	95.17%
Medium Trucks:	80.3%	2.2%	17.4%	1.08%
Heavy Trucks:	52.4%	2.4%	45.2%	3.75%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.37	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.07	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.68	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.3	61.9	69.9	70.4
Medium Trucks:	59.6	59.8	50.2	54.4	61.8	61.9
Heavy Trucks:	69.0	67.3	59.9	67.9	74.1	74.2
Vehicle Noise:	72.0	71.1	67.3	69.0	75.7	75.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	263	567	1,222	2,634
CNEL:	270	582	1,254	2,702

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,833 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,952 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.94	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.05	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.32	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	68.8	66.9	62.5	70.4	70.9
Medium Trucks:	59.6	59.8	50.3	54.4	61.8	61.9
Heavy Trucks:	57.3	55.6	48.2	56.3	62.5	62.5
Vehicle Noise:	69.7	69.5	67.1	63.9	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	140	301	649	1,398
CNEL:	149	320	690	1,486

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,968 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,025 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.37%
Medium Trucks:	80.3%	2.2%	17.4%	1.00%
Heavy Trucks:	52.4%	2.4%	45.2%	0.62%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.03	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.90	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.95	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	68.9	67.0	62.6	70.5	71.0
Medium Trucks:	59.8	59.9	50.4	54.5	62.0	62.0
Heavy Trucks:	61.7	60.0	52.6	60.6	66.9	66.9
Vehicle Noise:	70.2	69.9	67.2	65.1	72.5	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	161	347	747	1,609
CNEL:	169	365	787	1,695

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,662 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,876 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.83	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.16	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.43	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	68.7	66.8	62.4	70.3	70.8
Medium Trucks:	59.5	59.7	50.1	54.3	61.7	61.8
Heavy Trucks:	57.2	55.5	48.1	56.1	62.4	62.4
Vehicle Noise:	69.6	69.4	67.0	63.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	137	296	638	1,374
CNEL:	146	315	678	1,461

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,243 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,107 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	97.55%
Medium Trucks:	80.3%	2.2%	17.4%	1.02%
Heavy Trucks:	52.4%	2.4%	45.2%	1.43%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.11	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.69	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.24	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	69.0	67.1	62.6	70.6	71.1
Medium Trucks:	60.0	60.1	50.6	54.7	62.2	62.2
Heavy Trucks:	65.4	63.7	56.3	64.3	70.6	70.6
Vehicle Noise:	71.0	70.5	67.5	66.9	73.9	74.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	200	431	928	2,000
CNEL:	208	449	967	2,083

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,087 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,839 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.77	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.22	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.48	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	68.7	66.7	62.3	70.3	70.8
Medium Trucks:	59.4	59.6	50.1	54.2	61.6	61.7
Heavy Trucks:	57.2	55.5	48.1	56.1	62.3	62.4
Vehicle Noise:	69.5	69.3	66.9	63.7	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	136	294	632	1,362
CNEL:	145	312	672	1,448

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,294 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,239 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	96.74%
Medium Trucks:	80.3%	2.2%	17.4%	1.04%
Heavy Trucks:	52.4%	2.4%	45.2%	2.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.25	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.42	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-14.15	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	69.1	67.2	62.8	70.7	71.2
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	67.5	65.8	58.4	66.4	72.7	72.7
Vehicle Noise:	71.8	71.2	67.9	68.2	75.1	75.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	239	515	1,109	2,390
CNEL:	247	532	1,147	2,471

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,961 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,767 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.66	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.33	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.60	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	68.5	66.6	62.2	70.1	70.6
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.0	55.4	48.0	56.0	62.2	62.3
Vehicle Noise:	69.4	69.2	66.8	63.6	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	288	622	1,339
CNEL:	142	307	661	1,423

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,106 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,356 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	95.89%
Medium Trucks:	80.3%	2.2%	17.4%	1.06%
Heavy Trucks:	52.4%	2.4%	45.2%	3.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.37	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.18	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.61	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.3	62.9	70.9	71.4
Medium Trucks:	60.5	60.6	51.1	55.2	62.7	62.8
Heavy Trucks:	69.0	67.3	59.9	68.0	74.2	74.2
Vehicle Noise:	72.5	71.8	68.2	69.3	76.1	76.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	279	600	1,293	2,785
CNEL:	287	617	1,330	2,866

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,307 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,338 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.93	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-19.06	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.33	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	67.8	65.9	61.5	69.4	69.9
Medium Trucks:	58.6	58.8	49.2	53.4	60.8	60.9
Heavy Trucks:	56.3	54.6	47.2	55.2	61.5	61.5
Vehicle Noise:	68.7	68.5	66.1	62.9	70.6	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	120	258	556	1,197
CNEL:	127	274	591	1,272

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,453 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,927 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	95.47%
Medium Trucks:	80.3%	2.2%	17.4%	1.08%
Heavy Trucks:	52.4%	2.4%	45.2%	3.46%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.75	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.73	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.65	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	68.6	66.7	62.3	70.2	70.7
Medium Trucks:	59.9	60.1	50.6	54.7	62.1	62.2
Heavy Trucks:	69.0	67.3	59.9	67.9	74.1	74.2
Vehicle Noise:	72.2	71.4	67.6	69.1	75.8	76.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	269	579	1,248	2,689
CNEL:	276	595	1,282	2,762

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,943 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,637 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.45	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.54	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.81	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.1	59.3	49.8	53.9	61.3	61.4
Heavy Trucks:	56.8	55.1	47.7	55.8	62.0	62.0
Vehicle Noise:	69.2	69.0	66.6	63.4	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	130	279	602	1,297
CNEL:	138	297	640	1,379

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	50,813 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,272 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	95.83%
Medium Trucks:	80.3%	2.2%	17.4%	1.05%
Heavy Trucks:	52.4%	2.4%	45.2%	3.12%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.25	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.34	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.62	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	69.1	67.2	62.8	70.7	71.2
Medium Trucks:	60.3	60.5	51.0	55.1	62.5	62.6
Heavy Trucks:	69.0	67.3	59.9	67.9	74.2	74.2
Vehicle Noise:	72.4	71.7	68.1	69.3	76.0	76.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	276	596	1,283	2,764
CNEL:	284	613	1,320	2,844

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,223 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,621 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.83	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.16	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.43	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	69.7	67.8	63.3	71.3	71.8
Medium Trucks:	60.5	60.7	51.1	55.3	62.7	62.8
Heavy Trucks:	58.2	56.5	49.1	57.1	63.4	63.4
Vehicle Noise:	70.6	70.4	68.0	64.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	160	345	744	1,602
CNEL:	170	367	790	1,703

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,448 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,700 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.45%
Medium Trucks:	80.3%	2.2%	17.4%	1.00%
Heavy Trucks:	52.4%	2.4%	45.2%	0.55%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.90	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.04	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.60	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	69.8	67.9	63.4	71.4	71.9
Medium Trucks:	60.6	60.8	51.3	55.4	62.8	62.9
Heavy Trucks:	62.0	60.4	53.0	61.0	67.2	67.2
Vehicle Noise:	71.0	70.7	68.1	65.8	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	180	388	836	1,801
CNEL:	190	409	882	1,900

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,988 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,541 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.73	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.26	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.53	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	69.6	67.7	63.3	71.2	71.7
Medium Trucks:	60.4	60.6	51.0	55.2	62.6	62.7
Heavy Trucks:	58.1	56.4	49.0	57.0	63.3	63.3
Vehicle Noise:	70.5	70.3	67.9	64.7	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	158	340	733	1,579
CNEL:	168	362	779	1,678

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,852 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,790 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	97.78%
Medium Trucks:	80.3%	2.2%	17.4%	1.01%
Heavy Trucks:	52.4%	2.4%	45.2%	1.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.98	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.87	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-16.09	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	69.9	68.0	63.5	71.5	72.0
Medium Trucks:	60.8	60.9	51.4	55.6	63.0	63.1
Heavy Trucks:	65.6	63.9	56.5	64.5	70.7	70.8
Vehicle Noise:	71.7	71.3	68.3	67.3	74.4	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	218	469	1,010	2,176
CNEL:	227	489	1,054	2,271

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,380 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,502 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.68	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.31	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.57	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	69.6	67.7	63.2	71.2	71.7
Medium Trucks:	60.3	60.5	51.0	55.1	62.5	62.6
Heavy Trucks:	58.1	56.4	49.0	57.0	63.2	63.3
Vehicle Noise:	70.4	70.3	67.8	64.6	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	157	338	727	1,567
CNEL:	167	359	773	1,666

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	61,078 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,933 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	97.11%
Medium Trucks:	80.3%	2.2%	17.4%	1.03%
Heavy Trucks:	52.4%	2.4%	45.2%	1.86%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.11	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.65	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-14.06	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.1	70.0	68.1	63.6	71.6	72.1
Medium Trucks:	61.0	61.2	51.7	55.8	63.2	63.3
Heavy Trucks:	67.6	65.9	58.5	66.5	72.7	72.8
Vehicle Noise:	72.4	71.8	68.6	68.6	75.5	75.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	255	550	1,185	2,553
CNEL:	265	570	1,229	2,647

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,186 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,425 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.58	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.41	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.67	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	69.5	67.6	63.1	71.1	71.6
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	70.3	70.2	67.7	64.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	154	333	717	1,544
CNEL:	164	354	762	1,641

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,055 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,061 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	96.40%
Medium Trucks:	80.3%	2.2%	17.4%	1.04%
Heavy Trucks:	52.4%	2.4%	45.2%	2.56%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.22	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.45	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.55	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	70.1	68.2	63.7	71.7	72.2
Medium Trucks:	61.2	61.4	51.9	56.0	63.4	63.5
Heavy Trucks:	69.1	67.4	60.0	68.0	74.3	74.3
Vehicle Noise:	73.0	72.3	68.9	69.6	76.4	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	294	633	1,364	2,939
CNEL:	303	653	1,407	3,032

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,035 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,965 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.96	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.03	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.30	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	68.8	66.9	62.5	70.4	70.9
Medium Trucks:	59.6	59.8	50.3	54.4	61.8	61.9
Heavy Trucks:	57.3	55.7	48.3	56.3	62.5	62.6
Vehicle Noise:	69.7	69.5	67.1	63.9	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	140	302	651	1,402
CNEL:	149	321	692	1,491

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	55,904 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,600 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	96.10%
Medium Trucks:	80.3%	2.2%	17.4%	1.05%
Heavy Trucks:	52.4%	2.4%	45.2%	2.85%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.68	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.95	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.59	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	69.6	67.7	63.2	71.2	71.7
Medium Trucks:	60.7	60.9	51.4	55.5	62.9	63.0
Heavy Trucks:	69.1	67.4	60.0	68.0	74.2	74.3
Vehicle Noise:	72.7	72.0	68.4	69.4	76.2	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	284	611	1,317	2,837
CNEL:	292	630	1,357	2,923

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,316 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,176 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.26	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.73	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.00	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	69.1	67.2	62.8	70.7	71.2
Medium Trucks:	59.9	60.1	50.6	54.7	62.1	62.2
Heavy Trucks:	57.6	56.0	48.6	56.6	62.8	62.8
Vehicle Noise:	70.0	69.8	67.4	64.2	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	147	316	681	1,468
CNEL:	156	336	724	1,561

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,076 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,418 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.33%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.71%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.56	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.54	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.85	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	69.4	67.5	63.1	71.0	71.5
Medium Trucks:	60.1	60.3	50.8	54.9	62.3	62.4
Heavy Trucks:	62.8	61.1	53.7	61.7	68.0	68.0
Vehicle Noise:	70.8	70.5	67.8	65.8	73.2	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	179	385	829	1,786
CNEL:	188	405	872	1,878

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,086 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,256 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.53	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.46	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.73	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	70.4	68.5	64.1	72.0	72.5
Medium Trucks:	61.2	61.4	51.8	56.0	63.4	63.5
Heavy Trucks:	58.9	57.2	49.8	57.8	64.1	64.1
Vehicle Noise:	71.3	71.1	68.7	65.5	73.2	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	178	384	828	1,784
CNEL:	190	409	880	1,897

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,552 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,286 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.73%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.28%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.56	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.44	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.89	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	70.4	68.5	64.1	72.0	72.5
Medium Trucks:	61.2	61.4	51.9	56.0	63.4	63.5
Heavy Trucks:	59.8	58.1	50.7	58.7	64.9	65.0
Vehicle Noise:	71.4	71.2	68.7	65.7	73.3	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	182	393	846	1,822
CNEL:	193	417	898	1,934

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,381 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,339 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.61	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.38	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.64	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	70.5	68.6	64.1	72.1	72.6
Medium Trucks:	61.3	61.4	51.9	56.1	63.5	63.6
Heavy Trucks:	59.0	57.3	49.9	57.9	64.2	64.2
Vehicle Noise:	71.4	71.2	68.7	65.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	181	389	839	1,808
CNEL:	192	414	892	1,922

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	68,853 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,434 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.64%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.38%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.70	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.32	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.46	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	70.6	68.7	64.2	72.2	72.7
Medium Trucks:	61.3	61.5	52.0	56.1	63.5	63.6
Heavy Trucks:	61.2	59.5	52.1	60.1	66.3	66.4
Vehicle Noise:	71.6	71.4	68.9	66.1	73.6	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	192	415	893	1,924
CNEL:	204	439	946	2,038

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	68,038 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,382 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.65	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.34	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.60	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	70.5	68.6	64.2	72.1	72.6
Medium Trucks:	61.3	61.5	52.0	56.1	63.5	63.6
Heavy Trucks:	59.0	57.4	50.0	58.0	64.2	64.2
Vehicle Noise:	71.4	71.2	68.8	65.6	73.3	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	182	392	844	1,819
CNEL:	193	417	898	1,934

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,590 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,546 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.55%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.48%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.80	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.24	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.34	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	70.7	68.8	64.3	72.3	72.8
Medium Trucks:	61.4	61.6	52.1	56.2	63.6	63.7
Heavy Trucks:	62.3	60.6	53.2	61.2	67.5	67.5
Vehicle Noise:	71.8	71.6	69.0	66.5	74.0	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	202	435	937	2,018
CNEL:	213	459	990	2,132

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,371 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,467 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.74	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.25	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.52	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	70.6	68.7	64.3	72.2	72.7
Medium Trucks:	61.4	61.6	52.1	56.2	63.6	63.7
Heavy Trucks:	59.1	57.4	50.0	58.1	64.3	64.3
Vehicle Noise:	71.5	71.3	68.9	65.7	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	184	397	855	1,843
CNEL:	196	422	909	1,959

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,131 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,710 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.45%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.58%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.95	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.11	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.34	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	70.8	68.9	64.5	72.4	72.9
Medium Trucks:	61.5	61.7	52.2	56.3	63.7	63.8
Heavy Trucks:	63.3	61.6	54.2	62.2	68.5	68.5
Vehicle Noise:	72.1	71.8	69.2	66.9	74.3	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	213	459	989	2,130
CNEL:	225	484	1,043	2,246

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	78,695 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	5,068 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.29	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-15.70	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.97	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	71.2	69.3	64.8	72.8	73.3
Medium Trucks:	61.9	62.1	52.6	56.7	64.2	64.2
Heavy Trucks:	59.7	58.0	50.6	58.6	64.8	64.9
Vehicle Noise:	72.0	71.9	69.4	66.3	73.9	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	200	432	931	2,005
CNEL:	213	459	989	2,131

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	82,455 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	5,310 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.49%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.54%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.48	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-15.58	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.12	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.5	71.4	69.5	65.0	73.0	73.5
Medium Trucks:	62.1	62.2	52.7	56.9	64.3	64.4
Heavy Trucks:	63.5	61.8	54.4	62.4	68.7	68.7
Vehicle Noise:	72.5	72.3	69.7	67.3	74.8	75.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	228	491	1,059	2,281
CNEL:	241	519	1,117	2,407

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	694 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	45 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-15.39	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-35.38	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-41.64	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.1	53.0	51.1	46.7	54.6	55.1
Medium Trucks:	44.2	44.4	34.8	39.0	46.4	46.5
Heavy Trucks:	42.7	41.0	33.6	41.6	47.9	47.9
Vehicle Noise:	54.0	53.8	51.3	48.4	56.0	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	5	11	24	51
CNEL:	5	12	25	54

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,852 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	119 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.54%
Medium Trucks:	80.3%	2.2%	17.4%	0.37%
Heavy Trucks:	52.4%	2.4%	45.2%	0.09%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-11.09	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-35.38	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-41.64	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.4	57.3	55.4	50.9	58.9	59.4
Medium Trucks:	44.2	44.4	34.8	39.0	46.4	46.5
Heavy Trucks:	42.7	41.0	33.6	41.6	47.9	47.9
Vehicle Noise:	57.8	57.6	55.5	51.7	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	87
CNEL:	9	20	43	93

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,024 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	66 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-13.70	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-33.69	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-39.95	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	54.7	52.8	48.3	56.3	56.8
Medium Trucks:	45.9	46.0	36.5	40.6	48.1	48.2
Heavy Trucks:	44.4	42.7	35.3	43.3	49.6	49.6
Vehicle Noise:	55.7	55.5	53.0	50.1	57.7	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	14	31	66
CNEL:	7	15	33	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,168 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	75 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.93%
Medium Trucks:	80.3%	2.2%	17.4%	0.87%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-13.12	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-33.69	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-39.95	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.4	55.3	53.4	48.9	56.9	57.4
Medium Trucks:	45.9	46.0	36.5	40.6	48.1	48.2
Heavy Trucks:	44.4	42.7	35.3	43.3	49.6	49.6
Vehicle Noise:	56.2	56.0	53.5	50.5	58.1	58.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	15	33	71
CNEL:	7	16	35	75

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,212 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	78 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-12.97	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-32.96	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-39.22	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.6	55.4	53.5	49.1	57.0	57.5
Medium Trucks:	46.6	46.8	37.3	41.4	48.8	48.9
Heavy Trucks:	45.1	43.4	36.0	44.1	50.3	50.3
Vehicle Noise:	56.4	56.2	53.7	50.8	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	16	34	74
CNEL:	8	17	36	78

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,665 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	107 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.11%
Medium Trucks:	80.3%	2.2%	17.4%	0.72%
Heavy Trucks:	52.4%	2.4%	45.2%	0.17%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-11.57	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-32.96	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-39.22	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.0	56.8	54.9	50.5	58.4	58.9
Medium Trucks:	46.6	46.8	37.3	41.4	48.8	48.9
Heavy Trucks:	45.1	43.4	36.0	44.1	50.3	50.3
Vehicle Noise:	57.6	57.4	55.0	51.8	59.4	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	40	87
CNEL:	9	20	43	93

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,318 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	85 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-12.60	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-32.59	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-38.86	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.9	55.8	53.9	49.4	57.4	57.9
Medium Trucks:	47.0	47.1	37.6	41.7	49.2	49.3
Heavy Trucks:	45.5	43.8	36.4	44.4	50.7	50.7
Vehicle Noise:	56.8	56.6	54.1	51.2	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	36	78
CNEL:	8	18	38	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,104 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	135 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.23%
Medium Trucks:	80.3%	2.2%	17.4%	0.62%
Heavy Trucks:	52.4%	2.4%	45.2%	0.15%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-10.55	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-32.59	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-38.86	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.0	57.9	55.9	51.5	59.5	59.9
Medium Trucks:	47.0	47.1	37.6	41.7	49.2	49.3
Heavy Trucks:	45.5	43.8	36.4	44.4	50.7	50.7
Vehicle Noise:	58.5	58.4	56.1	52.6	60.3	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	22	46	100
CNEL:	11	23	49	106

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 11th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,559 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-11.87	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-31.86	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-38.13	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.7	56.5	54.6	50.2	58.1	58.6
Medium Trucks:	47.7	47.9	38.4	42.5	49.9	50.0
Heavy Trucks:	46.2	44.5	37.1	45.2	51.4	51.4
Vehicle Noise:	57.5	57.3	54.8	51.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	87
CNEL:	9	20	43	93

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 11th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,717 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	175 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.30%
Medium Trucks:	80.3%	2.2%	17.4%	0.57%
Heavy Trucks:	52.4%	2.4%	45.2%	0.13%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-9.44	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-31.86	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-38.13	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.1	59.0	57.1	52.6	60.6	61.1
Medium Trucks:	47.7	47.9	38.4	42.5	49.9	50.0
Heavy Trucks:	46.2	44.5	37.1	45.2	51.4	51.4
Vehicle Noise:	59.6	59.4	57.2	53.7	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	25	54	117
CNEL:	13	27	58	125

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 11th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,655 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-7.12	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-27.11	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-33.38	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	61.3	59.4	54.9	62.9	63.4
Medium Trucks:	52.4	52.6	43.1	47.2	54.7	54.7
Heavy Trucks:	51.0	49.3	41.9	49.9	56.1	56.2
Vehicle Noise:	62.3	62.1	59.5	56.6	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	39	84	181
CNEL:	19	41	89	192

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 11th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,813 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	374 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.02%
Medium Trucks:	80.3%	2.2%	17.4%	0.79%
Heavy Trucks:	52.4%	2.4%	45.2%	0.19%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.15	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-27.11	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-33.38	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	62.3	60.3	55.9	63.9	64.4
Medium Trucks:	52.4	52.6	43.1	47.2	54.7	54.7
Heavy Trucks:	51.0	49.3	41.9	49.9	56.1	56.2
Vehicle Noise:	63.1	62.9	60.5	57.3	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	44	94	203
CNEL:	22	47	100	216

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: California Av.
Road Segment: n/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,147 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	847 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.61	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-22.60	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.87	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	57.0	57.1	47.6	51.7	59.2	59.2
Heavy Trucks:	55.5	53.8	46.4	54.4	60.7	60.7
Vehicle Noise:	66.8	66.6	64.1	61.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	168	362
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: California Av.
Road Segment: n/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,885 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	959 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.92%
Medium Trucks:	80.3%	2.2%	17.4%	0.87%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.07	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-22.60	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.87	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	66.3	64.4	60.0	67.9	68.4
Medium Trucks:	57.0	57.1	47.6	51.7	59.2	59.2
Heavy Trucks:	55.5	53.8	46.4	54.4	60.7	60.7
Vehicle Noise:	67.2	67.0	64.6	61.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	83	179	386
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: California Av.
Road Segment: n/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,807 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.22	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.21	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.48	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	68.2	66.3	61.8	69.8	70.3
Medium Trucks:	59.3	59.5	50.0	54.1	61.6	61.6
Heavy Trucks:	57.9	56.2	48.8	56.8	63.0	63.1
Vehicle Noise:	69.2	69.0	66.4	63.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	55	120	258	555

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: California Av.
Road Segment: n/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,022 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,483 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.18	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.21	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.48	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.2	66.3	61.9	69.8	70.3
Medium Trucks:	59.3	59.5	50.0	54.1	61.6	61.6
Heavy Trucks:	57.9	56.2	48.8	56.8	63.0	63.1
Vehicle Noise:	69.2	69.0	66.5	63.6	71.2	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	113	244	526
CNEL:	56	120	259	557

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: California Av.
Road Segment: n/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,342 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,503 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.12	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.11	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.38	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.4	61.9	69.9	70.4
Medium Trucks:	59.4	59.6	50.1	54.2	61.7	61.7
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	69.3	69.1	66.5	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	247	531
CNEL:	56	121	262	563

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: California Av.
Road Segment: n/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,022 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,547 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.01	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.11	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.38	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.5	62.0	70.0	70.5
Medium Trucks:	59.4	59.6	50.1	54.2	61.7	61.7
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	69.4	69.2	66.7	63.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	250	539
CNEL:	57	123	265	572

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: California Av.
Road Segment: n/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,615 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,521 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.07	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.06	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.32	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.5	59.7	50.2	54.3	61.7	61.8
Heavy Trucks:	58.0	56.3	48.9	57.0	63.2	63.2
Vehicle Noise:	69.3	69.1	66.6	63.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	115	249	535
CNEL:	57	122	264	568

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: California Av.
Road Segment: n/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,794 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,597 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.83%
Medium Trucks:	80.3%	2.2%	17.4%	0.94%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.14	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.06	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.32	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	68.5	66.6	62.2	70.2	70.6
Medium Trucks:	59.5	59.7	50.2	54.3	61.7	61.8
Heavy Trucks:	58.0	56.3	48.9	57.0	63.2	63.2
Vehicle Noise:	69.5	69.3	66.8	63.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	255	549
CNEL:	58	125	270	582

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,169 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,556 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.03	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.96	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.22	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	68.4	66.5	62.1	70.0	70.5
Medium Trucks:	59.6	59.8	50.3	54.4	61.8	61.9
Heavy Trucks:	58.1	56.4	49.0	57.1	63.3	63.3
Vehicle Noise:	69.4	69.2	66.7	63.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	117	252	544
CNEL:	58	124	268	577

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,907 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,668 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.86%
Medium Trucks:	80.3%	2.2%	17.4%	0.92%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.34	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.96	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.22	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	68.7	66.8	62.4	70.3	70.8
Medium Trucks:	59.6	59.8	50.3	54.4	61.8	61.9
Heavy Trucks:	58.1	56.4	49.0	57.1	63.3	63.3
Vehicle Noise:	69.7	69.5	67.0	64.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	261	563
CNEL:	60	129	277	598

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,104 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,810 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.69	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.30	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-25.57	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	69.1	67.2	62.7	70.7	71.2
Medium Trucks:	60.3	60.4	50.9	55.0	62.5	62.5
Heavy Trucks:	58.8	57.1	49.7	57.7	64.0	64.0
Vehicle Noise:	70.1	69.9	67.4	64.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	279	601
CNEL:	64	137	296	638

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,841 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,922 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.85%
Medium Trucks:	80.3%	2.2%	17.4%	0.93%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.95	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.30	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-25.57	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	69.4	67.4	63.0	71.0	71.5
Medium Trucks:	60.3	60.4	50.9	55.0	62.5	62.5
Heavy Trucks:	58.8	57.1	49.7	57.7	64.0	64.0
Vehicle Noise:	70.3	70.1	67.6	64.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	288	620
CNEL:	66	142	305	658

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,249 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	724 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.29	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.28	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-29.55	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	65.1	63.2	58.7	66.7	67.2
Medium Trucks:	56.3	56.4	46.9	51.1	58.5	58.6
Heavy Trucks:	54.8	53.1	45.7	53.7	60.0	60.0
Vehicle Noise:	66.1	65.9	63.4	60.5	68.1	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	70	152	327
CNEL:	35	75	161	346

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,131 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	846 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.95%
Medium Trucks:	80.3%	2.2%	17.4%	0.85%
Heavy Trucks:	52.4%	2.4%	45.2%	0.20%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.61	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.28	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-29.55	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	56.3	56.4	46.9	51.1	58.5	58.6
Heavy Trucks:	54.8	53.1	45.7	53.7	60.0	60.0
Vehicle Noise:	66.7	66.5	64.0	60.9	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	164	353
CNEL:	38	81	174	375

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,326 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	923 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.24	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-22.23	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.50	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.2	64.3	59.8	67.8	68.3
Medium Trucks:	57.3	57.5	48.0	52.1	59.5	59.6
Heavy Trucks:	55.9	54.2	46.8	54.8	61.0	61.1
Vehicle Noise:	67.2	67.0	64.4	61.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	38	83	178	384
CNEL:	41	88	189	407

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,559 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	938 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.17	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-22.23	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.50	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.2	64.3	59.9	67.8	68.3
Medium Trucks:	57.3	57.5	48.0	52.1	59.5	59.6
Heavy Trucks:	55.9	54.2	46.8	54.8	61.0	61.1
Vehicle Noise:	67.2	67.0	64.5	61.6	69.2	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	83	180	387
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,314 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	986 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.95	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.94	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.21	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	66.5	64.5	60.1	68.1	68.5
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.2	54.5	47.1	55.1	61.3	61.4
Vehicle Noise:	67.4	67.2	64.7	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	86	186	401
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,050 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,034 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.83%
Medium Trucks:	80.3%	2.2%	17.4%	0.94%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.74	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.94	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.21	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.7	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.2	54.5	47.1	55.1	61.3	61.4
Vehicle Noise:	67.6	67.4	64.9	61.9	69.6	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	88	191	411
CNEL:	44	94	202	436

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,833 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,020 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.81	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.80	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.06	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.8	57.9	48.4	52.5	60.0	60.0
Heavy Trucks:	56.3	54.6	47.2	55.2	61.5	61.5
Vehicle Noise:	67.6	67.4	64.9	62.0	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	88	190	410
CNEL:	43	94	202	435

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,110 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,102 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.87%
Medium Trucks:	80.3%	2.2%	17.4%	0.92%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.47	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.80	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.06	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	66.9	65.0	60.6	68.5	69.0
Medium Trucks:	57.8	57.9	48.4	52.5	60.0	60.0
Heavy Trucks:	56.3	54.6	47.2	55.2	61.5	61.5
Vehicle Noise:	67.9	67.7	65.2	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	198	426
CNEL:	45	98	210	453

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,925 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.52	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.51	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.77	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	58.1	58.2	48.7	52.8	60.3	60.3
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	67.9	67.7	65.2	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	199	429
CNEL:	45	98	211	455

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,807 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,211 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.90%
Medium Trucks:	80.3%	2.2%	17.4%	0.89%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.05	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.51	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.77	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	67.3	65.4	61.0	69.0	69.4
Medium Trucks:	58.1	58.2	48.7	52.8	60.3	60.3
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	68.3	68.1	65.6	62.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	210	452
CNEL:	48	103	223	480

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,109 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.37	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.62	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-25.89	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	68.8	66.9	62.4	70.4	70.9
Medium Trucks:	59.9	60.1	50.6	54.7	62.1	62.2
Heavy Trucks:	58.5	56.8	49.4	57.4	63.6	63.7
Vehicle Noise:	69.8	69.6	67.0	64.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	266	573
CNEL:	61	131	282	607

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,991 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,803 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.86%
Medium Trucks:	80.3%	2.2%	17.4%	0.92%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.67	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.62	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-25.89	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	69.1	67.2	62.7	70.7	71.2
Medium Trucks:	59.9	60.1	50.6	54.7	62.1	62.2
Heavy Trucks:	58.5	56.8	49.4	57.4	63.6	63.7
Vehicle Noise:	70.0	69.8	67.3	64.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	128	275	593
CNEL:	63	136	292	629

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: California Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,154 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	461 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.26	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-25.25	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.51	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	63.1	61.2	56.8	64.8	65.2
Medium Trucks:	54.3	54.5	45.0	49.1	56.5	56.6
Heavy Trucks:	52.8	51.2	43.8	51.8	58.0	58.1
Vehicle Noise:	64.1	63.9	61.4	58.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	52	112	242
CNEL:	26	55	119	256

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: California Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,905 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	638 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.12%
Medium Trucks:	80.3%	2.2%	17.4%	0.72%
Heavy Trucks:	52.4%	2.4%	45.2%	0.17%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.83	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-25.25	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.51	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.7	58.2	66.2	66.7
Medium Trucks:	54.3	54.5	45.0	49.1	56.5	56.6
Heavy Trucks:	52.8	51.2	43.8	51.8	58.0	58.1
Vehicle Noise:	65.3	65.2	62.8	59.5	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	286
CNEL:	30	66	141	304

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: California Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,744 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	499 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.91	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.90	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.17	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	63.5	61.6	57.1	65.1	65.6
Medium Trucks:	54.7	54.8	45.3	49.4	56.9	56.9
Heavy Trucks:	53.2	51.5	44.1	52.1	58.4	58.4
Vehicle Noise:	64.5	64.3	61.8	58.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	55	118	255
CNEL:	27	58	125	270

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: California Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,085 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	521 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.83%
Medium Trucks:	80.3%	2.2%	17.4%	0.95%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.72	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.90	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.17	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	63.7	61.8	57.3	65.3	65.8
Medium Trucks:	54.7	54.8	45.3	49.4	56.9	56.9
Heavy Trucks:	53.2	51.5	44.1	52.1	58.4	58.4
Vehicle Noise:	64.6	64.4	61.9	59.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	260
CNEL:	28	59	128	276

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,503 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	548 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.51	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.50	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.76	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	63.9	62.0	57.5	65.5	66.0
Medium Trucks:	55.1	55.2	45.7	49.8	57.3	57.3
Heavy Trucks:	53.6	51.9	44.5	52.5	58.8	58.8
Vehicle Noise:	64.9	64.7	62.2	59.3	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	126	271
CNEL:	29	62	133	287

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,579 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	617 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.91%
Medium Trucks:	80.3%	2.2%	17.4%	0.88%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.98	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.50	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.76	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.4	62.5	58.1	66.0	66.5
Medium Trucks:	55.1	55.2	45.7	49.8	57.3	57.3
Heavy Trucks:	53.6	51.9	44.5	52.5	58.8	58.8
Vehicle Noise:	65.3	65.1	62.7	59.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	134	288
CNEL:	31	66	142	306

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,909 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	574 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.30	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.29	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.56	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	64.1	62.2	57.7	65.7	66.2
Medium Trucks:	55.3	55.4	45.9	50.0	57.5	57.6
Heavy Trucks:	53.8	52.1	44.7	52.7	59.0	59.0
Vehicle Noise:	65.1	64.9	62.4	59.5	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	60	130	280
CNEL:	30	64	138	296

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,776 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	694 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.99%
Medium Trucks:	80.3%	2.2%	17.4%	0.82%
Heavy Trucks:	52.4%	2.4%	45.2%	0.19%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.47	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.29	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.56	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.1	64.9	63.0	58.6	66.5	67.0
Medium Trucks:	55.3	55.4	45.9	50.0	57.5	57.6
Heavy Trucks:	53.8	52.1	44.7	52.7	59.0	59.0
Vehicle Noise:	65.8	65.6	63.2	60.0	67.7	68.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	66	143	308
CNEL:	33	71	152	327

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: California Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,782 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	630 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.90	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.89	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.15	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.5	62.6	58.1	66.1	66.6
Medium Trucks:	55.7	55.8	46.3	50.5	57.9	58.0
Heavy Trucks:	54.2	52.5	45.1	53.1	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	138	298
CNEL:	32	68	146	316

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: California Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,533 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	807 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.04%
Medium Trucks:	80.3%	2.2%	17.4%	0.77%
Heavy Trucks:	52.4%	2.4%	45.2%	0.18%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.81	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.89	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.15	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	65.6	63.7	59.2	67.2	67.7
Medium Trucks:	55.7	55.8	46.3	50.5	57.9	58.0
Heavy Trucks:	54.2	52.5	45.1	53.1	59.4	59.4
Vehicle Noise:	66.4	66.2	63.8	60.6	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	157	338
CNEL:	36	77	167	359

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: California Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,959 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,157 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.26	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.25	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.51	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	67.1	65.2	60.8	68.7	69.2
Medium Trucks:	58.3	58.5	49.0	53.1	60.5	60.6
Heavy Trucks:	56.8	55.2	47.8	55.8	62.0	62.1
Vehicle Noise:	68.1	67.9	65.4	62.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	96	207	446
CNEL:	47	102	220	473

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: California Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,710 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,334 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.94%
Medium Trucks:	80.3%	2.2%	17.4%	0.86%
Heavy Trucks:	52.4%	2.4%	45.2%	0.20%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.63	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.25	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.51	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	67.8	65.9	61.4	69.4	69.9
Medium Trucks:	58.3	58.5	49.0	53.1	60.5	60.6
Heavy Trucks:	56.8	55.2	47.8	55.8	62.0	62.1
Vehicle Noise:	68.7	68.5	66.0	62.9	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	223	479
CNEL:	51	110	236	509

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,272 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.42	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-22.41	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-28.68	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.3	66.1	64.2	59.8	67.7	68.2
Medium Trucks:	57.1	57.3	47.8	51.9	59.3	59.4
Heavy Trucks:	55.2	53.5	46.1	54.1	60.4	60.4
Vehicle Noise:	67.1	66.9	64.4	61.3	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	50	109	234	504
CNEL:	53	115	248	535

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,707 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,012 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.30	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-22.41	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-28.68	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	66.3	64.4	59.9	67.9	68.4
Medium Trucks:	57.1	57.3	47.8	51.9	59.3	59.4
Heavy Trucks:	55.2	53.5	46.1	54.1	60.4	60.4
Vehicle Noise:	67.2	67.0	64.5	61.4	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	51	110	237	511
CNEL:	54	117	252	543

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,639 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.56	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-21.55	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-27.81	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	67.0	65.1	60.6	68.6	69.1
Medium Trucks:	58.0	58.1	48.6	52.7	60.2	60.3
Heavy Trucks:	56.1	54.4	47.0	55.0	61.2	61.3
Vehicle Noise:	67.9	67.7	65.3	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	575
CNEL:	61	132	284	611

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,693 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.54	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-21.55	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-27.81	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	67.1	67.0	65.1	60.7	68.6	69.1
Medium Trucks:	58.0	58.1	48.6	52.7	60.2	60.3
Heavy Trucks:	56.1	54.4	47.0	55.0	61.2	61.3
Vehicle Noise:	67.9	67.7	65.3	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	58	124	267	576
CNEL:	61	132	284	612

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,969 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,350 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.04	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.03	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.30	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	67.5	65.6	61.2	69.1	69.6
Medium Trucks:	58.5	58.6	49.1	53.3	60.7	60.8
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	68.4	68.3	65.8	62.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	622
CNEL:	66	142	307	661

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,139 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,361 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.01	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.03	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.30	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	67.6	65.6	61.2	69.2	69.6
Medium Trucks:	58.5	58.6	49.1	53.3	60.7	60.8
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	68.5	68.3	65.8	62.7	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	135	290	625
CNEL:	66	143	308	663

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,241 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,432 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.79	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.78	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.04	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	67.8	65.9	61.4	69.4	69.9
Medium Trucks:	58.7	58.9	49.4	53.5	60.9	61.0
Heavy Trucks:	56.8	55.2	47.8	55.8	62.0	62.0
Vehicle Noise:	68.7	68.5	66.0	63.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	139	300	647
CNEL:	69	148	319	687

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,536 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,451 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.73	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.78	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.04	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	67.8	65.9	61.5	69.4	69.9
Medium Trucks:	58.7	58.9	49.4	53.5	60.9	61.0
Heavy Trucks:	56.8	55.2	47.8	55.8	62.0	62.0
Vehicle Noise:	68.7	68.6	66.1	63.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	140	302	651
CNEL:	69	149	321	692

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,021 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,611 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.28	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.27	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-26.53	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.4	61.9	69.9	70.4
Medium Trucks:	59.2	59.4	49.9	54.0	61.4	61.5
Heavy Trucks:	57.4	55.7	48.3	56.3	62.5	62.6
Vehicle Noise:	69.2	69.0	66.5	63.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	151	325	700
CNEL:	74	160	345	743

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,455 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,639 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.20	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.27	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-26.53	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.4	62.0	70.0	70.5
Medium Trucks:	59.2	59.4	49.9	54.0	61.4	61.5
Heavy Trucks:	57.4	55.7	48.3	56.3	62.5	62.6
Vehicle Noise:	69.3	69.1	66.6	63.5	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	706
CNEL:	75	162	348	750

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,801 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,465 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.05	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.94	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-23.21	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.7	71.6	69.7	65.2	73.2	73.7
Medium Trucks:	62.6	62.7	53.2	57.3	64.8	64.9
Heavy Trucks:	60.7	59.0	51.6	59.6	65.8	65.9
Vehicle Noise:	72.5	72.3	69.9	66.8	74.4	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	251	541	1,166
CNEL:	124	267	575	1,238

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,235 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,493 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.08	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.94	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-23.21	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.8	71.6	69.7	65.3	73.2	73.7
Medium Trucks:	62.6	62.7	53.2	57.3	64.8	64.9
Heavy Trucks:	60.7	59.0	51.6	59.6	65.8	65.9
Vehicle Noise:	72.6	72.4	69.9	66.8	74.5	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	252	544	1,171
CNEL:	124	268	577	1,243

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,751 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	370 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.20	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-26.19	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-32.46	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	62.2	60.3	55.8	63.8	64.3
Medium Trucks:	53.4	53.5	44.0	48.1	55.6	55.7
Heavy Trucks:	51.9	50.2	42.8	50.8	57.1	57.1
Vehicle Noise:	63.2	63.0	60.5	57.6	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	45	97	209
CNEL:	22	48	103	221

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,896 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.10	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-26.19	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-32.46	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	62.3	60.4	55.9	63.9	64.4
Medium Trucks:	53.4	53.5	44.0	48.1	55.6	55.7
Heavy Trucks:	51.9	50.2	42.8	50.8	57.1	57.1
Vehicle Noise:	63.3	63.1	60.6	57.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	46	98	211
CNEL:	22	48	104	224

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,425 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	543 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.55	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.54	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.80	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	63.9	61.9	57.5	65.5	66.0
Medium Trucks:	55.0	55.2	45.7	49.8	57.2	57.3
Heavy Trucks:	53.6	51.9	44.5	52.5	58.7	58.8
Vehicle Noise:	64.8	64.6	62.1	59.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	269
CNEL:	29	62	133	286

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,443 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	544 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.54	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.54	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.80	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	63.9	62.0	57.5	65.5	66.0
Medium Trucks:	55.0	55.2	45.7	49.8	57.2	57.3
Heavy Trucks:	53.6	51.9	44.5	52.5	58.7	58.8
Vehicle Noise:	64.9	64.7	62.1	59.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	270
CNEL:	29	62	133	286

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,060 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	583 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.23	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.22	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.49	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	64.2	62.3	57.8	65.8	66.3
Medium Trucks:	55.3	55.5	46.0	50.1	57.5	57.6
Heavy Trucks:	53.9	52.2	44.8	52.8	59.0	59.1
Vehicle Noise:	65.2	65.0	62.4	59.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	131	283
CNEL:	30	65	139	300

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,117 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	587 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.20	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.22	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.49	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	64.2	62.3	57.8	65.8	66.3
Medium Trucks:	55.3	55.5	46.0	50.1	57.5	57.6
Heavy Trucks:	53.9	52.2	44.8	52.8	59.0	59.1
Vehicle Noise:	65.2	65.0	62.5	59.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	132	284
CNEL:	30	65	140	301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,394 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	605 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.07	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.06	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.33	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.5	64.3	62.4	58.0	65.9	66.4
Medium Trucks:	55.5	55.7	46.2	50.3	57.7	57.8
Heavy Trucks:	54.0	52.3	44.9	53.0	59.2	59.2
Vehicle Noise:	65.3	65.1	62.6	59.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	134	290
CNEL:	31	66	143	307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,492 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	611 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.03	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.06	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.33	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.5	64.4	62.5	58.0	66.0	66.5
Medium Trucks:	55.5	55.7	46.2	50.3	57.7	57.8
Heavy Trucks:	54.0	52.3	44.9	53.0	59.2	59.2
Vehicle Noise:	65.4	65.2	62.6	59.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	63	135	291
CNEL:	31	67	143	309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,102 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	651 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.76	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.75	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.01	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	64.6	62.7	58.3	66.2	66.7
Medium Trucks:	55.8	56.0	46.5	50.6	58.0	58.1
Heavy Trucks:	54.3	52.7	45.3	53.3	59.5	59.6
Vehicle Noise:	65.6	65.4	62.9	60.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	141	304
CNEL:	32	69	150	322

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,247 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.70	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.75	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.01	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	64.7	62.8	58.3	66.3	66.8
Medium Trucks:	55.8	56.0	46.5	50.6	58.0	58.1
Heavy Trucks:	54.3	52.7	45.3	53.3	59.5	59.6
Vehicle Noise:	65.7	65.5	63.0	60.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	66	142	306
CNEL:	32	70	151	325

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,195 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,043 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.71	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.70	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.96	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.9	58.0	48.5	52.6	60.1	60.1
Heavy Trucks:	56.4	54.7	47.3	55.3	61.6	61.6
Vehicle Noise:	67.7	67.5	65.0	62.1	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	90	193	416
CNEL:	44	95	205	442

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,340 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,052 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.67	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.70	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.96	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.7	64.8	60.4	68.3	68.8
Medium Trucks:	57.9	58.0	48.5	52.6	60.1	60.1
Heavy Trucks:	56.4	54.7	47.3	55.3	61.6	61.6
Vehicle Noise:	67.7	67.5	65.0	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	90	194	418
CNEL:	44	96	206	444

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,551 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	486 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.02	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-25.01	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.28	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	63.4	61.5	57.0	65.0	65.5
Medium Trucks:	54.5	54.7	45.2	49.3	56.8	56.8
Heavy Trucks:	53.1	51.4	44.0	52.0	58.2	58.3
Vehicle Noise:	64.4	64.2	61.6	58.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	116	250
CNEL:	27	57	123	266

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,696 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	496 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.94	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-25.01	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.28	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	63.5	61.6	57.1	65.1	65.6
Medium Trucks:	54.5	54.7	45.2	49.3	56.8	56.8
Heavy Trucks:	53.1	51.4	44.0	52.0	58.2	58.3
Vehicle Noise:	64.4	64.2	61.7	58.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	117	253
CNEL:	27	58	124	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,774 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	629 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.90	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.89	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.16	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.5	62.6	58.1	66.1	66.6
Medium Trucks:	55.7	55.8	46.3	50.4	57.9	58.0
Heavy Trucks:	54.2	52.5	45.1	53.1	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	138	297
CNEL:	32	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,792 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	631 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.89	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.89	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.16	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.5	62.6	58.1	66.1	66.6
Medium Trucks:	55.7	55.8	46.3	50.4	57.9	58.0
Heavy Trucks:	54.2	52.5	45.1	53.1	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	138	298
CNEL:	32	68	147	316

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,855 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	635 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.87	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.86	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.12	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.5	62.6	58.2	66.1	66.6
Medium Trucks:	55.7	55.9	46.4	50.5	57.9	58.0
Heavy Trucks:	54.2	52.6	45.1	53.2	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	139	299
CNEL:	32	68	147	317

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,912 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	638 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.84	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.86	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.12	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.7	58.2	66.2	66.7
Medium Trucks:	55.7	55.9	46.4	50.5	57.9	58.0
Heavy Trucks:	54.2	52.6	45.1	53.2	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	139	300
CNEL:	32	69	148	318

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,896 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	637 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.85	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.84	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.10	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.6	58.2	66.2	66.7
Medium Trucks:	55.7	55.9	46.4	50.5	57.9	58.0
Heavy Trucks:	54.3	52.6	45.2	53.2	59.4	59.5
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	139	300
CNEL:	32	69	148	318

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,994 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	644 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.80	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.84	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.10	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.7	58.2	66.2	66.7
Medium Trucks:	55.7	55.9	46.4	50.5	57.9	58.0
Heavy Trucks:	54.3	52.6	45.2	53.2	59.4	59.5
Vehicle Noise:	65.6	65.4	62.9	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	140	301
CNEL:	32	69	148	320

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,978 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	643 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.81	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.80	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.07	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.7	58.2	66.2	66.7
Medium Trucks:	55.8	55.9	46.4	50.5	58.0	58.0
Heavy Trucks:	54.3	52.6	45.2	53.2	59.5	59.5
Vehicle Noise:	65.6	65.4	62.9	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	140	302
CNEL:	32	69	148	320

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,123 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	652 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.75	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.80	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.07	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	64.7	62.7	58.3	66.3	66.8
Medium Trucks:	55.8	55.9	46.4	50.5	58.0	58.0
Heavy Trucks:	54.3	52.6	45.2	53.2	59.5	59.5
Vehicle Noise:	65.6	65.4	62.9	60.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	141	304
CNEL:	32	69	149	322

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,527 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	678 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.58	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.57	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-29.83	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	64.8	62.9	58.5	66.4	66.9
Medium Trucks:	56.0	56.2	46.6	50.8	58.2	58.3
Heavy Trucks:	54.5	52.8	45.4	53.5	59.7	59.7
Vehicle Noise:	65.8	65.6	63.1	60.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	145	312
CNEL:	33	71	154	331

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,672 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	687 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.52	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.57	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-29.83	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	64.9	63.0	58.5	66.5	67.0
Medium Trucks:	56.0	56.2	46.6	50.8	58.2	58.3
Heavy Trucks:	54.5	52.8	45.4	53.5	59.7	59.7
Vehicle Noise:	65.9	65.7	63.1	60.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	68	146	315
CNEL:	33	72	155	334

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,978 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,158 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.71	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.70	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.97	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	67.5	65.5	61.1	69.1	69.6
Medium Trucks:	58.4	58.6	49.1	53.2	60.6	60.7
Heavy Trucks:	56.5	54.8	47.4	55.5	61.7	61.7
Vehicle Noise:	68.4	68.2	65.7	62.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	267	575
CNEL:	61	132	283	611

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,123 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,167 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.68	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.70	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.97	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	67.5	65.6	61.1	69.1	69.6
Medium Trucks:	58.4	58.6	49.1	53.2	60.6	60.7
Heavy Trucks:	56.5	54.8	47.4	55.5	61.7	61.7
Vehicle Noise:	68.4	68.2	65.7	62.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	268	577
CNEL:	61	132	285	613

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,060 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,743 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.06	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.93	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.19	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.2	67.3	62.9	70.8	71.3
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.3	56.6	49.2	57.2	63.5	63.5
Vehicle Noise:	70.2	70.0	67.5	64.4	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	163	351	755
CNEL:	80	173	372	802

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,078 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,744 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.07	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.93	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.19	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.2	67.3	62.9	70.8	71.3
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.3	56.6	49.2	57.2	63.5	63.5
Vehicle Noise:	70.2	70.0	67.5	64.4	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	163	351	756
CNEL:	80	173	372	802

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Oak Valley Pkwy. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,325 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,760 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.11	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.88	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.15	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	62.9	70.9	71.4
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.4	56.7	49.3	57.3	63.5	63.6
Vehicle Noise:	70.2	70.0	67.5	64.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	353	760
CNEL:	81	174	375	807

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Oak Valley Pkwy. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,382 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,763 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.12	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.88	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.15	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	62.9	70.9	71.4
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.4	56.7	49.3	57.3	63.5	63.6
Vehicle Noise:	70.2	70.0	67.5	64.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	353	761
CNEL:	81	174	375	808

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Oak Valley Pkwy. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,459 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,768 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.13	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.86	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.13	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	62.9	70.9	71.4
Medium Trucks:	60.3	60.4	50.9	55.0	62.5	62.5
Heavy Trucks:	58.4	56.7	49.3	57.3	63.5	63.6
Vehicle Noise:	70.2	70.0	67.5	64.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	354	763
CNEL:	81	174	376	810

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Oak Valley Pkwy. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,557 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,775 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.14	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.86	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.13	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	62.9	70.9	71.4
Medium Trucks:	60.3	60.4	50.9	55.0	62.5	62.5
Heavy Trucks:	58.4	56.7	49.3	57.3	63.5	63.6
Vehicle Noise:	70.2	70.0	67.6	64.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	165	355	764
CNEL:	81	175	377	811

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,728 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,786 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.17	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.82	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.08	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	69.3	67.4	63.0	70.9	71.4
Medium Trucks:	60.3	60.5	51.0	55.1	62.5	62.6
Heavy Trucks:	58.4	56.7	49.3	57.3	63.6	63.6
Vehicle Noise:	70.3	70.1	67.6	64.5	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	165	356	768
CNEL:	82	176	378	815

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,873 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,795 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.19	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.82	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.08	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	69.4	67.5	63.0	71.0	71.5
Medium Trucks:	60.3	60.5	51.0	55.1	62.5	62.6
Heavy Trucks:	58.4	56.7	49.3	57.3	63.6	63.6
Vehicle Noise:	70.3	70.1	67.6	64.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	357	770
CNEL:	82	176	379	817

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,542 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,903 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.44	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.55	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-25.81	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	69.6	67.7	63.3	71.2	71.7
Medium Trucks:	60.6	60.7	51.2	55.4	62.8	62.9
Heavy Trucks:	58.7	57.0	49.6	57.6	63.9	63.9
Vehicle Noise:	70.5	70.4	67.9	64.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	173	372	801
CNEL:	85	183	395	850

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,687 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,912 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.47	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.55	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-25.81	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	69.6	67.7	63.3	71.2	71.7
Medium Trucks:	60.6	60.7	51.2	55.4	62.8	62.9
Heavy Trucks:	58.7	57.0	49.6	57.6	63.9	63.9
Vehicle Noise:	70.6	70.4	67.9	64.8	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	173	373	803
CNEL:	85	184	396	852

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,318 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	85 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-12.09	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-32.08	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-38.35	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.1	55.0	53.1	48.6	56.6	57.1
Medium Trucks:	46.4	46.5	37.0	41.1	48.6	48.6
Heavy Trucks:	45.4	43.7	36.3	44.3	50.5	50.6
Vehicle Noise:	56.0	55.8	53.3	50.5	58.1	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	13	27	59
CNEL:	6	13	29	63

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,331 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	150 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.31%
Medium Trucks:	80.3%	2.2%	17.4%	0.56%
Heavy Trucks:	52.4%	2.4%	45.2%	0.13%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-9.59	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-32.08	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-38.35	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.6	57.5	55.6	51.1	59.1	59.6
Medium Trucks:	46.4	46.5	37.0	41.1	48.6	48.6
Heavy Trucks:	45.4	43.7	36.3	44.3	50.5	50.6
Vehicle Noise:	58.2	58.0	55.7	52.3	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	37	79
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,426 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	92 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-11.75	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-31.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-38.00	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.4	55.3	53.4	49.0	56.9	57.4
Medium Trucks:	46.7	46.9	37.4	41.5	48.9	49.0
Heavy Trucks:	45.7	44.0	36.6	44.6	50.9	50.9
Vehicle Noise:	56.4	56.2	53.6	50.9	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	13	29	62
CNEL:	7	14	31	66

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,552 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	100 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.88%
Medium Trucks:	80.3%	2.2%	17.4%	0.91%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-11.38	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-31.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-38.00	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.8	55.7	53.8	49.3	57.3	57.8
Medium Trucks:	46.7	46.9	37.4	41.5	48.9	49.0
Heavy Trucks:	45.7	44.0	36.6	44.6	50.9	50.9
Vehicle Noise:	56.7	56.5	54.0	51.1	58.7	59.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	14	30	65
CNEL:	7	15	32	69

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: 11th St. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,715 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	110 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.95	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-30.94	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-37.20	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	56.1	54.2	49.8	57.7	58.2
Medium Trucks:	47.5	47.7	38.2	42.3	49.7	49.8
Heavy Trucks:	46.5	44.8	37.4	45.4	51.7	51.7
Vehicle Noise:	57.2	57.0	54.4	51.7	59.2	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	15	33	71
CNEL:	7	16	35	75

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: 11th St. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,111 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	136 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.01%
Medium Trucks:	80.3%	2.2%	17.4%	0.80%
Heavy Trucks:	52.4%	2.4%	45.2%	0.19%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.03	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-30.94	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-37.20	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.2	57.0	55.1	50.7	58.6	59.1
Medium Trucks:	47.5	47.7	38.2	42.3	49.7	49.8
Heavy Trucks:	46.5	44.8	37.4	45.4	51.7	51.7
Vehicle Noise:	57.9	57.7	55.3	52.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	36	78
CNEL:	8	18	39	83

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: 11th St. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,880 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	121 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.55	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-30.54	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-36.80	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	56.5	54.6	50.2	58.1	58.6
Medium Trucks:	47.9	48.1	38.6	42.7	50.1	50.2
Heavy Trucks:	46.9	45.2	37.8	45.8	52.1	52.1
Vehicle Noise:	57.6	57.4	54.8	52.1	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	16	35	75
CNEL:	8	17	37	79

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: 11th St. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,568 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	165 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.10%
Medium Trucks:	80.3%	2.2%	17.4%	0.72%
Heavy Trucks:	52.4%	2.4%	45.2%	0.17%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-9.18	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-30.54	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-36.80	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.0	57.9	56.0	51.5	59.5	60.0
Medium Trucks:	47.9	48.1	38.6	42.7	50.1	50.2
Heavy Trucks:	46.9	45.2	37.8	45.8	52.1	52.1
Vehicle Noise:	58.7	58.5	56.1	53.0	60.6	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	88
CNEL:	9	20	43	93

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,260 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	146 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-9.75	1.88	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-29.74	1.93	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-36.00	1.92	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	57.4	57.3	55.4	51.0	58.9	59.4
Medium Trucks:	48.7	48.9	39.4	43.5	50.9	51.0
Heavy Trucks:	47.7	46.0	38.6	46.6	52.9	52.9
Vehicle Noise:	58.4	58.2	55.6	52.9	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	8	18	39	85
CNEL:	9	19	42	90

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,273 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	211 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	99.15%
Medium Trucks:	80.3%	2.2%	17.4%	0.68%
Heavy Trucks:	52.4%	2.4%	45.2%	0.16%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-8.12	1.88	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-29.74	1.93	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-36.00	1.92	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	59.1	58.9	57.0	52.6	60.5	61.0
Medium Trucks:	48.7	48.9	39.4	43.5	50.9	51.0
Heavy Trucks:	47.7	46.0	38.6	46.6	52.9	52.9
Vehicle Noise:	59.7	59.5	57.2	54.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	10	22	47	102
CNEL:	11	23	50	109

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,487 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	482 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-4.55	1.88	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-24.54	1.93	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-30.80	1.92	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	62.6	62.5	60.6	56.2	64.1	64.6
Medium Trucks:	53.9	54.1	44.6	48.7	56.1	56.2
Heavy Trucks:	52.9	51.2	43.8	51.8	58.1	58.1
Vehicle Noise:	63.6	63.4	60.8	58.1	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	19	41	87	188
CNEL:	20	43	93	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,500 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	547 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.92%
Medium Trucks:	80.3%	2.2%	17.4%	0.87%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-3.99	1.88	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-24.54	1.93	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-30.80	1.92	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	63.2	63.1	61.2	56.7	64.7	65.2
Medium Trucks:	53.9	54.1	44.6	48.7	56.1	56.2
Heavy Trucks:	52.9	51.2	43.8	51.8	58.1	58.1
Vehicle Noise:	64.0	63.8	61.3	58.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	20	43	93	200
CNEL:	21	46	99	213

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,570 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.37	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-21.36	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.62	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	65.7	63.8	59.3	67.3	67.8
Medium Trucks:	57.1	57.3	47.7	51.9	59.3	59.4
Heavy Trucks:	56.1	54.4	47.0	55.0	61.3	61.3
Vehicle Noise:	66.8	66.5	64.0	61.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	66	142	307
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,859 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,021 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.29	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-21.36	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.62	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	57.1	57.3	47.7	51.9	59.3	59.4
Heavy Trucks:	56.1	54.4	47.0	55.0	61.3	61.3
Vehicle Noise:	66.8	66.6	64.1	61.3	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	144	310
CNEL:	33	71	152	328

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,385 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,120 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.89	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.88	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.14	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.2	64.3	59.8	67.8	68.3
Medium Trucks:	57.6	57.7	48.2	52.3	59.8	59.8
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	67.2	67.0	64.5	61.7	69.3	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	330
CNEL:	35	75	162	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,421 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,122 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.88	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.88	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.14	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.2	64.3	59.8	67.8	68.3
Medium Trucks:	57.6	57.7	48.2	52.3	59.8	59.8
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	67.2	67.0	64.5	61.7	69.3	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	331
CNEL:	35	75	162	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,524 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,129 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.85	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.84	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.11	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.2	64.3	59.8	67.8	68.3
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.6	54.9	47.5	55.5	61.8	61.8
Vehicle Noise:	67.3	67.1	64.5	61.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	154	332
CNEL:	35	76	163	352

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,637 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,136 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.83	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.84	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.11	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.2	64.3	59.9	67.8	68.3
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.6	54.9	47.5	55.5	61.8	61.8
Vehicle Noise:	67.3	67.1	64.5	61.8	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	333
CNEL:	35	76	164	353

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,594 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,133 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.84	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.83	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.09	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.2	64.3	59.9	67.8	68.3
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.6	54.9	47.5	55.5	61.8	61.8
Vehicle Noise:	67.3	67.1	64.5	61.8	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	333
CNEL:	35	76	164	353

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,790 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,146 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.79	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.83	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.09	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.3	64.4	59.9	67.9	68.4
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.6	54.9	47.5	55.5	61.8	61.8
Vehicle Noise:	67.3	67.1	64.6	61.8	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	335
CNEL:	35	76	165	354

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: 6th St.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,735 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,142 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.80	1.88	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-20.79	1.93	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-27.06	1.92	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.4	66.3	64.4	59.9	67.9	68.4
Medium Trucks:	57.6	57.8	48.3	52.4	59.9	59.9
Heavy Trucks:	56.7	55.0	47.6	55.6	61.8	61.9
Vehicle Noise:	67.3	67.1	64.5	61.8	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	33	72	155	335
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: 6th St.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,025 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,161 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.73	1.88	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-20.79	1.93	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-27.06	1.92	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.5	66.3	64.4	60.0	67.9	68.4
Medium Trucks:	57.6	57.8	48.3	52.4	59.9	59.9
Heavy Trucks:	56.7	55.0	47.6	55.6	61.8	61.9
Vehicle Noise:	67.4	67.2	64.6	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	34	73	157	337
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: 6th St.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,678 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,203 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.58	1.88	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-20.57	1.93	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-26.83	1.92	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.6	66.5	64.6	60.1	68.1	68.6
Medium Trucks:	57.9	58.0	48.5	52.7	60.1	60.2
Heavy Trucks:	56.9	55.2	47.8	55.8	62.0	62.1
Vehicle Noise:	67.6	67.3	64.8	62.0	69.6	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	161	346
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: 6th St.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,968 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,222 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	66.51	-0.51	1.88	-1.20	*-4.56*	0.000	0.000
Medium Trucks:	77.72	-20.57	1.93	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	82.99	-26.83	1.92	-1.20	*-5.61*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.7	66.6	64.6	60.2	68.2	68.7
Medium Trucks:	57.9	58.0	48.5	52.7	60.1	60.2
Heavy Trucks:	56.9	55.2	47.8	55.8	62.0	62.1
Vehicle Noise:	67.6	67.4	64.8	62.1	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	35	75	162	349
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,082 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	907 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.77	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-22.76	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-29.03	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	56.7	56.9	47.4	51.5	59.0	59.0
Heavy Trucks:	54.9	53.2	45.8	53.8	60.0	60.1
Vehicle Noise:	66.7	66.5	64.0	61.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	477
CNEL:	51	109	235	507

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,806 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	954 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.84%
Medium Trucks:	80.3%	2.2%	17.4%	0.94%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.55	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-22.76	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-29.03	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	66.0	64.1	59.6	67.6	68.1
Medium Trucks:	56.7	56.9	47.4	51.5	59.0	59.0
Heavy Trucks:	54.9	53.2	45.8	53.8	60.0	60.1
Vehicle Noise:	66.9	66.7	64.3	61.1	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	105	227	490
CNEL:	52	112	241	520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,167 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,106 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.91	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-21.90	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-28.17	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	66.6	64.7	60.3	68.3	68.7
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.6	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	545
CNEL:	58	125	268	578

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,257 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,111 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.89	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-21.90	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-28.17	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.6	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	253	546
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: w/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,233 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,110 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.90	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.89	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.15	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.7	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	253	546
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: w/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,516 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,128 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.82	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.89	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.15	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.7	64.8	60.4	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.7	60.9	60.9
Vehicle Noise:	67.6	67.5	65.0	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	550
CNEL:	58	126	271	585

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: w/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,266 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,112 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.89	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.88	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.14	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.1	46.7	54.7	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	547
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: w/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,757 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,144 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.76	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.88	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.14	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.8	64.9	60.4	68.4	68.9
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.1	46.7	54.7	60.9	60.9
Vehicle Noise:	67.7	67.5	65.0	62.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	257	555
CNEL:	59	127	273	589

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,332 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,116 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.87	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.86	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.13	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.9	59.9
Heavy Trucks:	55.8	54.1	46.7	54.7	60.9	61.0
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	548
CNEL:	58	125	270	582

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,056 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,163 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.83%
Medium Trucks:	80.3%	2.2%	17.4%	0.95%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.69	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.86	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.13	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	57.6	57.8	48.3	52.4	59.9	59.9
Heavy Trucks:	55.8	54.1	46.7	54.7	60.9	61.0
Vehicle Noise:	67.8	67.6	65.1	62.0	69.7	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	260	560
CNEL:	59	128	276	594

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,768 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,144 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.76	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.75	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.02	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.8	64.9	60.4	68.4	68.9
Medium Trucks:	57.8	57.9	48.4	52.5	60.0	60.0
Heavy Trucks:	55.9	54.2	46.8	54.8	61.0	61.1
Vehicle Noise:	67.7	67.5	65.0	62.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	120	259	557
CNEL:	59	127	275	592

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,492 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,191 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.95%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.59	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.75	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.02	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.1	60.6	68.6	69.1
Medium Trucks:	57.8	57.9	48.4	52.5	60.0	60.0
Heavy Trucks:	55.9	54.2	46.8	54.8	61.0	61.1
Vehicle Noise:	67.9	67.7	65.2	62.1	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	264	569
CNEL:	60	130	280	604

Thursday, August 28, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,482 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,126 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.83	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.82	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.09	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.7	64.8	60.4	68.3	68.8
Medium Trucks:	57.7	57.9	48.3	52.5	59.9	60.0
Heavy Trucks:	55.8	54.1	46.7	54.7	61.0	61.0
Vehicle Noise:	67.6	67.5	65.0	61.9	69.6	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	551
CNEL:	59	126	272	585

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,206 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,172 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.95%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.66	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.82	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.09	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	57.7	57.9	48.3	52.5	59.9	60.0
Heavy Trucks:	55.8	54.1	46.7	54.7	61.0	61.0
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	261	563
CNEL:	60	129	277	598

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,048 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,227 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.46	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.45	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.72	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	67.1	65.2	60.7	68.7	69.2
Medium Trucks:	58.1	58.2	48.7	52.8	60.3	60.3
Heavy Trucks:	56.2	54.5	47.1	55.1	61.3	61.4
Vehicle Noise:	68.0	67.8	65.3	62.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	126	271	584
CNEL:	62	134	288	620

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,138 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,232 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.44	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.45	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.72	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	67.1	65.2	60.8	68.7	69.2
Medium Trucks:	58.1	58.2	48.7	52.8	60.3	60.3
Heavy Trucks:	56.2	54.5	47.1	55.1	61.3	61.4
Vehicle Noise:	68.0	67.9	65.4	62.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	126	272	585
CNEL:	62	134	288	621

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,950 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,285 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.26	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.25	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.51	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	67.3	65.4	60.9	68.9	69.4
Medium Trucks:	58.3	58.4	48.9	53.0	60.5	60.5
Heavy Trucks:	56.4	54.7	47.3	55.3	61.5	61.6
Vehicle Noise:	68.2	68.0	65.6	62.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	279	602
CNEL:	64	138	297	639

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,233 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,303 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.20	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.25	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.51	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	67.4	65.5	61.0	69.0	69.5
Medium Trucks:	58.3	58.4	48.9	53.0	60.5	60.5
Heavy Trucks:	56.4	54.7	47.3	55.3	61.5	61.6
Vehicle Noise:	68.3	68.1	65.6	62.5	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	281	606
CNEL:	64	139	299	644

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,418 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,315 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.16	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.15	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.41	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	67.4	65.5	61.0	69.0	69.5
Medium Trucks:	58.4	58.5	49.0	53.1	60.6	60.6
Heavy Trucks:	56.5	54.8	47.4	55.4	61.6	61.7
Vehicle Noise:	68.3	68.1	65.7	62.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	132	284	611
CNEL:	65	140	301	649

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,909 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,347 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.06	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.15	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.41	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	67.5	65.6	61.1	69.1	69.6
Medium Trucks:	58.4	58.5	49.0	53.1	60.6	60.6
Heavy Trucks:	56.5	54.8	47.4	55.4	61.6	61.7
Vehicle Noise:	68.4	68.2	65.8	62.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	287	619
CNEL:	66	142	305	657

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: 1st St.
Road Segment: e/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,385 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,377 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.96	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.95	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.21	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	67.6	65.7	61.2	69.2	69.7
Medium Trucks:	58.6	58.7	49.2	53.3	60.8	60.8
Heavy Trucks:	56.7	55.0	47.6	55.6	61.8	61.9
Vehicle Noise:	68.5	68.3	65.9	62.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	630
CNEL:	67	144	311	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: 1st St.
Road Segment: e/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,109 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,424 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.81	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.95	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.21	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	67.7	65.8	61.4	69.4	69.8
Medium Trucks:	58.6	58.7	49.2	53.3	60.8	60.8
Heavy Trucks:	56.7	55.0	47.6	55.6	61.8	61.9
Vehicle Noise:	68.6	68.5	66.0	62.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	138	298	641
CNEL:	68	147	316	681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: 1st St.
Road Segment: e/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,892 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,861 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.35	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-19.64	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-25.91	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	68.9	67.0	62.5	70.5	71.0
Medium Trucks:	59.9	60.0	50.5	54.6	62.1	62.2
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	69.8	69.6	67.2	64.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	358	770
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: 1st St.
Road Segment: e/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,616 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,907 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.46	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-19.64	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-25.91	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	69.0	67.1	62.7	70.6	71.1
Medium Trucks:	59.9	60.0	50.5	54.6	62.1	62.2
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	69.9	69.7	67.3	64.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	168	362	780
CNEL:	83	179	385	829

APPENDIX 7.2:

OFF-SITE TRAFFIC NOISE CONTOURS (OPTION B)

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,099 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	779 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.43	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-23.42	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.69	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.7	63.8	59.4	67.3	67.8
Medium Trucks:	56.7	56.9	47.4	51.5	58.9	59.0
Heavy Trucks:	54.8	53.1	45.7	53.7	60.0	60.0
Vehicle Noise:	66.7	66.5	64.0	60.9	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	95	205	442
CNEL:	47	101	218	469

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,246 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	789 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.38	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-23.42	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.69	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	56.7	56.9	47.4	51.5	58.9	59.0
Heavy Trucks:	54.8	53.1	45.7	53.7	60.0	60.0
Vehicle Noise:	66.7	66.5	64.0	61.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	44	96	206	444
CNEL:	47	102	219	472

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,496 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	934 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.65	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.64	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.90	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.5	64.6	60.2	68.1	68.6
Medium Trucks:	57.5	57.7	48.1	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.4	67.3	64.8	61.7	69.4	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	107	231	498
CNEL:	53	114	246	529

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,514 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	935 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.64	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.64	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.90	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.5	64.6	60.2	68.1	68.6
Medium Trucks:	57.5	57.7	48.1	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.7	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	107	231	499
CNEL:	53	114	246	529

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,546 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	937 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.63	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.62	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.89	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.5	64.6	60.2	68.1	68.6
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.7	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	499
CNEL:	53	114	246	530

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,604 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	940 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.61	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.62	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.89	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.6	60.2	68.2	68.7
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	53	114	247	531

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,571 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	938 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.62	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.61	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.88	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.5	64.6	60.2	68.1	68.6
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	53	114	246	531

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,685 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	946 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.59	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.61	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.88	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.5	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	233	502
CNEL:	53	115	247	533

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,622 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	942 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.61	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.60	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.86	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.6	60.8	60.8
Vehicle Noise:	67.5	67.3	64.8	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	233	501
CNEL:	53	115	247	532

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,769 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	951 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.57	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.60	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.86	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.5	57.7	48.2	52.3	59.7	59.8
Heavy Trucks:	55.6	53.9	46.5	54.6	60.8	60.8
Vehicle Noise:	67.5	67.3	64.9	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	109	234	504
CNEL:	53	115	248	535

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,953 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	963 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.51	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.50	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.77	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.7	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.7	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	236	509
CNEL:	54	116	251	540

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: n/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,100 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	972 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.47	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.50	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.77	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.7	60.9	60.9
Vehicle Noise:	67.6	67.4	65.0	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	237	511
CNEL:	54	117	252	543

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,524 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	807 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.28	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-23.27	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.54	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.0	65.9	64.0	59.5	67.5	68.0
Medium Trucks:	56.9	57.0	47.5	51.6	59.1	59.1
Heavy Trucks:	55.0	53.3	45.9	53.9	60.1	60.2
Vehicle Noise:	66.8	66.6	64.1	61.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	97	210	452
CNEL:	48	103	223	480

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,966 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	835 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-3.13	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-23.27	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.54	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.2	66.0	64.1	59.7	67.6	68.1
Medium Trucks:	56.9	57.0	47.5	51.6	59.1	59.1
Heavy Trucks:	55.0	53.3	45.9	53.9	60.1	60.2
Vehicle Noise:	66.9	66.8	64.3	61.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	46	99	214	460
CNEL:	49	105	227	489

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,556 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,002 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.34	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.33	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.60	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.8	64.9	60.5	68.4	68.9
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.8	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.0	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	242	522
CNEL:	55	119	257	554

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,611 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,005 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.33	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.33	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.60	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.8	64.9	60.5	68.4	68.9
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.8	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.0	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	56	120	258	555

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,605 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,005 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.33	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.32	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.58	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.8	64.9	60.5	68.4	68.9
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.8	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	56	120	258	556

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,778 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,016 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.28	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.32	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.58	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.8	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	113	244	526
CNEL:	56	120	259	559

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,630 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,007 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.32	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.31	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.57	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	64.9	60.5	68.5	68.9
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.9	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	524
CNEL:	56	120	258	556

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,972 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,029 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.23	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.31	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.57	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	66.9	65.0	60.6	68.5	69.0
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.2	46.8	54.9	61.1	61.1
Vehicle Noise:	67.9	67.7	65.2	62.1	69.8	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	246	530
CNEL:	56	121	261	563

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,680 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,010 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.31	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.30	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.56	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.3	46.8	54.9	61.1	61.1
Vehicle Noise:	67.8	67.6	65.1	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	244	525
CNEL:	56	120	259	557

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,122 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,038 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.18	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.30	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.56	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.1	60.6	68.6	69.1
Medium Trucks:	57.8	58.0	48.5	52.6	60.0	60.1
Heavy Trucks:	55.9	54.3	46.8	54.9	61.1	61.1
Vehicle Noise:	67.9	67.7	65.2	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	115	247	532
CNEL:	57	122	263	566

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,007 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,031 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.22	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.21	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.47	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.0	60.6	68.6	69.1
Medium Trucks:	57.9	58.1	48.6	52.7	60.1	60.2
Heavy Trucks:	56.0	54.3	46.9	55.0	61.2	61.2
Vehicle Noise:	67.9	67.7	65.2	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	115	247	532
CNEL:	57	122	262	565

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: s/o Brookside Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,449 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,059 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.10	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.21	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.47	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	67.1	65.2	60.7	68.7	69.2
Medium Trucks:	57.9	58.1	48.6	52.7	60.1	60.2
Heavy Trucks:	56.0	54.3	46.9	55.0	61.2	61.2
Vehicle Noise:	68.0	67.8	65.3	62.2	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	250	540
CNEL:	57	123	266	573

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,717 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,077 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.03	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.02	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.28	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	67.1	65.2	60.8	68.7	69.2
Medium Trucks:	58.1	58.3	48.8	52.9	60.3	60.4
Heavy Trucks:	56.2	54.5	47.1	55.1	61.4	61.4
Vehicle Noise:	68.1	67.9	65.4	62.3	70.0	70.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	548
CNEL:	58	125	270	582

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,307 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,115 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.88	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.02	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-28.28	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	67.3	65.4	60.9	68.9	69.4
Medium Trucks:	58.1	58.3	48.8	52.9	60.3	60.4
Heavy Trucks:	56.2	54.5	47.1	55.1	61.4	61.4
Vehicle Noise:	68.2	68.0	65.5	62.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	120	259	558
CNEL:	59	128	275	592

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,895 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,410 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.86	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.85	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.11	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.3	59.4	49.9	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.3	62.6	62.6
Vehicle Noise:	69.2	69.1	66.6	63.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	141	304	656
CNEL:	70	150	323	696

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,968 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,415 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.84	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.85	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.11	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.3	59.4	49.9	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.3	62.6	62.6
Vehicle Noise:	69.2	69.1	66.6	63.5	71.2	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	305	657
CNEL:	70	150	324	698

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,036 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,419 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.83	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.82	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.08	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.3	62.6	62.6
Vehicle Noise:	69.3	69.1	66.6	63.5	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	306	659
CNEL:	70	151	325	699

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,267 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,434 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.78	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.82	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.08	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.5	62.0	70.0	70.5
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.3	62.6	62.6
Vehicle Noise:	69.3	69.1	66.6	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	307	662
CNEL:	70	151	326	703

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,106 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,424 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.81	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.80	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.07	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.4	62.0	70.0	70.5
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.4	62.6	62.6
Vehicle Noise:	69.3	69.1	66.6	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	142	306	660
CNEL:	70	151	325	701

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,562 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,453 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.72	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.80	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.07	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	68.4	66.5	62.1	70.0	70.5
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.4	55.7	48.3	56.4	62.6	62.6
Vehicle Noise:	69.4	69.2	66.7	63.6	71.3	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	144	310	667
CNEL:	71	153	329	708

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,248 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,433 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.79	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.78	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.04	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.5	62.0	70.0	70.5
Medium Trucks:	59.3	59.5	50.0	54.1	61.6	61.6
Heavy Trucks:	57.5	55.8	48.4	56.4	62.6	62.7
Vehicle Noise:	69.3	69.1	66.6	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	66	143	308	663
CNEL:	70	152	327	704

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,838 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,471 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.67	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.78	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.04	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	68.5	66.6	62.1	70.1	70.6
Medium Trucks:	59.3	59.5	50.0	54.1	61.6	61.6
Heavy Trucks:	57.5	55.8	48.4	56.4	62.6	62.7
Vehicle Noise:	69.4	69.2	66.7	63.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	67	145	312	672
CNEL:	71	154	331	714

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,193 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,494 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.61	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.60	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.86	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	68.6	66.7	62.2	70.2	70.7
Medium Trucks:	59.5	59.7	50.2	54.3	61.7	61.8
Heavy Trucks:	57.6	56.0	48.5	56.6	62.8	62.8
Vehicle Noise:	69.5	69.3	66.8	63.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	68	147	316	681
CNEL:	72	156	336	724

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: n/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,783 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,532 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.50	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-20.60	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.86	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	68.7	66.8	62.3	70.3	70.8
Medium Trucks:	59.5	59.7	50.2	54.3	61.7	61.8
Heavy Trucks:	57.6	56.0	48.5	56.6	62.8	62.8
Vehicle Noise:	69.6	69.4	66.9	63.8	71.5	71.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	69	149	320	690
CNEL:	73	158	340	733

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,011 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	902 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.79	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.79	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.05	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	66.4	64.5	60.0	68.0	68.5
Medium Trucks:	57.3	57.5	48.0	52.1	59.5	59.6
Heavy Trucks:	55.5	53.8	46.4	54.4	60.6	60.7
Vehicle Noise:	67.3	67.1	64.6	61.6	69.2	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	49	105	226	487
CNEL:	52	111	240	517

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,748 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	950 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.84%
Medium Trucks:	80.3%	2.2%	17.4%	0.94%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.57	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-22.79	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-29.05	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.3	57.5	48.0	52.1	59.5	59.6
Heavy Trucks:	55.5	53.8	46.4	54.4	60.6	60.7
Vehicle Noise:	67.5	67.3	64.8	61.7	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	108	232	500
CNEL:	53	114	247	531

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,966 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,286 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.26	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.25	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.51	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	67.9	66.0	61.6	69.5	70.0
Medium Trucks:	58.9	59.0	49.5	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.8	68.6	66.2	63.1	70.7	71.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	286	617
CNEL:	65	141	304	655

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,057 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,292 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.24	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.25	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.51	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	67.9	66.0	61.6	69.5	70.0
Medium Trucks:	58.9	59.0	49.5	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.1	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	133	287	618
CNEL:	66	141	305	656

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,062 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,292 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.24	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	81.00	-21.23	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-27.49	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.9	66.0	61.6	69.5	70.0
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.1	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	133	287	619
CNEL:	66	142	305	657

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,350 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,311 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.17	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	81.00	-21.23	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-27.49	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	68.0	66.1	61.6	69.6	70.1
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	289	623
CNEL:	66	143	307	662

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,110 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,295 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.23	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	81.00	-21.22	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-27.48	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.1	67.9	66.0	61.6	69.5	70.0
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	62	134	288	620
CNEL:	66	142	305	658

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Beaumont Av.
Road Segment: s/o Oak Valley Pkwy.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,680 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,332 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.10	0.30	-1.20	*-4.67*	0.000	0.000
Medium Trucks:	81.00	-21.22	0.33	-1.20	*-4.87*	0.000	0.000
Heavy Trucks:	85.38	-27.48	0.32	-1.20	*-5.38*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	68.2	68.1	66.2	61.7	69.7	70.2
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.3	47.9	55.9	62.2	62.2
Vehicle Noise:	69.0	68.8	66.3	63.2	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	63	135	292	629
CNEL:	67	144	310	668

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,207 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,301 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.20	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.19	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.46	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.1	68.0	66.1	61.6	69.6	70.1
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.4	47.9	56.0	62.2	62.2
Vehicle Noise:	68.9	68.7	66.2	63.2	70.8	71.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	622
CNEL:	66	142	306	660

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,944 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,349 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.05	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.19	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.46	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	68.1	66.2	61.8	69.7	70.2
Medium Trucks:	58.9	59.1	49.6	53.7	61.1	61.2
Heavy Trucks:	57.0	55.4	47.9	56.0	62.2	62.2
Vehicle Noise:	69.0	68.8	66.4	63.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	294	633
CNEL:	67	145	312	673

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,847 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,343 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.07	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.06	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.32	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.2	68.1	66.2	61.7	69.7	70.2
Medium Trucks:	59.1	59.2	49.7	53.8	61.3	61.4
Heavy Trucks:	57.2	55.5	48.1	56.1	62.3	62.4
Vehicle Noise:	69.0	68.8	66.4	63.3	70.9	71.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	137	295	635
CNEL:	67	145	313	674

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o Oak Valley Pkwy.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,584 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,390 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.92	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.06	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.32	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.3	61.9	69.9	70.4
Medium Trucks:	59.1	59.2	49.7	53.8	61.3	61.4
Heavy Trucks:	57.2	55.5	48.1	56.1	62.3	62.4
Vehicle Noise:	69.2	69.0	66.5	63.4	71.0	71.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	139	300	646
CNEL:	69	148	319	686

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	32,585 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,098 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.46	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-19.53	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.80	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	67.3	65.4	61.0	68.9	69.4
Medium Trucks:	58.1	58.3	48.8	52.9	60.3	60.4
Heavy Trucks:	55.8	54.2	46.8	54.8	61.0	61.0
Vehicle Noise:	68.2	68.0	65.6	62.4	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	111	240	517	1,114
CNEL:	118	255	549	1,184

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	41,994 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,704 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	94.89%
Medium Trucks:	80.3%	2.2%	17.4%	1.10%
Heavy Trucks:	52.4%	2.4%	45.2%	4.01%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.38	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.97	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.36	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.4	61.9	69.9	70.4
Medium Trucks:	59.7	59.8	50.3	54.5	61.9	62.0
Heavy Trucks:	69.3	67.6	60.2	68.2	74.4	74.5
Vehicle Noise:	72.1	71.3	67.4	69.3	75.9	76.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	273	588	1,267	2,729
CNEL:	280	603	1,299	2,798

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,833 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,952 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.94	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.05	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.32	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	68.8	66.9	62.5	70.4	70.9
Medium Trucks:	59.6	59.8	50.3	54.4	61.8	61.9
Heavy Trucks:	57.3	55.6	48.2	56.3	62.5	62.5
Vehicle Noise:	69.7	69.5	67.1	63.9	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	140	301	649	1,398
CNEL:	149	320	690	1,486

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	47,002 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,027 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.34%
Medium Trucks:	80.3%	2.2%	17.4%	1.00%
Heavy Trucks:	52.4%	2.4%	45.2%	0.66%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.03	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.89	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.72	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	68.9	67.0	62.6	70.5	71.0
Medium Trucks:	59.8	59.9	50.4	54.5	62.0	62.0
Heavy Trucks:	61.9	60.2	52.8	60.8	67.1	67.1
Vehicle Noise:	70.2	69.9	67.3	65.2	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	163	350	754	1,625
CNEL:	171	369	794	1,711

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,662 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,876 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.83	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.16	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.43	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	68.7	66.8	62.4	70.3	70.8
Medium Trucks:	59.5	59.7	50.1	54.3	61.7	61.8
Heavy Trucks:	57.2	55.5	48.1	56.1	62.4	62.4
Vehicle Noise:	69.6	69.4	67.0	63.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	137	296	638	1,374
CNEL:	146	315	678	1,461

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	48,343 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,113 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	97.46%
Medium Trucks:	80.3%	2.2%	17.4%	1.03%
Heavy Trucks:	52.4%	2.4%	45.2%	1.52%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.11	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.66	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-15.97	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.1	69.0	67.1	62.6	70.6	71.1
Medium Trucks:	60.0	60.2	50.6	54.8	62.2	62.3
Heavy Trucks:	65.7	64.0	56.6	64.6	70.8	70.9
Vehicle Noise:	71.1	70.6	67.5	67.0	74.0	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	204	440	947	2,041
CNEL:	212	457	985	2,123

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	44,087 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,839 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.77	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.22	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.48	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	68.7	66.7	62.3	70.3	70.8
Medium Trucks:	59.4	59.6	50.1	54.2	61.6	61.7
Heavy Trucks:	57.2	55.5	48.1	56.1	62.3	62.4
Vehicle Noise:	69.5	69.3	66.9	63.7	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	136	294	632	1,362
CNEL:	145	312	672	1,448

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,197 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,297 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	96.63%
Medium Trucks:	80.3%	2.2%	17.4%	1.04%
Heavy Trucks:	52.4%	2.4%	45.2%	2.33%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.32	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.37	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-13.85	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	69.2	67.3	62.8	70.8	71.3
Medium Trucks:	60.3	60.5	50.9	55.1	62.5	62.6
Heavy Trucks:	67.8	66.1	58.7	66.7	73.0	73.0
Vehicle Noise:	72.0	71.3	67.9	68.4	75.3	75.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	247	531	1,145	2,466
CNEL:	255	549	1,183	2,548

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	42,961 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,767 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.66	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.33	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.60	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	68.5	66.6	62.2	70.1	70.6
Medium Trucks:	59.3	59.5	50.0	54.1	61.5	61.6
Heavy Trucks:	57.0	55.4	48.0	56.0	62.2	62.3
Vehicle Noise:	69.4	69.2	66.8	63.6	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	134	288	622	1,339
CNEL:	142	307	661	1,423

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	52,370 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,373 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	95.66%
Medium Trucks:	80.3%	2.2%	17.4%	1.08%
Heavy Trucks:	52.4%	2.4%	45.2%	3.26%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.38	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.10	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.30	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	62.9	70.9	71.4
Medium Trucks:	60.6	60.7	51.2	55.3	62.8	62.8
Heavy Trucks:	69.3	67.7	60.3	68.3	74.5	74.5
Vehicle Noise:	72.7	71.9	68.2	69.5	76.3	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	288	620	1,336	2,878
CNEL:	296	637	1,373	2,959

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	36,307 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,338 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	0.93	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-19.06	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-25.33	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	67.8	65.9	61.5	69.4	69.9
Medium Trucks:	58.6	58.8	49.2	53.4	60.8	60.9
Heavy Trucks:	56.3	54.6	47.2	55.2	61.5	61.5
Vehicle Noise:	68.7	68.5	66.1	62.9	70.6	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	120	258	556	1,197
CNEL:	127	274	591	1,272

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	45,717 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,944 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	95.21%
Medium Trucks:	80.3%	2.2%	17.4%	1.09%
Heavy Trucks:	52.4%	2.4%	45.2%	3.70%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.77	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.64	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.34	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.8	68.7	66.7	62.3	70.3	70.8
Medium Trucks:	60.0	60.2	50.7	54.8	62.2	62.3
Heavy Trucks:	69.3	67.6	60.2	68.2	74.5	74.5
Vehicle Noise:	72.3	71.5	67.7	69.4	76.0	76.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	278	600	1,292	2,783
CNEL:	286	615	1,326	2,856

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	40,943 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,637 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.45	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.54	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.81	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.1	59.3	49.8	53.9	61.3	61.4
Heavy Trucks:	56.8	55.1	47.7	55.8	62.0	62.0
Vehicle Noise:	69.2	69.0	66.6	63.4	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	130	279	602	1,297
CNEL:	138	297	640	1,379

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	51,090 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,290 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	95.60%
Medium Trucks:	80.3%	2.2%	17.4%	1.07%
Heavy Trucks:	52.4%	2.4%	45.2%	3.33%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.27	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.26	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.31	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	69.2	67.2	62.8	70.8	71.3
Medium Trucks:	60.4	60.6	51.1	55.2	62.6	62.7
Heavy Trucks:	69.3	67.6	60.2	68.3	74.5	74.5
Vehicle Noise:	72.6	71.8	68.1	69.5	76.2	76.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	286	616	1,326	2,858
CNEL:	294	633	1,363	2,937

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,223 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,621 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.83	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.16	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.43	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	69.7	67.8	63.3	71.3	71.8
Medium Trucks:	60.5	60.7	51.1	55.3	62.7	62.8
Heavy Trucks:	58.2	56.5	49.1	57.1	63.4	63.4
Vehicle Noise:	70.6	70.4	68.0	64.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	160	345	744	1,602
CNEL:	170	367	790	1,703

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	57,483 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,702 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.42%
Medium Trucks:	80.3%	2.2%	17.4%	1.00%
Heavy Trucks:	52.4%	2.4%	45.2%	0.58%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.91	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.03	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.39	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.9	69.8	67.9	63.4	71.4	71.9
Medium Trucks:	60.6	60.8	51.3	55.4	62.8	62.9
Heavy Trucks:	62.3	60.6	53.2	61.2	67.4	67.5
Vehicle Noise:	71.0	70.7	68.1	65.9	73.3	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	182	391	843	1,817
CNEL:	192	413	889	1,915

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,988 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,541 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.73	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.26	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.53	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	69.6	67.7	63.3	71.2	71.7
Medium Trucks:	60.4	60.6	51.0	55.2	62.6	62.7
Heavy Trucks:	58.1	56.4	49.0	57.0	63.3	63.3
Vehicle Noise:	70.5	70.3	67.9	64.7	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	158	340	733	1,579
CNEL:	168	362	779	1,678

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	58,958 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,797 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	97.70%
Medium Trucks:	80.3%	2.2%	17.4%	1.02%
Heavy Trucks:	52.4%	2.4%	45.2%	1.28%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.98	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.85	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-15.83	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.0	69.9	68.0	63.5	71.5	72.0
Medium Trucks:	60.8	61.0	51.5	55.6	63.0	63.1
Heavy Trucks:	65.8	64.1	56.7	64.7	71.0	71.0
Vehicle Noise:	71.8	71.3	68.4	67.5	74.6	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	221	477	1,028	2,215
CNEL:	231	498	1,072	2,310

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,380 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,502 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.68	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.31	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.57	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	69.6	67.7	63.2	71.2	71.7
Medium Trucks:	60.3	60.5	51.0	55.1	62.5	62.6
Heavy Trucks:	58.1	56.4	49.0	57.0	63.2	63.3
Vehicle Noise:	70.4	70.3	67.8	64.6	72.3	72.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	157	338	727	1,567
CNEL:	167	359	773	1,666

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	62,060 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,997 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	97.02%
Medium Trucks:	80.3%	2.2%	17.4%	1.02%
Heavy Trucks:	52.4%	2.4%	45.2%	1.96%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.18	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.61	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-13.77	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	70.1	68.2	63.7	71.7	72.2
Medium Trucks:	61.0	61.2	51.7	55.8	63.3	63.3
Heavy Trucks:	67.9	66.2	58.8	66.8	73.0	73.1
Vehicle Noise:	72.5	71.9	68.7	68.8	75.7	75.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	263	566	1,220	2,628
CNEL:	272	587	1,264	2,722

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,186 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,425 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.58	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.41	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-23.67	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	69.5	67.6	63.1	71.1	71.6
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	70.3	70.2	67.7	64.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	154	333	717	1,544
CNEL:	164	354	762	1,641

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	63,332 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,079 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	96.22%
Medium Trucks:	80.3%	2.2%	17.4%	1.05%
Heavy Trucks:	52.4%	2.4%	45.2%	2.73%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.23	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.38	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.24	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.2	70.1	68.2	63.8	71.7	72.2
Medium Trucks:	61.3	61.4	51.9	56.0	63.5	63.6
Heavy Trucks:	69.4	67.7	60.3	68.3	74.6	74.6
Vehicle Noise:	73.1	72.4	68.9	69.8	76.6	76.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	303	653	1,406	3,029
CNEL:	312	673	1,449	3,122

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	46,035 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	2,965 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	1.96	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-18.03	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.30	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	68.8	66.9	62.5	70.4	70.9
Medium Trucks:	59.6	59.8	50.3	54.4	61.8	61.9
Heavy Trucks:	57.3	55.7	48.3	56.3	62.5	62.6
Vehicle Noise:	69.7	69.5	67.1	63.9	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	140	302	651	1,402
CNEL:	149	321	692	1,491

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: s/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	56,182 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,618 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	95.89%
Medium Trucks:	80.3%	2.2%	17.4%	1.06%
Heavy Trucks:	52.4%	2.4%	45.2%	3.05%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.69	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.87	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-12.28	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	69.6	67.7	63.2	71.2	71.7
Medium Trucks:	60.8	60.9	51.4	55.6	63.0	63.1
Heavy Trucks:	69.4	67.7	60.3	68.3	74.5	74.6
Vehicle Noise:	72.8	72.1	68.5	69.6	76.4	76.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	293	631	1,360	2,930
CNEL:	301	649	1,399	3,015

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	49,316 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,176 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.26	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.73	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-24.00	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.3	69.1	67.2	62.8	70.7	71.2
Medium Trucks:	59.9	60.1	50.6	54.7	62.1	62.2
Heavy Trucks:	57.6	56.0	48.6	56.6	62.8	62.8
Vehicle Noise:	70.0	69.8	67.4	64.2	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	147	316	681	1,468
CNEL:	156	336	724	1,561

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,161 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,424 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.28%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.75%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	2.56	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-17.52	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.61	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.6	69.4	67.5	63.1	71.1	71.5
Medium Trucks:	60.1	60.3	50.8	54.9	62.3	62.4
Heavy Trucks:	63.0	61.3	53.9	62.0	68.2	68.2
Vehicle Noise:	70.8	70.5	67.8	65.9	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	181	389	839	1,807
CNEL:	190	409	881	1,899

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,086 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,256 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.53	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.46	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.73	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.5	70.4	68.5	64.1	72.0	72.5
Medium Trucks:	61.2	61.4	51.8	56.0	63.4	63.5
Heavy Trucks:	58.9	57.2	49.8	57.8	64.1	64.1
Vehicle Noise:	71.3	71.1	68.7	65.5	73.2	73.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	178	384	828	1,784
CNEL:	190	409	880	1,897

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	66,563 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,287 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.73%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.29%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.56	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.44	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.83	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	70.4	68.5	64.1	72.0	72.5
Medium Trucks:	61.2	61.4	51.9	56.0	63.4	63.5
Heavy Trucks:	59.8	58.1	50.7	58.7	65.0	65.0
Vehicle Noise:	71.4	71.2	68.7	65.7	73.3	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	182	393	847	1,825
CNEL:	194	417	899	1,937

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	67,381 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,339 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.61	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.38	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.64	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.6	70.5	68.6	64.1	72.1	72.6
Medium Trucks:	61.3	61.4	51.9	56.1	63.5	63.6
Heavy Trucks:	59.0	57.3	49.9	57.9	64.2	64.2
Vehicle Noise:	71.4	71.2	68.7	65.6	73.2	73.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	181	389	839	1,808
CNEL:	192	414	892	1,922

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	68,885 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,436 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.63%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.39%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.70	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.32	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-20.33	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	70.6	68.7	64.2	72.2	72.7
Medium Trucks:	61.3	61.5	52.0	56.1	63.5	63.6
Heavy Trucks:	61.3	59.6	52.2	60.2	66.5	66.5
Vehicle Noise:	71.6	71.4	68.9	66.1	73.7	74.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	193	416	897	1,932
CNEL:	205	441	949	2,045

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	68,038 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,382 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.65	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.34	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.60	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.7	70.5	68.6	64.2	72.1	72.6
Medium Trucks:	61.3	61.5	52.0	56.1	63.5	63.6
Heavy Trucks:	59.0	57.4	50.0	58.0	64.2	64.2
Vehicle Noise:	71.4	71.2	68.8	65.6	73.3	73.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	182	392	844	1,819
CNEL:	193	417	898	1,934

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Beaumont Av. | Job Number: 15718
Road Segment: n/o Gilman Springs Rd.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	70,982 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,571 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.53%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.50%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.83	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.23	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-19.16	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	70.7	68.8	64.4	72.3	72.8
Medium Trucks:	61.4	61.6	52.1	56.2	63.6	63.7
Heavy Trucks:	62.5	60.8	53.4	61.4	67.6	67.7
Vehicle Noise:	71.9	71.6	69.0	66.6	74.0	74.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	204	439	945	2,036
CNEL:	215	463	998	2,150

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	69,371 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,467 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.74	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.25	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-22.52	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	70.8	70.6	68.7	64.3	72.2	72.7
Medium Trucks:	61.4	61.6	52.1	56.2	63.6	63.7
Heavy Trucks:	59.1	57.4	50.0	58.1	64.3	64.3
Vehicle Noise:	71.5	71.3	68.9	65.7	73.4	73.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	184	397	855	1,843
CNEL:	196	422	909	1,959

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	73,216 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	4,715 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.42%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.61%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	3.96	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-16.10	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-18.13	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.0	70.8	68.9	64.5	72.4	72.9
Medium Trucks:	61.6	61.7	52.2	56.3	63.8	63.8
Heavy Trucks:	63.5	61.8	54.4	62.4	68.7	68.7
Vehicle Noise:	72.1	71.8	69.2	67.0	74.4	74.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	215	463	998	2,150
CNEL:	227	488	1,051	2,265

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	78,695 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	5,068 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.29	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-15.70	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-21.97	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.3	71.2	69.3	64.8	72.8	73.3
Medium Trucks:	61.9	62.1	52.6	56.7	64.2	64.2
Heavy Trucks:	59.7	58.0	50.6	58.6	64.8	64.9
Vehicle Noise:	72.0	71.9	69.4	66.3	73.9	74.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	200	432	931	2,005
CNEL:	213	459	989	2,131

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Beaumont Av.
Road Segment: n/o Gilman Springs Rd.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	82,540 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	5,316 vehicles
Vehicle Speed:	55 mph
Near/Far Lane Distance:	140 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	110.0 feet
Centerline Dist. to Observer:	110.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.46%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.57%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	85.000
Medium Trucks:	84.896
Heavy Trucks:	84.906

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	71.78	4.48	-3.56	-1.20	-4.78	0.000	0.000
Medium Trucks:	82.40	-15.57	-3.55	-1.20	-4.88	0.000	0.000
Heavy Trucks:	86.40	-17.92	-3.55	-1.20	-5.14	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.5	71.4	69.5	65.0	73.0	73.5
Medium Trucks:	62.1	62.3	52.7	56.9	64.3	64.4
Heavy Trucks:	63.7	62.0	54.6	62.6	68.9	68.9
Vehicle Noise:	72.6	72.3	69.7	67.4	74.8	75.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	230	496	1,068	2,300
CNEL:	243	523	1,126	2,426

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	694 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	45 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-15.39	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-35.38	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-41.64	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.1	53.0	51.1	46.7	54.6	55.1
Medium Trucks:	44.2	44.4	34.8	39.0	46.4	46.5
Heavy Trucks:	42.7	41.0	33.6	41.6	47.9	47.9
Vehicle Noise:	54.0	53.8	51.3	48.4	56.0	56.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	5	11	24	51
CNEL:	5	12	25	54

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,873 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	121 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.55%
Medium Trucks:	80.3%	2.2%	17.4%	0.37%
Heavy Trucks:	52.4%	2.4%	45.2%	0.09%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-11.04	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-35.38	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-41.64	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.5	57.4	55.5	51.0	59.0	59.5
Medium Trucks:	44.2	44.4	34.8	39.0	46.4	46.5
Heavy Trucks:	42.7	41.0	33.6	41.6	47.9	47.9
Vehicle Noise:	57.8	57.7	55.5	51.7	59.5	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	88
CNEL:	9	20	44	94

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,024 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	66 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-13.70	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-33.69	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-39.95	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.8	54.7	52.8	48.3	56.3	56.8
Medium Trucks:	45.9	46.0	36.5	40.6	48.1	48.2
Heavy Trucks:	44.4	42.7	35.3	43.3	49.6	49.6
Vehicle Noise:	55.7	55.5	53.0	50.1	57.7	58.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	14	31	66
CNEL:	7	15	33	70

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,170 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	75 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.93%
Medium Trucks:	80.3%	2.2%	17.4%	0.87%
Heavy Trucks:	52.4%	2.4%	45.2%	0.20%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-13.11	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-33.69	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-39.95	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.4	55.3	53.4	48.9	56.9	57.4
Medium Trucks:	45.9	46.0	36.5	40.6	48.1	48.2
Heavy Trucks:	44.4	42.7	35.3	43.3	49.6	49.6
Vehicle Noise:	56.2	56.0	53.5	50.5	58.1	58.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	15	33	71
CNEL:	8	16	35	75

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 11th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,212 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	78 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-12.97	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-32.96	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-39.22	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.6	55.4	53.5	49.1	57.0	57.5
Medium Trucks:	46.6	46.8	37.3	41.4	48.8	48.9
Heavy Trucks:	45.1	43.4	36.0	44.1	50.3	50.3
Vehicle Noise:	56.4	56.2	53.7	50.8	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	16	34	74
CNEL:	8	17	36	78

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 11th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,673 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	108 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.11%
Medium Trucks:	80.3%	2.2%	17.4%	0.72%
Heavy Trucks:	52.4%	2.4%	45.2%	0.17%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-11.55	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-32.96	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-39.22	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.0	56.9	54.9	50.5	58.5	58.9
Medium Trucks:	46.6	46.8	37.3	41.4	48.8	48.9
Heavy Trucks:	45.1	43.4	36.0	44.1	50.3	50.3
Vehicle Noise:	57.6	57.4	55.1	51.8	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	87
CNEL:	9	20	43	93

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 11th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,318 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	85 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-12.60	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-32.59	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-38.86	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.9	55.8	53.9	49.4	57.4	57.9
Medium Trucks:	47.0	47.1	37.6	41.7	49.2	49.3
Heavy Trucks:	45.5	43.8	36.4	44.4	50.7	50.7
Vehicle Noise:	56.8	56.6	54.1	51.2	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	36	78
CNEL:	8	18	38	83

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 11th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,230 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	144 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.28%
Medium Trucks:	80.3%	2.2%	17.4%	0.59%
Heavy Trucks:	52.4%	2.4%	45.2%	0.14%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-10.30	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-32.59	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-38.86	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.2	58.1	56.2	51.7	59.7	60.2
Medium Trucks:	47.0	47.1	37.6	41.7	49.2	49.3
Heavy Trucks:	45.5	43.8	36.4	44.4	50.7	50.7
Vehicle Noise:	58.8	58.6	56.3	52.8	60.5	61.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	22	48	103
CNEL:	11	24	51	110

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,559 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	100 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-11.87	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-31.86	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-38.13	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.7	56.5	54.6	50.2	58.1	58.6
Medium Trucks:	47.7	47.9	38.4	42.5	49.9	50.0
Heavy Trucks:	46.2	44.5	37.1	45.2	51.4	51.4
Vehicle Noise:	57.5	57.3	54.8	51.9	59.5	59.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	41	87
CNEL:	9	20	43	93

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,738 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	176 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.30%
Medium Trucks:	80.3%	2.2%	17.4%	0.56%
Heavy Trucks:	52.4%	2.4%	45.2%	0.13%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-9.40	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-31.86	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-38.13	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.1	59.0	57.1	52.6	60.6	61.1
Medium Trucks:	47.7	47.9	38.4	42.5	49.9	50.0
Heavy Trucks:	46.2	44.5	37.1	45.2	51.4	51.4
Vehicle Noise:	59.6	59.5	57.2	53.7	61.4	61.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	12	25	55	118
CNEL:	13	27	58	126

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	4,655 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	300 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-7.12	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-27.11	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-33.38	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.4	61.3	59.4	54.9	62.9	63.4
Medium Trucks:	52.4	52.6	43.1	47.2	54.7	54.7
Heavy Trucks:	51.0	49.3	41.9	49.9	56.1	56.2
Vehicle Noise:	62.3	62.1	59.5	56.6	64.2	64.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	18	39	84	181
CNEL:	19	41	89	192

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: California Av.
Road Segment: s/o 11th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,834 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	376 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.02%
Medium Trucks:	80.3%	2.2%	17.4%	0.79%
Heavy Trucks:	52.4%	2.4%	45.2%	0.19%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.13	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-27.11	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-33.38	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	62.3	60.4	55.9	63.9	64.4
Medium Trucks:	52.4	52.6	43.1	47.2	54.7	54.7
Heavy Trucks:	51.0	49.3	41.9	49.9	56.1	56.2
Vehicle Noise:	63.1	62.9	60.5	57.3	65.0	65.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	44	94	203
CNEL:	22	47	100	216

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,147 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	847 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.61	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-22.60	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.87	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	57.0	57.1	47.6	51.7	59.2	59.2
Heavy Trucks:	55.5	53.8	46.4	54.4	60.7	60.7
Vehicle Noise:	66.8	66.6	64.1	61.1	68.7	69.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	36	78	168	362
CNEL:	38	83	178	384

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,916 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	961 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.92%
Medium Trucks:	80.3%	2.2%	17.4%	0.87%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.06	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-22.60	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.87	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	66.3	64.4	60.0	67.9	68.4
Medium Trucks:	57.0	57.1	47.6	51.7	59.2	59.2
Heavy Trucks:	55.5	53.8	46.4	54.4	60.7	60.7
Vehicle Noise:	67.2	67.0	64.6	61.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	83	179	386
CNEL:	41	88	190	410

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,807 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,469 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.22	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.21	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.48	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.3	68.2	66.3	61.8	69.8	70.3
Medium Trucks:	59.3	59.5	50.0	54.1	61.6	61.6
Heavy Trucks:	57.9	56.2	48.8	56.8	63.0	63.1
Vehicle Noise:	69.2	69.0	66.4	63.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	52	113	243	523
CNEL:	55	120	258	555

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,026 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,483 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.18	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.21	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.48	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.2	66.3	61.9	69.8	70.3
Medium Trucks:	59.3	59.5	50.0	54.1	61.6	61.6
Heavy Trucks:	57.9	56.2	48.8	56.8	63.0	63.1
Vehicle Noise:	69.2	69.0	66.5	63.6	71.2	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	113	244	526
CNEL:	56	120	259	557

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,342 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,503 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.12	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.11	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.38	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.4	61.9	69.9	70.4
Medium Trucks:	59.4	59.6	50.1	54.2	61.7	61.7
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	69.3	69.1	66.5	63.6	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	53	114	247	531
CNEL:	56	121	262	563

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,034 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,548 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.01	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.11	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.38	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.5	62.0	70.0	70.5
Medium Trucks:	59.4	59.6	50.1	54.2	61.7	61.7
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	69.4	69.2	66.7	63.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	116	250	539
CNEL:	57	123	265	572

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	23,615 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,521 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.07	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.06	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.32	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.3	66.4	62.0	69.9	70.4
Medium Trucks:	59.5	59.7	50.2	54.3	61.7	61.8
Heavy Trucks:	58.0	56.3	48.9	57.0	63.2	63.2
Vehicle Noise:	69.3	69.1	66.6	63.7	71.3	71.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	115	249	535
CNEL:	57	122	264	568

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,982 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,609 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.84%
Medium Trucks:	80.3%	2.2%	17.4%	0.94%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.18	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-20.06	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.32	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.7	68.6	66.7	62.2	70.2	70.7
Medium Trucks:	59.5	59.7	50.2	54.3	61.7	61.8
Heavy Trucks:	58.0	56.3	48.9	57.0	63.2	63.2
Vehicle Noise:	69.5	69.3	66.8	63.9	71.5	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	551
CNEL:	58	126	271	584

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	24,169 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,556 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.03	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.96	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.22	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.6	68.4	66.5	62.1	70.0	70.5
Medium Trucks:	59.6	59.8	50.3	54.4	61.8	61.9
Heavy Trucks:	58.1	56.4	49.0	57.1	63.3	63.3
Vehicle Noise:	69.4	69.2	66.7	63.8	71.4	71.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	54	117	252	544
CNEL:	58	124	268	577

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,938 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,670 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.86%
Medium Trucks:	80.3%	2.2%	17.4%	0.92%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.34	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.96	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-26.22	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	68.7	66.8	62.4	70.3	70.8
Medium Trucks:	59.6	59.8	50.3	54.4	61.8	61.9
Heavy Trucks:	58.1	56.4	49.0	57.1	63.3	63.3
Vehicle Noise:	69.7	69.5	67.0	64.0	71.6	72.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	261	563
CNEL:	60	129	278	598

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,104 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,810 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.69	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.30	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-25.57	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	69.1	67.2	62.7	70.7	71.2
Medium Trucks:	60.3	60.4	50.9	55.0	62.5	62.5
Heavy Trucks:	58.8	57.1	49.7	57.7	64.0	64.0
Vehicle Noise:	70.1	69.9	67.4	64.4	72.0	72.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	279	601
CNEL:	64	137	296	638

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: n/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,873 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,924 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.85%
Medium Trucks:	80.3%	2.2%	17.4%	0.93%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.95	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.30	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-25.57	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	69.4	67.4	63.0	71.0	71.5
Medium Trucks:	60.3	60.4	50.9	55.0	62.5	62.5
Heavy Trucks:	58.8	57.1	49.7	57.7	64.0	64.0
Vehicle Noise:	70.3	70.1	67.6	64.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	288	620
CNEL:	66	142	305	658

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,249 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	724 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.29	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.28	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-29.55	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	65.1	63.2	58.7	66.7	67.2
Medium Trucks:	56.3	56.4	46.9	51.1	58.5	58.6
Heavy Trucks:	54.8	53.1	45.7	53.7	60.0	60.0
Vehicle Noise:	66.1	65.9	63.4	60.5	68.1	68.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	70	152	327
CNEL:	35	75	161	346

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	13,165 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	848 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.95%
Medium Trucks:	80.3%	2.2%	17.4%	0.85%
Heavy Trucks:	52.4%	2.4%	45.2%	0.20%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.60	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.28	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-29.55	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	56.3	56.4	46.9	51.1	58.5	58.6
Heavy Trucks:	54.8	53.1	45.7	53.7	60.0	60.0
Vehicle Noise:	66.7	66.5	64.0	60.9	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	76	164	354
CNEL:	38	81	174	376

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,326 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	923 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.24	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-22.23	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.50	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.2	64.3	59.8	67.8	68.3
Medium Trucks:	57.3	57.5	48.0	52.1	59.5	59.6
Heavy Trucks:	55.9	54.2	46.8	54.8	61.0	61.1
Vehicle Noise:	67.2	67.0	64.4	61.5	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	38	83	178	384
CNEL:	41	88	189	407

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,563 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	938 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.17	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-22.23	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.50	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.2	64.3	59.9	67.8	68.3
Medium Trucks:	57.3	57.5	48.0	52.1	59.5	59.6
Heavy Trucks:	55.9	54.2	46.8	54.8	61.0	61.1
Vehicle Noise:	67.2	67.0	64.5	61.6	69.2	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	39	83	180	387
CNEL:	41	88	190	410

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,314 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	986 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.95	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.94	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.21	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	66.5	64.5	60.1	68.1	68.5
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.2	54.5	47.1	55.1	61.3	61.4
Vehicle Noise:	67.4	67.2	64.7	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	40	86	186	401
CNEL:	43	92	197	425

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,064 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,034 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.83%
Medium Trucks:	80.3%	2.2%	17.4%	0.94%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.74	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.94	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.21	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.2	54.5	47.1	55.1	61.3	61.4
Vehicle Noise:	67.6	67.4	64.9	62.0	69.6	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	89	191	411
CNEL:	44	94	202	436

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,833 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,020 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.81	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.80	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.06	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.7	60.2	68.2	68.7
Medium Trucks:	57.8	57.9	48.4	52.5	60.0	60.0
Heavy Trucks:	56.3	54.6	47.2	55.2	61.5	61.5
Vehicle Noise:	67.6	67.4	64.9	62.0	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	41	88	190	410
CNEL:	43	94	202	435

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 4th St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,314 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,115 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.88%
Medium Trucks:	80.3%	2.2%	17.4%	0.91%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.41	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.80	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-28.06	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.1	60.6	68.6	69.1
Medium Trucks:	57.8	57.9	48.4	52.5	60.0	60.0
Heavy Trucks:	56.3	54.6	47.2	55.2	61.5	61.5
Vehicle Noise:	67.9	67.7	65.2	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	199	429
CNEL:	46	98	211	455

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,925 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,090 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.52	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.51	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.77	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	58.1	58.2	48.7	52.8	60.3	60.3
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	67.9	67.7	65.2	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	43	92	199	429
CNEL:	45	98	211	455

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,841 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,213 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.90%
Medium Trucks:	80.3%	2.2%	17.4%	0.89%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.05	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.51	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.77	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	67.4	65.4	61.0	69.0	69.5
Medium Trucks:	58.1	58.2	48.7	52.8	60.3	60.3
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	68.3	68.1	65.6	62.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	98	210	453
CNEL:	48	104	223	481

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	26,109 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,681 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.37	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.62	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-25.89	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.9	68.8	66.9	62.4	70.4	70.9
Medium Trucks:	59.9	60.1	50.6	54.7	62.1	62.2
Heavy Trucks:	58.5	56.8	49.4	57.4	63.6	63.7
Vehicle Noise:	69.8	69.6	67.0	64.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	266	573
CNEL:	61	131	282	607

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: California Av.
Road Segment: s/o 4th St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,025 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,805 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.86%
Medium Trucks:	80.3%	2.2%	17.4%	0.92%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	0.68	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-19.62	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-25.89	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	69.1	67.2	62.7	70.7	71.2
Medium Trucks:	59.9	60.1	50.6	54.7	62.1	62.2
Heavy Trucks:	58.5	56.8	49.4	57.4	63.6	63.7
Vehicle Noise:	70.0	69.8	67.3	64.3	71.9	72.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	128	275	593
CNEL:	63	136	292	630

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,154 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	461 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.26	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-25.25	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.51	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	63.1	61.2	56.8	64.8	65.2
Medium Trucks:	54.3	54.5	45.0	49.1	56.5	56.6
Heavy Trucks:	52.8	51.2	43.8	51.8	58.0	58.1
Vehicle Noise:	64.1	63.9	61.4	58.5	66.1	66.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	24	52	112	242
CNEL:	26	55	119	256

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,955 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	641 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.12%
Medium Trucks:	80.3%	2.2%	17.4%	0.71%
Heavy Trucks:	52.4%	2.4%	45.2%	0.17%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.81	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-25.25	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.51	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.7	58.2	66.2	66.7
Medium Trucks:	54.3	54.5	45.0	49.1	56.5	56.6
Heavy Trucks:	52.8	51.2	43.8	51.8	58.0	58.1
Vehicle Noise:	65.4	65.2	62.8	59.5	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	133	286
CNEL:	30	66	141	305

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,744 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	499 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.91	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.90	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.17	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	63.5	61.6	57.1	65.1	65.6
Medium Trucks:	54.7	54.8	45.3	49.4	56.9	56.9
Heavy Trucks:	53.2	51.5	44.1	52.1	58.4	58.4
Vehicle Noise:	64.5	64.3	61.8	58.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	55	118	255
CNEL:	27	58	125	270

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,091 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	521 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.83%
Medium Trucks:	80.3%	2.2%	17.4%	0.95%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.72	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.90	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.17	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	63.7	61.8	57.3	65.3	65.8
Medium Trucks:	54.7	54.8	45.3	49.4	56.9	56.9
Heavy Trucks:	53.2	51.5	44.1	52.1	58.4	58.4
Vehicle Noise:	64.6	64.4	61.9	59.0	66.6	67.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	26	56	121	260
CNEL:	28	59	128	276

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,503 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	548 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.51	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.50	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.76	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	63.9	62.0	57.5	65.5	66.0
Medium Trucks:	55.1	55.2	45.7	49.8	57.3	57.3
Heavy Trucks:	53.6	51.9	44.5	52.5	58.8	58.8
Vehicle Noise:	64.9	64.7	62.2	59.3	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	126	271
CNEL:	29	62	133	287

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,599 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	618 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.92%
Medium Trucks:	80.3%	2.2%	17.4%	0.88%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.97	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.50	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.76	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.4	62.5	58.1	66.0	66.5
Medium Trucks:	55.1	55.2	45.7	49.8	57.3	57.3
Heavy Trucks:	53.6	51.9	44.5	52.5	58.8	58.8
Vehicle Noise:	65.3	65.1	62.7	59.6	67.2	67.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	134	288
CNEL:	31	66	142	306

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,909 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	574 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.30	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.29	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.56	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.2	64.1	62.2	57.7	65.7	66.2
Medium Trucks:	55.3	55.4	45.9	50.0	57.5	57.6
Heavy Trucks:	53.8	52.1	44.7	52.7	59.0	59.0
Vehicle Noise:	65.1	64.9	62.4	59.5	67.0	67.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	60	130	280
CNEL:	30	64	138	296

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	11,074 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	713 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.02%
Medium Trucks:	80.3%	2.2%	17.4%	0.80%
Heavy Trucks:	52.4%	2.4%	45.2%	0.19%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.35	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.29	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.56	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.2	65.1	63.1	58.7	66.7	67.2
Medium Trucks:	55.3	55.4	45.9	50.0	57.5	57.6
Heavy Trucks:	53.8	52.1	44.7	52.7	59.0	59.0
Vehicle Noise:	65.9	65.7	63.3	60.1	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	145	312
CNEL:	33	72	154	332

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,782 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	630 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.90	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.89	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.15	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.5	62.6	58.1	66.1	66.6
Medium Trucks:	55.7	55.8	46.3	50.5	57.9	58.0
Heavy Trucks:	54.2	52.5	45.1	53.1	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	138	298
CNEL:	32	68	146	316

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	12,582 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	810 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.05%
Medium Trucks:	80.3%	2.2%	17.4%	0.77%
Heavy Trucks:	52.4%	2.4%	45.2%	0.18%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-2.79	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.89	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.15	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.7	65.6	63.7	59.2	67.2	67.7
Medium Trucks:	55.7	55.8	46.3	50.5	57.9	58.0
Heavy Trucks:	54.2	52.5	45.1	53.1	59.4	59.4
Vehicle Noise:	66.4	66.2	63.8	60.6	68.3	68.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	157	338
CNEL:	36	78	167	360

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,959 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,157 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.26	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.25	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.51	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	67.1	65.2	60.8	68.7	69.2
Medium Trucks:	58.3	58.5	49.0	53.1	60.5	60.6
Heavy Trucks:	56.8	55.2	47.8	55.8	62.0	62.1
Vehicle Noise:	68.1	67.9	65.4	62.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	45	96	207	446
CNEL:	47	102	220	473

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: California Av. | Job Number: 15718
Road Segment: s/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,759 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,337 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.94%
Medium Trucks:	80.3%	2.2%	17.4%	0.86%
Heavy Trucks:	52.4%	2.4%	45.2%	0.20%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-0.62	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.25	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.51	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	67.8	65.9	61.4	69.4	69.9
Medium Trucks:	58.3	58.5	49.0	53.1	60.5	60.6
Heavy Trucks:	56.8	55.2	47.8	55.8	62.0	62.1
Vehicle Noise:	68.7	68.5	66.0	62.9	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	48	103	223	480
CNEL:	51	110	237	510

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,272 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	984 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.42	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-22.41	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.68	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.1	64.2	59.8	67.7	68.2
Medium Trucks:	57.1	57.3	47.8	51.9	59.3	59.4
Heavy Trucks:	55.2	53.5	46.1	54.1	60.4	60.4
Vehicle Noise:	67.1	66.9	64.4	61.3	69.0	69.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	50	109	234	504
CNEL:	53	115	248	535

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,714 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,012 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-2.30	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-22.41	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.68	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.3	64.4	59.9	67.9	68.4
Medium Trucks:	57.1	57.3	47.8	51.9	59.3	59.4
Heavy Trucks:	55.2	53.5	46.1	54.1	60.4	60.4
Vehicle Noise:	67.2	67.0	64.5	61.4	69.1	69.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	51	110	237	511
CNEL:	54	117	252	543

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,639 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,200 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.56	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.55	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.81	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.1	60.6	68.6	69.1
Medium Trucks:	58.0	58.1	48.6	52.7	60.2	60.3
Heavy Trucks:	56.1	54.4	47.0	55.0	61.2	61.3
Vehicle Noise:	67.9	67.7	65.3	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	267	575
CNEL:	61	132	284	611

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Pennsylvania Av.
Road Segment: n/o 1st St.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,694 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,204 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.54	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.55	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.81	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.1	60.7	68.6	69.1
Medium Trucks:	58.0	58.1	48.6	52.7	60.2	60.3
Heavy Trucks:	56.1	54.4	47.0	55.0	61.2	61.3
Vehicle Noise:	67.9	67.7	65.3	62.2	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	267	576
CNEL:	61	132	284	612

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,969 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,350 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.04	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.03	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.30	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	67.5	65.6	61.2	69.1	69.6
Medium Trucks:	58.5	58.6	49.1	53.3	60.7	60.8
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	68.4	68.3	65.8	62.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	289	622
CNEL:	66	142	307	661

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,142 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,362 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.01	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.03	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.30	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	67.6	65.6	61.2	69.2	69.6
Medium Trucks:	58.5	58.6	49.1	53.3	60.7	60.8
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	68.5	68.3	65.8	62.7	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	135	290	625
CNEL:	66	143	308	664

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,241 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,432 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.79	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.78	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.04	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	67.8	65.9	61.4	69.4	69.9
Medium Trucks:	58.7	58.9	49.4	53.5	60.9	61.0
Heavy Trucks:	56.8	55.2	47.8	55.8	62.0	62.0
Vehicle Noise:	68.7	68.5	66.0	63.0	70.6	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	139	300	647
CNEL:	69	148	319	687

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,583 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,454 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.72	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.78	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.04	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.0	67.8	65.9	61.5	69.4	69.9
Medium Trucks:	58.7	58.9	49.4	53.5	60.9	61.0
Heavy Trucks:	56.8	55.2	47.8	55.8	62.0	62.0
Vehicle Noise:	68.7	68.6	66.1	63.0	70.7	71.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	65	141	303	652
CNEL:	69	149	321	693

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,021 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,611 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.28	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.27	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-26.53	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	68.3	66.4	61.9	69.9	70.4
Medium Trucks:	59.2	59.4	49.9	54.0	61.4	61.5
Heavy Trucks:	57.4	55.7	48.3	56.3	62.5	62.6
Vehicle Noise:	69.2	69.0	66.5	63.5	71.1	71.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	70	151	325	700
CNEL:	74	160	345	743

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	25,463 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,640 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.20	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.27	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-26.53	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.5	68.4	66.4	62.0	70.0	70.5
Medium Trucks:	59.2	59.4	49.9	54.0	61.4	61.5
Heavy Trucks:	57.4	55.7	48.3	56.3	62.5	62.6
Vehicle Noise:	69.3	69.1	66.6	63.5	71.2	71.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	71	152	328	706
CNEL:	75	162	348	750

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	53,801 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,465 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.05	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.94	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-23.21	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.7	71.6	69.7	65.2	73.2	73.7
Medium Trucks:	62.6	62.7	53.2	57.3	64.8	64.9
Heavy Trucks:	60.7	59.0	51.6	59.6	65.8	65.9
Vehicle Noise:	72.5	72.3	69.9	66.8	74.4	74.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	251	541	1,166
CNEL:	124	267	575	1,238

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: Pennsylvania Av. | Job Number: 15718
Road Segment: n/o 1st St.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	54,243 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	3,493 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	3.08	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-16.94	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-23.21	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	71.8	71.6	69.7	65.3	73.2	73.7
Medium Trucks:	62.6	62.7	53.2	57.3	64.8	64.9
Heavy Trucks:	60.7	59.0	51.6	59.6	65.8	65.9
Vehicle Noise:	72.6	72.4	69.9	66.8	74.5	74.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	117	252	544	1,171
CNEL:	124	268	577	1,244

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,751 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	370 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.20	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-26.19	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-32.46	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.3	62.2	60.3	55.8	63.8	64.3
Medium Trucks:	53.4	53.5	44.0	48.1	55.6	55.7
Heavy Trucks:	51.9	50.2	42.8	50.8	57.1	57.1
Vehicle Noise:	63.2	63.0	60.5	57.6	65.1	65.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	45	97	209
CNEL:	22	48	103	221

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	5,898 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	380 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-6.09	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-26.19	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-32.46	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	62.3	60.4	55.9	63.9	64.4
Medium Trucks:	53.4	53.5	44.0	48.1	55.6	55.7
Heavy Trucks:	51.9	50.2	42.8	50.8	57.1	57.1
Vehicle Noise:	63.3	63.1	60.6	57.6	65.2	65.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	21	46	98	211
CNEL:	22	48	104	224

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,425 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	543 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.55	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.54	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.80	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	63.9	61.9	57.5	65.5	66.0
Medium Trucks:	55.0	55.2	45.7	49.8	57.2	57.3
Heavy Trucks:	53.6	51.9	44.5	52.5	58.7	58.8
Vehicle Noise:	64.8	64.6	62.1	59.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	269
CNEL:	29	62	133	286

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,443 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	544 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.54	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.54	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.80	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	63.9	62.0	57.5	65.5	66.0
Medium Trucks:	55.0	55.2	45.7	49.8	57.2	57.3
Heavy Trucks:	53.6	51.9	44.5	52.5	58.7	58.8
Vehicle Noise:	64.9	64.7	62.1	59.2	66.8	67.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	27	58	125	270
CNEL:	29	62	133	286

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,060 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	583 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.23	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.22	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.49	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	64.2	62.3	57.8	65.8	66.3
Medium Trucks:	55.3	55.5	46.0	50.1	57.5	57.6
Heavy Trucks:	53.9	52.2	44.8	52.8	59.0	59.1
Vehicle Noise:	65.2	65.0	62.4	59.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	131	283
CNEL:	30	65	139	300

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,118 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	587 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.20	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.22	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.49	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.3	64.2	62.3	57.8	65.8	66.3
Medium Trucks:	55.3	55.5	46.0	50.1	57.5	57.6
Heavy Trucks:	53.9	52.2	44.8	52.8	59.0	59.1
Vehicle Noise:	65.2	65.0	62.5	59.5	67.1	67.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	28	61	132	284
CNEL:	30	65	140	301

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,394 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	605 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.07	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.06	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.33	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.5	64.3	62.4	58.0	65.9	66.4
Medium Trucks:	55.5	55.7	46.2	50.3	57.7	57.8
Heavy Trucks:	54.0	52.3	44.9	53.0	59.2	59.2
Vehicle Noise:	65.3	65.1	62.6	59.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	62	134	290
CNEL:	31	66	143	307

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,508 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	612 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.02	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-24.06	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.33	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.5	64.4	62.5	58.0	66.0	66.5
Medium Trucks:	55.5	55.7	46.2	50.3	57.7	57.8
Heavy Trucks:	54.0	52.3	44.9	53.0	59.2	59.2
Vehicle Noise:	65.4	65.2	62.6	59.7	67.3	67.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	29	63	135	291
CNEL:	31	67	143	309

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,102 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	651 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.76	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.75	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.01	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	64.6	62.7	58.3	66.2	66.7
Medium Trucks:	55.8	56.0	46.5	50.6	58.0	58.1
Heavy Trucks:	54.3	52.7	45.3	53.3	59.5	59.6
Vehicle Noise:	65.6	65.4	62.9	60.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	141	304
CNEL:	32	69	150	322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,249 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	660 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.69	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.75	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.01	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	64.7	62.8	58.3	66.3	66.8
Medium Trucks:	55.8	56.0	46.5	50.6	58.0	58.1
Heavy Trucks:	54.3	52.7	45.3	53.3	59.5	59.6
Vehicle Noise:	65.7	65.5	63.0	60.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	66	142	306
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,195 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,043 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.71	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.70	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.96	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.9	58.0	48.5	52.6	60.1	60.1
Heavy Trucks:	56.4	54.7	47.3	55.3	61.6	61.6
Vehicle Noise:	67.7	67.5	65.0	62.1	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	90	193	416
CNEL:	44	95	205	442

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Brookside Av.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	16,342 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,052 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.67	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-21.70	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-27.96	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.7	64.8	60.4	68.3	68.8
Medium Trucks:	57.9	58.0	48.5	52.6	60.1	60.1
Heavy Trucks:	56.4	54.7	47.3	55.3	61.6	61.6
Vehicle Noise:	67.7	67.5	65.0	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	42	90	194	418
CNEL:	44	96	206	444

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,551 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	486 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-5.02	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-25.01	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.28	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.5	63.4	61.5	57.0	65.0	65.5
Medium Trucks:	54.5	54.7	45.2	49.3	56.8	56.8
Heavy Trucks:	53.1	51.4	44.0	52.0	58.2	58.3
Vehicle Noise:	64.4	64.2	61.6	58.7	66.3	66.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	116	250
CNEL:	27	57	123	266

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,699 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	496 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-4.94	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-25.01	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-31.28	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.6	63.5	61.6	57.1	65.1	65.6
Medium Trucks:	54.5	54.7	45.2	49.3	56.8	56.8
Heavy Trucks:	53.1	51.4	44.0	52.0	58.2	58.3
Vehicle Noise:	64.4	64.2	61.7	58.8	66.4	66.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	25	54	117	253
CNEL:	27	58	124	268

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,774 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	629 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.90	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.89	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.16	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.5	62.6	58.1	66.1	66.6
Medium Trucks:	55.7	55.8	46.3	50.4	57.9	58.0
Heavy Trucks:	54.2	52.5	45.1	53.1	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.4	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	138	297
CNEL:	32	68	146	315

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,792 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	631 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.89	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.89	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.16	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.6	64.5	62.6	58.1	66.1	66.6
Medium Trucks:	55.7	55.8	46.3	50.4	57.9	58.0
Heavy Trucks:	54.2	52.5	45.1	53.1	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	138	298
CNEL:	32	68	147	316

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,855 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	635 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.87	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.86	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.12	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.5	62.6	58.2	66.1	66.6
Medium Trucks:	55.7	55.9	46.4	50.5	57.9	58.0
Heavy Trucks:	54.2	52.6	45.1	53.2	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	64	139	299
CNEL:	32	68	147	317

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,913 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	638 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.84	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.86	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.12	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.7	58.2	66.2	66.7
Medium Trucks:	55.7	55.9	46.4	50.5	57.9	58.0
Heavy Trucks:	54.2	52.6	45.1	53.2	59.4	59.4
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	139	300
CNEL:	32	69	148	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,896 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	637 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.85	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.84	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.10	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.6	58.2	66.2	66.7
Medium Trucks:	55.7	55.9	46.4	50.5	57.9	58.0
Heavy Trucks:	54.3	52.6	45.2	53.2	59.4	59.5
Vehicle Noise:	65.5	65.3	62.8	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	139	300
CNEL:	32	69	148	318

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: Brookside Av. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,010 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	645 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.80	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.84	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.10	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.7	58.2	66.2	66.7
Medium Trucks:	55.7	55.9	46.4	50.5	57.9	58.0
Heavy Trucks:	54.3	52.6	45.2	53.2	59.4	59.5
Vehicle Noise:	65.6	65.4	62.9	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	140	302
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	9,978 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	643 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.81	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.80	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.07	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.7	64.6	62.7	58.2	66.2	66.7
Medium Trucks:	55.8	55.9	46.4	50.5	58.0	58.0
Heavy Trucks:	54.3	52.6	45.2	53.2	59.5	59.5
Vehicle Noise:	65.6	65.4	62.9	59.9	67.5	67.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	140	302
CNEL:	32	69	148	320

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,125 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	652 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.75	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.80	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-30.07	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.8	64.7	62.7	58.3	66.3	66.8
Medium Trucks:	55.8	55.9	46.4	50.5	58.0	58.0
Heavy Trucks:	54.3	52.6	45.2	53.2	59.5	59.5
Vehicle Noise:	65.6	65.4	62.9	60.0	67.6	68.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	30	65	141	304
CNEL:	32	69	150	322

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,527 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	678 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.58	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.57	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-29.83	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	64.8	62.9	58.5	66.4	66.9
Medium Trucks:	56.0	56.2	46.6	50.8	58.2	58.3
Heavy Trucks:	54.5	52.8	45.4	53.5	59.7	59.7
Vehicle Noise:	65.8	65.6	63.1	60.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	145	312
CNEL:	33	71	154	331

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Brookside Av.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	10,674 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	687 vehicles
Vehicle Speed:	45 mph
Near/Far Lane Distance:	36 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	44.0 feet
Centerline Dist. to Observer:	44.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	40.460
Medium Trucks:	40.241
Heavy Trucks:	40.262

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-3.52	1.28	-1.20	-4.61	0.000	0.000
Medium Trucks:	79.45	-23.57	1.31	-1.20	-4.87	0.000	0.000
Heavy Trucks:	84.25	-29.83	1.31	-1.20	-5.50	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.0	64.9	63.0	58.5	66.5	67.0
Medium Trucks:	56.0	56.2	46.6	50.8	58.2	58.3
Heavy Trucks:	54.5	52.8	45.4	53.5	59.7	59.7
Vehicle Noise:	65.9	65.7	63.1	60.2	67.8	68.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	68	146	315
CNEL:	33	72	155	334

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: Oak Valley Pkwy. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,978 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,158 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.71	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.70	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.97	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	67.5	65.5	61.1	69.1	69.6
Medium Trucks:	58.4	58.6	49.1	53.2	60.6	60.7
Heavy Trucks:	56.5	54.8	47.4	55.5	61.7	61.7
Vehicle Noise:	68.4	68.2	65.7	62.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	267	575
CNEL:	61	132	283	611

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: Oak Valley Pkwy. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,125 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,167 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.68	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-21.70	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-27.97	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.6	67.5	65.6	61.1	69.1	69.6
Medium Trucks:	58.4	58.6	49.1	53.2	60.6	60.7
Heavy Trucks:	56.5	54.8	47.4	55.5	61.7	61.7
Vehicle Noise:	68.4	68.2	65.7	62.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	124	268	577
CNEL:	61	132	285	613

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: Oak Valley Pkwy. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,060 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,743 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.06	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.93	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.19	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.2	67.3	62.9	70.8	71.3
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.3	56.6	49.2	57.2	63.5	63.5
Vehicle Noise:	70.2	70.0	67.5	64.4	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	163	351	755
CNEL:	80	173	372	802

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: Oak Valley Pkwy. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,078 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,744 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.07	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.93	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.19	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.2	67.3	62.9	70.8	71.3
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.3	56.6	49.2	57.2	63.5	63.5
Vehicle Noise:	70.2	70.0	67.5	64.4	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	163	351	756
CNEL:	80	173	372	802

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,325 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,760 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.11	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.88	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.15	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	62.9	70.9	71.4
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.4	56.7	49.3	57.3	63.5	63.6
Vehicle Noise:	70.2	70.0	67.5	64.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	353	760
CNEL:	81	174	375	807

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,383 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,763 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.12	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.88	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.15	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	62.9	70.9	71.4
Medium Trucks:	60.2	60.4	50.9	55.0	62.4	62.5
Heavy Trucks:	58.4	56.7	49.3	57.3	63.5	63.6
Vehicle Noise:	70.2	70.0	67.5	64.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	353	761
CNEL:	81	174	375	808

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,459 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,768 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.13	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.86	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.13	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	62.9	70.9	71.4
Medium Trucks:	60.3	60.4	50.9	55.0	62.5	62.5
Heavy Trucks:	58.4	56.7	49.3	57.3	63.5	63.6
Vehicle Noise:	70.2	70.0	67.5	64.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	164	354	763
CNEL:	81	174	376	810

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,573 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,776 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.15	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.86	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.13	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.4	69.3	67.4	63.0	70.9	71.4
Medium Trucks:	60.3	60.4	50.9	55.0	62.5	62.5
Heavy Trucks:	58.4	56.7	49.3	57.3	63.5	63.6
Vehicle Noise:	70.2	70.0	67.6	64.5	72.1	72.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	76	165	355	764
CNEL:	81	175	377	812

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,728 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,786 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.17	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.82	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.08	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	69.3	67.4	63.0	70.9	71.4
Medium Trucks:	60.3	60.5	51.0	55.1	62.5	62.6
Heavy Trucks:	58.4	56.7	49.3	57.3	63.6	63.6
Vehicle Noise:	70.3	70.1	67.6	64.5	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	165	356	768
CNEL:	82	176	378	815

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	27,875 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,795 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.19	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.82	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-26.08	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.5	69.4	67.5	63.0	71.0	71.5
Medium Trucks:	60.3	60.5	51.0	55.1	62.5	62.6
Heavy Trucks:	58.4	56.7	49.3	57.3	63.6	63.6
Vehicle Noise:	70.3	70.1	67.6	64.6	72.2	72.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	357	770
CNEL:	82	176	379	817

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,542 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,903 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.44	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.55	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-25.81	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.7	69.6	67.7	63.3	71.2	71.7
Medium Trucks:	60.6	60.7	51.2	55.4	62.8	62.9
Heavy Trucks:	58.7	57.0	49.6	57.6	63.9	63.9
Vehicle Noise:	70.5	70.4	67.9	64.8	72.4	72.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	173	372	801
CNEL:	85	183	395	850

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: Oak Valley Pkwy.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,689 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,912 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	55.0 feet
Centerline Dist. to Observer:	55.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	47.000
Medium Trucks:	46.811
Heavy Trucks:	46.830

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.47	0.30	-1.20	-4.67	0.000	0.000
Medium Trucks:	81.00	-19.55	0.33	-1.20	-4.87	0.000	0.000
Heavy Trucks:	85.38	-25.81	0.32	-1.20	-5.38	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.8	69.6	67.7	63.3	71.2	71.7
Medium Trucks:	60.6	60.7	51.2	55.4	62.8	62.9
Heavy Trucks:	58.7	57.0	49.6	57.6	63.9	63.9
Vehicle Noise:	70.6	70.4	67.9	64.8	72.5	72.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	80	173	373	803
CNEL:	85	184	396	853

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: 11th St. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,318 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	85 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-12.09	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-32.08	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-38.35	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.1	55.0	53.1	48.6	56.6	57.1
Medium Trucks:	46.4	46.5	37.0	41.1	48.6	48.6
Heavy Trucks:	45.4	43.7	36.3	44.3	50.5	50.6
Vehicle Noise:	56.0	55.8	53.3	50.5	58.1	58.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	13	27	59
CNEL:	6	13	29	63

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: 11th St. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,349 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	151 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.31%
Medium Trucks:	80.3%	2.2%	17.4%	0.56%
Heavy Trucks:	52.4%	2.4%	45.2%	0.13%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-9.56	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-32.08	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-38.35	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.6	57.5	55.6	51.1	59.1	59.6
Medium Trucks:	46.4	46.5	37.0	41.1	48.6	48.6
Heavy Trucks:	45.4	43.7	36.3	44.3	50.5	50.6
Vehicle Noise:	58.2	58.0	55.7	52.3	60.0	60.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	37	80
CNEL:	8	18	39	85

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: 11th St. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,426 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	92 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-11.75	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-31.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-38.00	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.4	55.3	53.4	49.0	56.9	57.4
Medium Trucks:	46.7	46.9	37.4	41.5	48.9	49.0
Heavy Trucks:	45.7	44.0	36.6	44.6	50.9	50.9
Vehicle Noise:	56.4	56.2	53.6	50.9	58.4	58.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	6	13	29	62
CNEL:	7	14	31	66

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: 11th St. | Job Number: 15718
Road Segment: w/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,554 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	100 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.88%
Medium Trucks:	80.3%	2.2%	17.4%	0.91%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-11.37	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-31.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-38.00	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.8	55.7	53.8	49.3	57.3	57.8
Medium Trucks:	46.7	46.9	37.4	41.5	48.9	49.0
Heavy Trucks:	45.7	44.0	36.6	44.6	50.9	50.9
Vehicle Noise:	56.7	56.5	54.0	51.1	58.7	59.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	14	30	65
CNEL:	7	15	32	69

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,715 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	110 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.95	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-30.94	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-37.20	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	56.1	54.2	49.8	57.7	58.2
Medium Trucks:	47.5	47.7	38.2	42.3	49.7	49.8
Heavy Trucks:	46.5	44.8	37.4	45.4	51.7	51.7
Vehicle Noise:	57.2	57.0	54.4	51.7	59.2	59.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	15	33	71
CNEL:	7	16	35	75

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,119 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	136 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.01%
Medium Trucks:	80.3%	2.2%	17.4%	0.80%
Heavy Trucks:	52.4%	2.4%	45.2%	0.19%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.02	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-30.94	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-37.20	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.2	57.0	55.1	50.7	58.6	59.1
Medium Trucks:	47.5	47.7	38.2	42.3	49.7	49.8
Heavy Trucks:	46.5	44.8	37.4	45.4	51.7	51.7
Vehicle Noise:	57.9	57.7	55.3	52.3	59.9	60.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	17	36	78
CNEL:	8	18	39	83

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	1,880 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	121 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-10.55	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-30.54	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-36.80	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	56.5	54.6	50.2	58.1	58.6
Medium Trucks:	47.9	48.1	38.6	42.7	50.1	50.2
Heavy Trucks:	46.9	45.2	37.8	45.8	52.1	52.1
Vehicle Noise:	57.6	57.4	54.8	52.1	59.6	60.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	7	16	35	75
CNEL:	8	17	37	79

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,678 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	172 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.14%
Medium Trucks:	80.3%	2.2%	17.4%	0.70%
Heavy Trucks:	52.4%	2.4%	45.2%	0.16%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-9.00	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-30.54	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-36.80	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.2	58.1	56.2	51.7	59.7	60.2
Medium Trucks:	47.9	48.1	38.6	42.7	50.1	50.2
Heavy Trucks:	46.9	45.2	37.8	45.8	52.1	52.1
Vehicle Noise:	58.9	58.7	56.3	53.1	60.8	61.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	9	19	42	90
CNEL:	10	21	44	95

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	2,260 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	146 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-9.75	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-29.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-36.00	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.4	57.3	55.4	51.0	58.9	59.4
Medium Trucks:	48.7	48.9	39.4	43.5	50.9	51.0
Heavy Trucks:	47.7	46.0	38.6	46.6	52.9	52.9
Vehicle Noise:	58.4	58.2	55.6	52.9	60.4	60.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	8	18	39	85
CNEL:	9	19	42	90

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	3,292 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	212 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	99.16%
Medium Trucks:	80.3%	2.2%	17.4%	0.68%
Heavy Trucks:	52.4%	2.4%	45.2%	0.16%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-8.10	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-29.74	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-36.00	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	59.1	59.0	57.1	52.6	60.6	61.1
Medium Trucks:	48.7	48.9	39.4	43.5	50.9	51.0
Heavy Trucks:	47.7	46.0	38.6	46.6	52.9	52.9
Vehicle Noise:	59.8	59.6	57.2	54.0	61.6	62.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	10	22	48	102
CNEL:	11	23	51	109

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	7,487 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	482 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-4.55	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-24.54	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-30.80	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.6	62.5	60.6	56.2	64.1	64.6
Medium Trucks:	53.9	54.1	44.6	48.7	56.1	56.2
Heavy Trucks:	52.9	51.2	43.8	51.8	58.1	58.1
Vehicle Noise:	63.6	63.4	60.8	58.1	65.6	66.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	19	41	87	188
CNEL:	20	43	93	199

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: 11th St.
Road Segment: w/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	8,519 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	549 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.92%
Medium Trucks:	80.3%	2.2%	17.4%	0.87%
Heavy Trucks:	52.4%	2.4%	45.2%	0.21%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-3.98	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-24.54	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-30.80	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.2	63.1	61.2	56.7	64.7	65.2
Medium Trucks:	53.9	54.1	44.6	48.7	56.1	56.2
Heavy Trucks:	52.9	51.2	43.8	51.8	58.1	58.1
Vehicle Noise:	64.0	63.8	61.3	58.4	66.0	66.4

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	20	43	93	201
CNEL:	21	46	99	213

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: 6th St.
Road Segment: e/o Beaumont Av.

Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,570 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,003 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.37	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-21.36	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.62	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.8	65.7	63.8	59.3	67.3	67.8
Medium Trucks:	57.1	57.3	47.7	51.9	59.3	59.4
Heavy Trucks:	56.1	54.4	47.0	55.0	61.3	61.3
Vehicle Noise:	66.8	66.5	64.0	61.2	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	66	142	307
CNEL:	32	70	151	325

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: 6th St.
Road Segment: e/o Beaumont Av.

Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	15,865 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,022 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-1.29	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-21.36	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.62	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	57.1	57.3	47.7	51.9	59.3	59.4
Heavy Trucks:	56.1	54.4	47.0	55.0	61.3	61.3
Vehicle Noise:	66.8	66.6	64.1	61.3	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	31	67	144	310
CNEL:	33	71	152	328

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: 6th St.
Road Segment: e/o Beaumont Av.

Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,385 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,120 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.89	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.88	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.14	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.2	64.3	59.8	67.8	68.3
Medium Trucks:	57.6	57.7	48.2	52.3	59.8	59.8
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	67.2	67.0	64.5	61.7	69.3	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	330
CNEL:	35	75	162	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: 6th St.
Road Segment: e/o Beaumont Av.

Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,422 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,122 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.88	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.88	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.14	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.2	64.3	59.8	67.8	68.3
Medium Trucks:	57.6	57.7	48.2	52.3	59.8	59.8
Heavy Trucks:	56.6	54.9	47.5	55.5	61.7	61.8
Vehicle Noise:	67.2	67.0	64.5	61.7	69.3	69.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	71	153	331
CNEL:	35	75	162	350

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: 6th St.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,524 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,129 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.85	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.84	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.11	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.3	66.2	64.3	59.8	67.8	68.3
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.6	54.9	47.5	55.5	61.8	61.8
Vehicle Noise:	67.3	67.1	64.5	61.7	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	154	332
CNEL:	35	76	163	352

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: 6th St.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,639 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,136 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.83	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.84	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.11	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.2	64.3	59.9	67.8	68.3
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.6	54.9	47.5	55.5	61.8	61.8
Vehicle Noise:	67.3	67.1	64.5	61.8	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	333
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: 6th St.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,594 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,133 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.84	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.83	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.09	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.2	64.3	59.9	67.8	68.3
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.6	54.9	47.5	55.5	61.8	61.8
Vehicle Noise:	67.3	67.1	64.5	61.8	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	333
CNEL:	35	76	164	353

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: 6th St.
Road Segment: e/o Beaumont Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,822 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,148 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.78	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.83	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.09	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.3	64.4	59.9	67.9	68.4
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	56.6	54.9	47.5	55.5	61.8	61.8
Vehicle Noise:	67.3	67.1	64.6	61.8	69.4	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	72	155	335
CNEL:	35	76	165	355

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,735 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,142 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.80	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.79	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.06	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.4	66.3	64.4	59.9	67.9	68.4
Medium Trucks:	57.6	57.8	48.3	52.4	59.9	59.9
Heavy Trucks:	56.7	55.0	47.6	55.6	61.8	61.9
Vehicle Noise:	67.3	67.1	64.5	61.8	69.3	69.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	33	72	155	335
CNEL:	35	76	164	354

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,030 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,161 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.73	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.79	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-27.06	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	66.3	64.4	60.0	67.9	68.4
Medium Trucks:	57.6	57.8	48.3	52.4	59.9	59.9
Heavy Trucks:	56.7	55.0	47.6	55.6	61.8	61.9
Vehicle Noise:	67.4	67.2	64.6	61.8	69.4	69.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	34	73	157	337
CNEL:	36	77	166	357

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,678 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,203 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.58	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.57	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-26.83	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.6	66.5	64.6	60.1	68.1	68.6
Medium Trucks:	57.9	58.0	48.5	52.7	60.1	60.2
Heavy Trucks:	56.9	55.2	47.8	55.8	62.0	62.1
Vehicle Noise:	67.6	67.3	64.8	62.0	69.6	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	75	161	346
CNEL:	37	79	170	367

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: 6th St. | Job Number: 15718
Road Segment: e/o Beaumont Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,973 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,222 vehicles
Vehicle Speed:	40 mph
Near/Far Lane Distance:	12 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	37.0 feet
Centerline Dist. to Observer:	37.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	36.851
Medium Trucks:	36.610
Heavy Trucks:	36.634

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	66.51	-0.51	1.88	-1.20	-4.56	0.000	0.000
Medium Trucks:	77.72	-20.57	1.93	-1.20	-4.87	0.000	0.000
Heavy Trucks:	82.99	-26.83	1.92	-1.20	-5.61	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	66.6	64.6	60.2	68.2	68.7
Medium Trucks:	57.9	58.0	48.5	52.7	60.1	60.2
Heavy Trucks:	56.9	55.2	47.8	55.8	62.0	62.1
Vehicle Noise:	67.6	67.4	64.8	62.1	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	35	75	162	349
CNEL:	37	80	172	370

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.

Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,082 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	907 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.77	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-22.76	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-29.03	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	65.9	65.8	63.9	59.4	67.4	67.9
Medium Trucks:	56.7	56.9	47.4	51.5	59.0	59.0
Heavy Trucks:	54.9	53.2	45.8	53.8	60.0	60.1
Vehicle Noise:	66.7	66.5	64.0	61.0	68.6	69.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	48	103	221	477
CNEL:	51	109	235	507

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.

Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	14,819 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	954 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.84%
Medium Trucks:	80.3%	2.2%	17.4%	0.94%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-2.55	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-22.76	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-29.03	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.1	66.0	64.1	59.6	67.6	68.1
Medium Trucks:	56.7	56.9	47.4	51.5	59.0	59.0
Heavy Trucks:	54.9	53.2	45.8	53.8	60.0	60.1
Vehicle Noise:	66.9	66.7	64.3	61.1	68.8	69.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	49	106	227	490
CNEL:	52	112	242	520

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.

Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,167 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,106 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.91	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-21.90	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-28.17	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	66.6	64.7	60.3	68.3	68.7
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.6	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	54	117	253	545
CNEL:	58	125	268	578

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1)
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.

Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,258 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,111 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	*Day*	*Evening*	*Night*	*Daily*
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	*Grade Adjustment:*	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	*REMEL*	*Traffic Flow*	*Distance*	*Finite Road*	*Fresnel*	*Barrier Atten*	*Berm Atten*
Autos:	70.20	-1.89	-0.31	-1.20	*-4.69*	0.000	0.000
Medium Trucks:	81.00	-21.90	-0.29	-1.20	*-4.88*	0.000	0.000
Heavy Trucks:	85.38	-28.17	-0.29	-1.20	*-5.35*	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	*Leq Peak Hour*	*Leq Day*	*Leq Evening*	*Leq Night*	*Ldn*	*CNEL*
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.6	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	*65 dBA*	*60 dBA*	*55 dBA*
Ldn:	55	118	253	546
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,233 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,110 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.90	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.89	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.15	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.7	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	253	546
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2)
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,521 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,128 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.80%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.82	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.89	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.15	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.7	64.8	60.4	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.0	46.6	54.7	60.9	60.9
Vehicle Noise:	67.6	67.5	65.0	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	551
CNEL:	58	126	271	585

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,266 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,112 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.89	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.88	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.14	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.1	46.7	54.7	60.9	60.9
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	547
CNEL:	58	125	269	580

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3)
Road Name: 1st St.
Road Segment: w/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,836 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,149 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.75	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.88	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.14	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.8	64.9	60.5	68.4	68.9
Medium Trucks:	57.6	57.8	48.3	52.4	59.8	59.9
Heavy Trucks:	55.7	54.1	46.7	54.7	60.9	60.9
Vehicle Noise:	67.7	67.5	65.1	62.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	120	258	556
CNEL:	59	127	274	590

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: w/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,332 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,116 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.87	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.86	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.13	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.8	66.7	64.8	60.3	68.3	68.8
Medium Trucks:	57.6	57.8	48.3	52.4	59.9	59.9
Heavy Trucks:	55.8	54.1	46.7	54.7	60.9	61.0
Vehicle Noise:	67.6	67.4	64.9	61.9	69.5	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	118	254	548
CNEL:	58	125	270	582

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: w/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,069 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,164 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.83%
Medium Trucks:	80.3%	2.2%	17.4%	0.95%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.69	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.86	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.13	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	57.6	57.8	48.3	52.4	59.9	59.9
Heavy Trucks:	55.8	54.1	46.7	54.7	60.9	61.0
Vehicle Noise:	67.8	67.6	65.1	62.0	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	260	560
CNEL:	59	128	276	595

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: w/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,768 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,144 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.76	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.75	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.02	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.8	64.9	60.4	68.4	68.9
Medium Trucks:	57.8	57.9	48.4	52.5	60.0	60.0
Heavy Trucks:	55.9	54.2	46.8	54.8	61.0	61.1
Vehicle Noise:	67.7	67.5	65.0	62.0	69.6	70.0

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	120	259	557
CNEL:	59	127	275	592

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: w/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,505 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,192 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.95%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.58	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.75	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.02	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	67.0	65.1	60.6	68.6	69.1
Medium Trucks:	57.8	57.9	48.4	52.5	60.0	60.0
Heavy Trucks:	55.9	54.2	46.8	54.8	61.0	61.1
Vehicle Noise:	67.9	67.7	65.2	62.1	69.8	70.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	57	123	264	569
CNEL:	60	130	281	604

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FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: E | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	17,482 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,126 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.83	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.82	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.09	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.9	66.7	64.8	60.4	68.3	68.8
Medium Trucks:	57.7	57.9	48.3	52.5	59.9	60.0
Heavy Trucks:	55.8	54.1	46.7	54.7	61.0	61.0
Vehicle Noise:	67.6	67.5	65.0	61.9	69.6	69.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	55	119	256	551
CNEL:	59	126	272	585

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: EP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	18,219 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,173 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.83%
Medium Trucks:	80.3%	2.2%	17.4%	0.95%
Heavy Trucks:	52.4%	2.4%	45.2%	0.22%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.65	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.82	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-28.09	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.0	66.9	65.0	60.5	68.5	69.0
Medium Trucks:	57.7	57.9	48.3	52.5	59.9	60.0
Heavy Trucks:	55.8	54.1	46.7	54.7	61.0	61.0
Vehicle Noise:	67.8	67.6	65.2	62.1	69.7	70.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	56	121	261	563
CNEL:	60	129	278	598

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,048 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,227 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.46	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.45	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.72	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.2	67.1	65.2	60.7	68.7	69.2
Medium Trucks:	58.1	58.2	48.7	52.8	60.3	60.3
Heavy Trucks:	56.2	54.5	47.1	55.1	61.3	61.4
Vehicle Noise:	68.0	67.8	65.3	62.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	58	126	271	584
CNEL:	62	134	288	620

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2028 WP (PH1) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,139 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,233 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.44	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.45	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.72	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.3	67.1	65.2	60.8	68.7	69.2
Medium Trucks:	58.1	58.2	48.7	52.8	60.3	60.3
Heavy Trucks:	56.2	54.5	47.1	55.1	61.3	61.4
Vehicle Noise:	68.0	67.9	65.4	62.3	69.9	70.3

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	59	126	272	585
CNEL:	62	134	288	621

Wednesday, September 3, 2025

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	19,950 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,285 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.26	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.25	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.51	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.4	67.3	65.4	60.9	68.9	69.4
Medium Trucks:	58.3	58.4	48.9	53.0	60.5	60.5
Heavy Trucks:	56.4	54.7	47.3	55.3	61.5	61.6
Vehicle Noise:	68.2	68.0	65.6	62.5	70.1	70.5

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	60	130	279	602
CNEL:	64	138	297	639

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2029 WP (PH1 & PH2) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,238 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,303 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.79%
Medium Trucks:	80.3%	2.2%	17.4%	0.98%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.20	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.25	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.51	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	67.4	65.5	61.0	69.0	69.5
Medium Trucks:	58.3	58.4	48.9	53.0	60.5	60.5
Heavy Trucks:	56.4	54.7	47.3	55.3	61.5	61.6
Vehicle Noise:	68.3	68.1	65.6	62.5	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	131	281	606
CNEL:	64	139	299	644

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 NP | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,418 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,315 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.16	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.15	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.41	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	67.4	65.5	61.0	69.0	69.5
Medium Trucks:	58.4	58.5	49.0	53.1	60.6	60.6
Heavy Trucks:	56.5	54.8	47.4	55.4	61.6	61.7
Vehicle Noise:	68.3	68.1	65.7	62.6	70.2	70.6

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	61	132	284	611
CNEL:	65	140	301	649

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2030 WP (PH1-PH3) | Project Name: Beaumont Heights
Road Name: 1st St. | Job Number: 15718
Road Segment: e/o Pennsylvania Av.

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	20,988 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,352 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-1.04	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-21.15	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.41	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	67.5	65.6	61.2	69.1	69.6
Medium Trucks:	58.4	58.5	49.0	53.1	60.6	60.6
Heavy Trucks:	56.5	54.8	47.4	55.4	61.6	61.7
Vehicle Noise:	68.4	68.2	65.8	62.7	70.3	70.7

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	62	134	288	620
CNEL:	66	142	306	658

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 NP
Road Name: 1st St.
Road Segment: e/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	21,385 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,377 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.96	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.95	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.21	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.7	67.6	65.7	61.2	69.2	69.7
Medium Trucks:	58.6	58.7	49.2	53.3	60.8	60.8
Heavy Trucks:	56.7	55.0	47.6	55.6	61.8	61.9
Vehicle Noise:	68.5	68.3	65.9	62.8	70.4	70.8

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	63	136	293	630
CNEL:	67	144	311	669

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2032 WP (PH1-PH4)
Road Name: 1st St.
Road Segment: e/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	22,122 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,425 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.82%
Medium Trucks:	80.3%	2.2%	17.4%	0.96%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	-0.81	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-20.95	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-27.21	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	67.7	65.8	61.4	69.4	69.8
Medium Trucks:	58.6	58.7	49.2	53.3	60.8	60.8
Heavy Trucks:	56.7	55.0	47.6	55.6	61.8	61.9
Vehicle Noise:	68.6	68.5	66.0	62.9	70.5	70.9

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	64	138	298	641
CNEL:	68	147	316	681

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 NP
Road Name: 1st St.
Road Segment: e/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	28,892 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,861 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.78%
Medium Trucks:	80.3%	2.2%	17.4%	0.99%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.35	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-19.64	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-25.91	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.0	68.9	67.0	62.5	70.5	71.0
Medium Trucks:	59.9	60.0	50.5	54.6	62.1	62.2
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	69.8	69.6	67.2	64.1	71.7	72.1

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	77	166	358	770
CNEL:	82	176	380	818

FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL (9/12/2021)

Scenario: 2045 WP (BO)
Road Name: 1st St.
Road Segment: e/o Pennsylvania Av.
Project Name: Beaumont Heights
Job Number: 15718

SITE SPECIFIC INPUT DATA

Highway Data

Average Daily Traffic (Adt):	29,629 vehicles
Peak Hour Percentage:	6.44%
Peak Hour Volume:	1,908 vehicles
Vehicle Speed:	50 mph
Near/Far Lane Distance:	58 feet

Site Data

Barrier Height:	**0.0 feet**
Barrier Type (0-Wall, 1-Berm):	0.0
Centerline Dist. to Barrier:	59.0 feet
Centerline Dist. to Observer:	59.0 feet
Barrier Distance to Observer:	0.0 feet
Observer Height (Above Pad):	5.0 feet
Pad Elevation:	0.0 feet
Road Elevation:	0.0 feet
Road Grade:	0.0%
Left View:	-90.0 degrees
Right View:	90.0 degrees

NOISE MODEL INPUTS

Site Conditions (Hard = 10, Soft = 15)

Autos:	15
Medium Trucks (2 Axles):	15
Heavy Trucks (3+ Axles):	15

Vehicle Mix

VehicleType	Day	Evening	Night	Daily
Autos:	74.9%	12.1%	13.0%	98.81%
Medium Trucks:	80.3%	2.2%	17.4%	0.97%
Heavy Trucks:	52.4%	2.4%	45.2%	0.23%

Noise Source Elevations (in feet)

Autos:	0.000		
Medium Trucks:	2.297		
Heavy Trucks:	8.004	Grade Adjustment:	0.0

Lane Equivalent Distance (in feet)

Autos:	51.624
Medium Trucks:	51.452
Heavy Trucks:	51.469

FHWA Noise Model Calculations

VehicleType	REMEL	Traffic Flow	Distance	Finite Road	Fresnel	Barrier Atten	Berm Atten
Autos:	70.20	0.46	-0.31	-1.20	-4.69	0.000	0.000
Medium Trucks:	81.00	-19.64	-0.29	-1.20	-4.88	0.000	0.000
Heavy Trucks:	85.38	-25.91	-0.29	-1.20	-5.35	0.000	0.000

Unmitigated Noise Levels (without Topo and barrier attenuation)

VehicleType	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	69.2	69.0	67.1	62.7	70.6	71.1
Medium Trucks:	59.9	60.0	50.5	54.6	62.1	62.2
Heavy Trucks:	58.0	56.3	48.9	56.9	63.1	63.2
Vehicle Noise:	69.9	69.7	67.3	64.2	71.8	72.2

Centerline Distance to Noise Contour (in feet)

	70 dBA	65 dBA	60 dBA	55 dBA
Ldn:	78	168	362	780
CNEL:	83	179	385	829

APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS

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15718 - Beaumont Heights Business Center

CadnaA Noise Prediction Model: 15718-06.cna
Date: 20.09.25
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	0.00
Max. Search Radius (ft)	6561.70
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (ft)	3280.80
Min. Length of Section (ft)	3.30
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	2470.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	328.08
Search Radius Rcvr	328.08
Max. Distance Source - Rcvr	3280.84 3280.84
Min. Distance Rvcr - Reflector	3.28 3.28
Min. Distance Source - Reflector	0.33
Industrial (ISO 9613 (1996))	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (°F)	50
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (mph)	6.7
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	51.0	51.0	57.7	55.0	45.0	0.0				5.00	r	6341036.77	2276132.37	2648.68
RECEIVERS		R2	37.0	36.9	43.6	55.0	45.0	0.0				5.00	r	6343764.32	2276117.04	2642.91
RECEIVERS		R3	43.1	42.7	49.3	55.0	45.0	0.0				5.00	r	6342402.53	2274458.17	2679.00
RECEIVERS		R4	37.2	37.0	43.6	55.0	45.0	0.0				5.00	r	6343677.41	2274776.61	2670.46
RECEIVERS		R5	40.8	40.7	47.4	55.0	45.0	0.0				5.00	r	6338684.58	2276118.91	2600.98
RECEIVERS		R6	43.8	43.7	50.4	55.0	45.0	0.0				5.00	r	6339647.38	2276245.95	2583.00
RECEIVERS		R7	37.1	36.9	43.6	55.0	45.0	0.0				5.00	r	6345452.91	2273708.46	2707.00

Point Source(s)

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6340326.52	2274976.89	2691.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6340386.69	2275029.98	2691.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341800.68	2275114.92	2691.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341724.59	2275162.70	2691.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339792.07	2274591.09	2691.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339894.71	2274605.25	2691.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339850.47	2274543.31	2691.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339956.65	2274557.47	2691.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341699.81	2274787.53	2691.00
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341636.10	2274718.51	2691.00
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341584.78	2274766.29	2691.00
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341540.54	2274711.43	2691.00
POINTSOURCE		AC13	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341765.29	2274175.21	2691.00

Name	M.	ID	Result. PWL			Lw / Li			Operating Time			Height		Coordinates		
			Day	Evening	Night	Type	Value	norm.	Day	Special	Night			X	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC14	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341687.42	2274228.30	2691.00
POINTSOURCE		AC15	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339779.68	2273987.62	2691.00
POINTSOURCE		AC16	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339829.23	2274051.33	2691.00
POINTSOURCE		AC17	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339887.63	2274001.78	2691.00
POINTSOURCE		AC18	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339942.49	2274069.03	2691.00
POINTSOURCE		AC19	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341646.72	2274161.05	2691.00
POINTSOURCE		AC20	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341581.24	2274212.37	2691.00
POINTSOURCE		AC21	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339408.04	2272856.78	2611.00
POINTSOURCE		AC22	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339445.21	2272938.19	2611.00
POINTSOURCE		AC23	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339515.99	2272886.86	2611.00
POINTSOURCE		AC24	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339563.78	2272959.42	2611.00
POINTSOURCE		AC25	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341600.71	2273451.40	2611.00
POINTSOURCE		AC26	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341561.77	2273378.84	2611.00
POINTSOURCE		AC27	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341492.75	2273417.78	2611.00
POINTSOURCE		AC28	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341446.74	2273348.76	2611.00
POINTSOURCE		AC29	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341715.74	2272952.34	2611.00
POINTSOURCE		AC30	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341676.80	2272874.48	2611.00
POINTSOURCE		AC31	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341614.86	2272922.26	2611.00
POINTSOURCE		AC32	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341572.39	2272849.70	2611.00
POINTSOURCE		AC33	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339524.84	2272355.95	2611.00
POINTSOURCE		AC34	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339563.78	2272435.59	2611.00
POINTSOURCE		AC35	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339631.03	2272384.27	2611.00
POINTSOURCE		AC36	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339682.35	2272458.60	2611.00
POINTSOURCE		AC37	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339512.46	2271858.67	2611.00
POINTSOURCE		AC38	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339597.40	2271817.96	2611.00
POINTSOURCE		AC39	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339638.10	2271888.75	2611.00
POINTSOURCE		AC40	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339703.58	2271846.28	2611.00
POINTSOURCE		AC41	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339661.11	2271292.36	2611.00
POINTSOURCE		AC42	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339698.27	2271370.23	2611.00
POINTSOURCE		AC43	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339774.37	2271317.14	2611.00
POINTSOURCE		AC44	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339820.38	2271396.77	2611.00
POINTSOURCE		AC45	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6342097.99	2271874.59	2611.00
POINTSOURCE		AC46	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6342030.74	2271920.61	2611.00
POINTSOURCE		AC47	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341990.04	2271842.74	2611.00
POINTSOURCE		AC48	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341913.94	2271892.29	2611.00
POINTSOURCE		AC49	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341961.73	2272442.67	2611.00
POINTSOURCE		AC50	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341917.48	2272371.88	2611.00
POINTSOURCE		AC51	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341852.00	2272419.66	2611.00
POINTSOURCE		AC52	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6341809.53	2272350.64	2611.00
POINTSOURCE		AC53	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6339574.39	2273010.74	2561.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6339615.10	2272207.30	2561.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6341864.39	2272603.71	2561.00
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6339765.52	2271138.40	2561.00
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	r	6341681.90	2275655.80	2641.00

Line Source(s)

Name	M.	ID	Result. PWL			Result. PWL'			Lw / Li			Operating Time			Moving Pt. Src				Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	Number			Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK01	93.2	93.2	93.2	59.3	59.3	59.3	Lw	93.2									8	r
LINESOURCE		TRUCK02	93.2	93.2	93.2	63.6	63.6	63.6	Lw	93.2									8	r
LINESOURCE		TRUCK03	93.2	93.2	93.2	62.0	62.0	62.0	Lw	93.2									8	r
LINESOURCE		TRUCK04	93.2	93.2	93.2	69.1	69.1	69.1	Lw	93.2									8	r
LINESOURCE		TRUCK05	93.2	93.2	93.2	62.1	62.1	62.1	Lw	93.2									8	r
LINESOURCE		TRUCK06	93.2	93.2	93.2	60.1	60.1	60.1	Lw	93.2									8	r
LINESOURCE		TRUCK07	93.2	93.2	93.2	71.6	71.6	71.6	Lw	93.2									8	r
LINESOURCE		TRUCK08	93.2	93.2	93.2	68.2	68.2	68.2	Lw	93.2									8	r
LINESOURCE		TRUCK09	93.2	93.2	93.2	77.3	77.3	77.3	Lw	93.2									8	r
LINESOURCE		TRUCK10	93.2	93.2	93.2	63.2	63.2	63.2	Lw	93.2									8	r
LINESOURCE		TRUCK11	93.2	93.2	93.2	68.5	68.5	68.5	Lw	93.2									8	r
LINESOURCE		TRUCK12	93.2	93.2	93.2	60.8	60.8	60.8	Lw	93.2									8	r
LINESOURCE		TRUCK13	93.2	93.2	93.2	69.1	69.1	69.1	Lw	93.2									8	r
LINESOURCE		TRUCK14	93.2	93.2	93.2	64.2	64.2	64.2	Lw	93.2									8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
LINESOURCE	TRUCK01	8.00	r			6340102.63	2275841.19	2592.30	2584.30
						6340278.08	2275760.02	2621.09	2613.09
						6340328.00	2275750.53	2627.60	2619.60
						6340378.33	2275743.56	2633.30	2625.30
						6340428.96	2275739.13	2635.67	2627.67
						6340479.74	2275737.25	2637.70	2629.70
						6340530.55	2275737.92	2639.53	2631.53
						6340581.26	2275741.15	2641.15	2633.15
						6340631.74	2275746.92	2642.71	2634.71

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6340708.17	2275771.48	2642.08	2634.08
						6340785.21	2275794.09	2641.57	2633.57
						6340862.79	2275814.72	2644.44	2636.44
						6340940.87	2275833.37	2646.54	2638.54
						6340985.06	2275833.60	2646.56	2638.56
						6341029.23	2275832.14	2646.52	2638.52
						6341073.30	2275828.99	2646.43	2638.43
						6341117.23	2275824.16	2646.28	2638.28
						6341160.93	2275817.65	2646.07	2638.07
						6341462.09	2275787.69	2653.59	2645.59
						6341763.47	2275760.02	2654.73	2646.73
						6341833.55	2275761.61	2661.41	2653.41
						6341903.59	2275764.48	2668.28	2660.28
						6341973.56	2275768.65	2664.12	2656.12
						6341988.18	2275762.75	2661.99	2653.99
						6342001.82	2275754.86	2662.05	2654.05
						6342014.22	2275745.12	2663.01	2655.01
						6342025.12	2275733.73	2663.69	2655.69
						6342034.31	2275720.93	2664.09	2656.09
						6342041.60	2275706.95	2664.20	2656.20
						6342046.85	2275692.09	2664.01	2656.01
						6342049.95	2275676.63	2663.53	2655.53
						6342054.75	2275618.60	2662.58	2654.58
						6342061.58	2275560.76	2661.85	2653.85
						6342070.43	2275503.21	2663.19	2655.19
						6342081.29	2275445.99	2659.77	2651.77
						6342094.14	2275389.20	2656.88	2648.88
						6342108.98	2275332.88	2654.53	2646.53
						6342129.56	2275263.40	2653.43	2645.43
						6342148.00	2275193.32	2655.01	2647.01
						6342164.30	2275122.71	2655.76	2647.76
						6342178.42	2275051.63	2651.76	2643.76
						6342184.25	2274997.40	2647.75	2639.75
						6342187.79	2274942.96	2648.04	2640.04
						6342189.05	2274888.43	2649.99	2641.99
						6342188.01	2274833.89	2651.65	2643.65
						6342184.69	2274779.44	2653.02	2645.01
						6342179.08	2274725.18	2654.08	2646.08
						6342171.20	2274671.20	2654.27	2646.27
						6342161.06	2274617.61	2653.55	2645.55
						6341956.20	2273657.54	2565.21	2557.21
						6341958.77	2273618.90	2564.00	2556.00
						6341963.23	2273580.43	2564.00	2556.00
						6341969.56	2273542.23	2564.00	2556.00
						6341977.75	2273504.38	2564.00	2556.00
						6341987.77	2273466.98	2564.00	2556.00
						6341999.60	2273430.11	2564.00	2556.00
						6342011.45	2273394.41	2564.00	2556.00
						6342021.22	2273358.10	2564.00	2556.00
						6342028.86	2273321.27	2564.00	2556.00
						6342034.35	2273284.07	2564.00	2556.00
						6342037.68	2273246.61	2564.00	2556.00
						6342038.83	2273209.02	2564.00	2556.00
						6342037.80	2273171.42	2564.00	2556.00
						6342037.80	2272869.34	2564.00	2556.00
						6342041.06	2272834.45	2564.00	2556.00
						6342045.69	2272799.71	2564.00	2556.00
						6342051.69	2272765.17	2564.00	2556.00
						6342064.55	2272723.56	2564.00	2556.00
						6342074.98	2272681.27	2564.00	2556.00
						6342082.94	2272638.44	2564.00	2556.00
						6342068.24	2272619.71	2564.00	2556.00
						6342052.00	2272602.31	2564.00	2556.00
						6342034.33	2272586.36	2564.00	2556.00
						6341897.17	2272555.11	2564.00	2556.00
						6339200.99	2271914.48	2564.00	2556.00
LINESOURCE	TRUCK02	8.00	r			6342063.54	2272727.16	2564.00	2556.00
						6339183.63	2272030.80	2564.00	2556.00
LINESOURCE	TRUCK03	8.00	r			6341994.60	2272577.55	2564.00	2556.00
						6342169.74	2271843.30	2564.00	2556.00
						6342168.98	2271827.08	2564.00	2556.00
						6342165.86	2271811.15	2564.00	2556.00
						6342160.46	2271795.84	2564.00	2556.00
						6342152.89	2271781.48	2564.00	2556.00
						6342143.31	2271768.37	2564.00	2556.00
						6342131.92	2271756.80	2564.00	2556.00
						6342118.98	2271747.00	2564.00	2556.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6342104.75	2271739.20	2564.00	2556.00
						6342089.53	2271733.54	2564.00	2556.00
						6342073.65	2271730.16	2564.00	2556.00
						6342057.45	2271729.12	2564.00	2556.00
						6342041.27	2271730.45	2564.00	2556.00
						6339556.90	2271136.70	2564.00	2556.00
						6339538.59	2271135.37	2564.00	2556.00
						6339520.28	2271136.59	2564.00	2556.00
						6339502.32	2271140.32	2564.00	2556.00
						6339485.04	2271146.51	2564.00	2556.00
						6339468.79	2271155.03	2564.00	2556.00
						6339453.87	2271165.72	2564.00	2556.00
						6339440.58	2271178.37	2564.00	2556.00
						6339429.81	2271209.30	2564.00	2556.00
						6339416.99	2271239.43	2564.00	2556.00
						6339402.18	2271268.63	2564.00	2556.00
						6339385.44	2271296.78	2564.00	2556.00
						6339366.84	2271323.73	2564.00	2556.00
						6339346.48	2271349.38	2564.00	2556.00
						6339306.78	2271379.20	2564.00	2556.00
						6339265.99	2271407.51	2564.00	2556.00
						6339224.15	2271434.26	2564.00	2556.00
						6339181.33	2271459.40	2564.00	2556.00
						6339137.60	2271482.92	2562.10	2554.10
						6339093.01	2271504.76	2559.36	2551.36
						6339060.10	2271521.87	2557.35	2549.35
						6339026.18	2271536.87	2555.11	2547.11
						6338991.39	2271549.70	2552.79	2544.79
						6338955.85	2271560.31	2550.42	2542.42
LINESOURCE	TRUCK04	8.00	r			6339438.45	2271970.90	2564.00	2556.00
						6339631.11	2271154.44	2564.00	2556.00
LINESOURCE	TRUCK05	8.00	r			6340355.51	2275456.15	2644.00	2636.00
						6341768.70	2275589.83	2644.00	2636.00
						6341776.95	2275589.47	2644.00	2636.00
						6341785.04	2275587.75	2644.00	2636.00
						6341792.73	2275584.74	2644.00	2636.00
						6341799.82	2275580.51	2644.00	2636.00
						6341806.12	2275575.17	2644.00	2636.00
						6341811.46	2275568.86	2644.00	2636.00
						6341815.70	2275561.77	2644.00	2636.00
						6341818.71	2275554.08	2644.00	2636.00
						6341820.42	2275546.00	2644.00	2636.00
						6341820.78	2275537.74	2644.00	2636.00
						6341872.87	2274959.62	2644.00	2636.00
						6341865.97	2274947.50	2644.00	2636.00
						6341857.38	2274936.52	2644.00	2636.00
						6341847.28	2274926.92	2644.00	2636.00
						6341835.88	2274918.89	2644.00	2636.00
						6341823.44	2274912.61	2644.00	2636.00
						6341810.21	2274908.22	2644.00	2636.00
						6341796.48	2274905.80	2644.00	2636.00
						6339793.01	2274721.77	2644.00	2636.00
LINESOURCE	TRUCK06	8.00	r			6341764.07	2274902.82	2644.00	2636.00
						6341838.15	2274134.97	2644.00	2636.00
						6341836.84	2274121.76	2644.00	2636.00
						6341833.42	2274108.93	2644.00	2636.00
						6341827.97	2274096.83	2644.00	2636.00
						6341820.63	2274085.77	2644.00	2636.00
						6341811.60	2274076.05	2644.00	2636.00
						6341801.12	2274067.91	2644.00	2636.00
						6341789.45	2274061.58	2644.00	2636.00
						6341776.92	2274057.22	2644.00	2636.00
						6341763.84	2274054.95	2644.00	2636.00
						6341750.57	2274054.82	2644.00	2636.00
						6341737.45	2274056.84	2644.00	2636.00
						6339534.33	2273836.36	2644.00	2636.00
						6339521.33	2273833.63	2644.00	2636.00
						6339508.06	2273833.04	2644.00	2636.00
						6339494.88	2273834.60	2644.00	2636.00
						6339482.12	2273838.28	2644.00	2636.00
						6339470.12	2273843.97	2644.00	2636.00
						6339459.20	2273851.53	2644.00	2636.00
						6339449.65	2273860.76	2644.00	2636.00
						6339441.72	2273871.41	2644.00	2636.00
						6339435.62	2273883.20	2644.00	2636.00
						6339431.50	2273895.83	2644.00	2636.00
						6339429.48	2273908.95	2644.00	2636.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6339429.62	2273922.23	2644.00	2636.00
						6339431.90	2273935.31	2644.00	2636.00
						6339815.58	2274775.59	2644.00	2636.00
						6339898.91	2274874.55	2644.00	2636.00
						6342171.59	2275086.02	2653.75	2645.75
LINESOURCE	TRUCK07	8.00	r			6340270.77	2274909.15	2644.00	2636.00
						6340232.24	2275292.95	2644.00	2636.00
						6340237.95	2275314.32	2644.00	2636.00
						6340246.00	2275334.92	2644.00	2636.00
						6340256.30	2275354.50	2644.00	2636.00
						6340268.70	2275372.81	2644.00	2636.00
LINESOURCE	TRUCK08	8.00	r			6339893.46	2274868.08	2644.00	2636.00
						6339892.39	2274913.22	2644.00	2636.00
						6339889.00	2274958.24	2644.00	2636.00
						6339883.28	2275003.02	2596.41	2588.41
						6339885.95	2275031.96	2590.75	2582.75
						6339890.59	2275060.65	2588.08	2580.08
						6339897.18	2275088.96	2597.00	2589.00
						6339905.69	2275116.75	2604.39	2596.39
						6339916.09	2275143.89	2608.38	2600.38
						6339928.31	2275170.26	2611.16	2603.16
						6339942.31	2275195.73	2614.17	2606.17
						6339979.72	2275282.88	2622.31	2614.31
						6340018.70	2275369.34	2629.24	2621.24
						6340082.48	2275421.98	2641.75	2633.75
						6340147.17	2275473.51	2642.32	2634.32
						6340161.37	2275486.26	2642.11	2634.11
						6340174.17	2275500.40	2642.77	2634.77
						6340185.45	2275515.79	2642.75	2634.75
						6340195.08	2275532.26	2642.25	2634.25
						6340202.95	2275549.64	2641.27	2633.27
						6340209.00	2275567.73	2639.81	2631.81
						6340213.15	2275586.36	2637.94	2629.94
						6340267.83	2275764.76	2619.43	2611.43
LINESOURCE	TRUCK09	8.00	r			6340265.89	2275368.67	2644.00	2636.00
						6340358.20	2275456.40	2644.00	2636.00
LINESOURCE	TRUCK10	8.00	r			6338757.66	2273149.28	2531.76	2523.76
						6338802.30	2273139.33	2535.20	2527.20
						6338847.31	2273131.18	2538.66	2530.66
						6338892.61	2273124.85	2542.13	2534.13
						6338938.13	2273120.34	2545.61	2537.61
						6338983.80	2273117.68	2549.10	2541.10
						6339029.78	2273124.84	2551.83	2543.83
						6339075.34	2273134.30	2554.47	2546.47
						6339120.38	2273146.02	2557.05	2549.05
						6339164.77	2273159.99	2558.97	2550.97
						6339208.40	2273176.17	2570.93	2562.93
						6339251.17	2273194.51	2587.43	2579.43
						6339292.96	2273214.97	2585.81	2577.81
						6339333.68	2273237.50	2584.13	2576.13
						6339368.80	2273266.24	2583.94	2575.94
						6339405.40	2273293.06	2583.42	2575.42
						6339443.38	2273317.90	2585.76	2577.76
						6339482.63	2273340.68	2587.76	2579.76
						6339523.03	2273361.34	2589.39	2581.39
						6339564.47	2273379.83	2590.67	2582.67
						6339606.84	2273396.08	2591.58	2583.58
						6339650.02	2273410.05	2592.13	2584.13
						6339824.52	2273434.88	2589.66	2581.66
						6339998.67	2273462.04	2587.54	2579.54
						6340172.45	2273491.53	2585.79	2577.79
						6340511.49	2273542.64	2581.41	2573.41
						6340850.18	2273596.03	2577.37	2569.37
						6341188.51	2273651.68	2573.69	2565.69
						6341526.46	2273709.61	2579.49	2571.49
						6341568.93	2273716.90	2580.47	2572.47
						6341611.77	2273721.66	2579.77	2571.77
						6341654.81	2273723.87	2578.05	2570.05
						6341697.91	2273723.52	2575.40	2567.40
						6341740.91	2273720.62	2571.83	2563.83
						6341783.66	2273715.18	2569.85	2561.85
						6341826.02	2273707.21	2570.51	2562.51
						6341962.11	2273685.24	2573.68	2565.68
LINESOURCE	TRUCK11	8.00	r			6341663.01	2273724.00	2577.62	2569.62
						6341617.52	2273565.82	2564.00	2556.00
						6341811.64	2272794.15	2564.00	2556.00
LINESOURCE	TRUCK12	8.00	r			6341620.52	2273576.25	2564.00	2556.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6339590.10	2273093.71	2564.00	2556.00
						6339249.81	2272894.81	2564.00	2556.00
						6339229.97	2272887.39	2564.00	2556.00
						6339211.17	2272877.65	2564.00	2556.00
						6339193.66	2272865.75	2563.65	2555.65
						6339177.69	2272851.84	2562.81	2554.81
						6339163.50	2272836.12	2562.09	2554.09
						6339151.28	2272818.82	2561.50	2553.50
						6339141.21	2272800.19	2561.05	2553.05
						6339133.44	2272780.50	2560.74	2552.74
						6339128.07	2272760.01	2560.59	2552.59
						6339125.19	2272739.04	2560.58	2552.58
						6339127.59	2272278.91	2563.27	2555.27
						6339183.63	2272030.80	2564.00	2556.00
						6339200.99	2271914.48	2564.00	2556.00
						6339199.66	2271878.93	2564.00	2556.00
						6339196.28	2271843.51	2564.00	2556.00
						6339190.85	2271808.35	2564.00	2556.00
						6339183.39	2271773.57	2564.00	2556.00
						6339173.93	2271739.27	2564.00	2556.00
						6339162.51	2271705.58	2564.00	2556.00
						6339149.15	2271672.60	2563.76	2555.76
						6339126.69	2271651.19	2562.19	2554.19
						6339102.90	2271631.28	2560.53	2552.53
						6339077.86	2271612.95	2558.79	2550.79
						6339051.70	2271596.27	2556.99	2548.99
						6339024.51	2271581.32	2555.11	2547.11
						6338996.41	2271568.15	2553.18	2545.18
						6338967.52	2271556.83	2551.20	2543.20
						6338938.14	2271559.60	2549.23	2541.23
						6338909.06	2271564.50	2547.27	2539.27
						6338880.40	2271571.52	2545.36	2537.36
						6338852.34	2271580.62	2543.49	2535.49
						6338825.02	2271591.75	2541.67	2533.67
						6338798.59	2271604.85	2539.92	2531.92
						6338773.18	2271619.84	2538.24	2530.24
						6338748.94	2271636.66	2536.65	2528.65
						6338733.02	2271661.12	2535.64	2527.64
						6338719.27	2271686.87	2534.67	2526.67
						6338707.80	2271713.71	2533.80	2525.80
						6338698.70	2271741.44	2533.09	2525.09
						6338692.02	2271769.86	2532.57	2524.57
						6338687.83	2271798.74	2532.21	2524.21
						6338686.15	2271827.88	2531.96	2523.96
						6338686.99	2271857.06	2531.90	2523.90
						6338690.36	2271886.05	2532.03	2524.03
						6338696.22	2271914.65	2532.36	2524.36
						6338967.93	2273118.40	2547.89	2539.89
LINESOURCE	TRUCK13	8.00	r			6339322.02	2272937.02	2564.00	2556.00
						6339519.73	2272112.07	2564.00	2556.00
LINESOURCE	TRUCK14	8.00	r			6339493.41	2272221.87	2564.00	2556.00
						6342040.50	2272840.47	2564.00	2556.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		CAR01	81.1	81.1	81.1	39.1	39.1	39.1	Lw	81.1					5	r
AREASOURCE		CAR02	81.1	81.1	81.1	39.4	39.4	39.4	Lw	81.1					5	r
AREASOURCE		CAR03	81.1	81.1	81.1	36.6	36.6	36.6	Lw	81.1					5	r
AREASOURCE		CAR04	81.1	81.1	81.1	43.7	43.7	43.7	Lw	81.1					5	r
AREASOURCE		CAR05	81.1	81.1	81.1	50.4	50.4	50.4	Lw	81.1					5	r
AREASOURCE		CAR06	81.1	81.1	81.1	39.1	39.1	39.1	Lw	81.1					5	r
AREASOURCE		CAR07	81.1	81.1	81.1	40.5	40.5	40.5	Lw	81.1					5	r
AREASOURCE		CAR08	81.1	81.1	81.1	38.5	38.5	38.5	Lw	81.1					5	r
AREASOURCE		CAR09	81.1	81.1	81.1	53.5	53.5	53.5	Lw	81.1					5	r
AREASOURCE		CAR10	81.1	81.1	81.1	39.9	39.9	39.9	Lw	81.1					5	r
AREASOURCE		CAR11	81.1	81.1	81.1	42.0	42.0	42.0	Lw	81.1					5	r
AREASOURCE		CAR12	81.1	81.1	81.1	40.8	40.8	40.8	Lw	81.1					5	r
AREASOURCE		CAR13	81.1	81.1	81.1	44.2	44.2	44.2	Lw	81.1					5	r
AREASOURCE		CAR14	81.1	81.1	81.1	41.3	41.3	41.3	Lw	81.1					5	r
AREASOURCE		CAR15	81.1	81.1	81.1	42.4	42.4	42.4	Lw	81.1					5	r
AREASOURCE		CAR16	81.1	81.1	81.1	41.5	41.5	41.5	Lw	81.1					5	r
AREASOURCE		CAR17	81.1	81.1	81.1	42.8	42.8	42.8	Lw	81.1					5	r
AREASOURCE		COLD01	111.5	111.5	111.5	72.6	72.6	72.6	Lw	111.5					8	r
AREASOURCE		COLD02	111.5	111.5	111.5	71.8	71.8	71.8	Lw	111.5					8	r

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		COLD03	111.5	111.5	111.5	71.1	71.1	71.1	Lw	111.5					8	r
AREASOURCE		COLD04	111.5	111.5	111.5	71.1	71.1	71.1	Lw	111.5					8	r
AREASOURCE		COLD05	111.5	111.5	111.5	70.5	70.5	70.5	Lw	111.5					8	r
AREASOURCE		COLD06	111.5	111.5	111.5	70.1	70.1	70.1	Lw	111.5					8	r
AREASOURCE		COLD07	111.5	111.5	111.5	69.9	69.9	69.9	Lw	111.5					8	r
AREASOURCE		DRY01	103.4	103.4	103.4	62.7	62.7	62.7	Lw	103.4					8	r
AREASOURCE		DRY02	103.4	103.4	103.4	65.4	65.4	65.4	Lw	103.4					8	r
AREASOURCE		DRY03	103.4	103.4	103.4	70.9	70.9	70.9	Lw	103.4					8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	CAR01	5.00	r			6339533.37	2271107.41	2561.00	2556.00
						6342028.17	2271704.63	2561.00	2556.00
						6342042.05	2271638.66	2561.00	2556.00
						6339545.53	2271043.17	2561.00	2556.00
AREASOURCE	CAR02	5.00	r			6339267.75	2271886.92	2561.00	2556.00
						6339382.33	2271918.17	2561.00	2556.00
						6339406.64	2271902.55	2561.00	2556.00
						6339427.47	2271909.49	2561.00	2556.00
						6339594.14	2271213.31	2561.00	2556.00
						6339575.04	2271208.10	2561.00	2556.00
						6339578.51	2271182.06	2561.00	2556.00
						6339496.92	2271162.96	2561.00	2556.00
						6339444.83	2271194.21	2561.00	2556.00
						6339394.49	2271326.16	2561.00	2556.00
						6339368.44	2271379.98	2561.00	2556.00
						6339200.04	2271475.46	2561.00	2556.00
						6339170.53	2271607.41	2561.00	2556.00
						6339187.89	2271635.19	2561.00	2556.00
						6339257.33	2271617.83	2561.00	2556.00
						6339297.26	2271628.24	2561.00	2556.00
						6339250.39	2271820.95	2561.00	2556.00
						6339267.75	2271831.37	2561.00	2556.00
AREASOURCE	CAR03	5.00	r			6342146.22	2272730.67	2561.00	2556.00
						6342417.05	2272796.64	2561.00	2556.00
						6342479.55	2272859.14	2563.23	2558.23
						6342542.05	2272871.30	2561.53	2556.53
						6342562.89	2272857.41	2561.00	2556.00
						6342634.07	2272741.09	2561.00	2556.00
						6342634.07	2272716.78	2561.00	2556.00
						6342564.62	2272539.70	2561.00	2556.00
						6342484.76	2272461.58	2561.00	2556.00
						6342234.76	2271864.35	2561.00	2556.00
						6342182.68	2271897.34	2561.00	2556.00
						6342029.90	2272534.49	2561.00	2556.00
						6342158.37	2272567.48	2561.00	2556.00
						6342132.33	2272697.69	2561.00	2556.00
						6342154.90	2272702.89	2561.00	2556.00
AREASOURCE	CAR04	5.00	r			6340854.55	2272524.08	2561.00	2556.00
						6341719.14	2272728.94	2561.00	2556.00
						6341741.71	2272671.64	2561.00	2556.00
						6340830.25	2272445.95	2561.00	2556.00
						6340825.18	2272469.15	2561.00	2556.00
						6340866.71	2272477.20	2561.00	2556.00
AREASOURCE	CAR05	5.00	r			6341745.18	2272734.14	2561.00	2556.00
						6341967.40	2272789.70	2561.00	2556.00
						6341976.08	2272749.77	2561.00	2556.00
						6341930.94	2272739.35	2561.00	2556.00
						6341937.89	2272716.78	2561.00	2556.00
						6341760.80	2272682.06	2561.00	2556.00
AREASOURCE	CAR06	5.00	r			6339312.89	2272845.26	2561.00	2556.00
						6339446.57	2272286.23	2561.00	2556.00
						6339429.21	2272279.28	2561.00	2556.00
						6339455.25	2272159.49	2561.00	2556.00
						6339413.58	2272131.71	2561.00	2556.00
						6339413.58	2272110.88	2561.00	2556.00
						6339238.24	2272074.42	2561.00	2556.00
						6339210.46	2272086.58	2561.00	2556.00
						6339200.04	2272095.26	2561.00	2556.00
						6339149.69	2272320.95	2561.00	2556.00
						6339177.47	2272767.13	2560.47	2555.47
						6339196.57	2272814.01	2561.00	2556.00
						6339220.87	2272836.58	2561.00	2556.00
						6339255.60	2272855.67	2561.00	2556.00
						6339293.79	2272862.62	2561.00	2556.00
						6339295.53	2272840.05	2561.00	2556.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	CAR07	5.00	r			6339705.25	2273220.26	2561.00	2556.00
						6341503.86	2273642.13	2561.00	2556.00
						6341519.49	2273583.10	2561.00	2556.00
						6339634.07	2273135.19	2561.00	2556.00
						6339628.86	2273178.59	2561.00	2556.00
AREASOURCE	CAR08	5.00	r			6341687.89	2273664.70	2561.00	2556.00
						6341755.60	2273685.53	2561.00	2556.00
						6341885.80	2273656.02	2561.00	2556.00
						6341906.64	2273643.87	2561.00	2556.00
						6341956.99	2273445.95	2561.00	2556.00
						6342000.39	2273241.09	2561.00	2556.00
						6341998.65	2273102.20	2561.00	2556.00
						6341981.29	2272862.62	2561.00	2556.00
						6341972.61	2272841.78	2561.00	2556.00
						6341884.07	2272827.89	2561.00	2556.00
						6341835.46	2272838.31	2561.00	2556.00
						6341823.30	2272859.14	2561.00	2556.00
						6341658.37	2273605.67	2561.00	2556.00
AREASOURCE	CAR09	5.00	r			6341738.24	2272614.35	2561.00	2556.00
						6341837.19	2272640.39	2561.00	2556.00
						6341851.08	2272574.42	2561.00	2556.00
						6341745.18	2272562.27	2561.00	2556.00
AREASOURCE	CAR10	5.00	r			6339611.50	2273814.01	2641.00	2636.00
						6341868.44	2274037.96	2641.00	2636.00
						6341882.33	2274025.81	2641.00	2636.00
						6341882.33	2273992.83	2641.00	2636.00
						6341868.44	2273992.83	2641.00	2636.00
						6341868.44	2273973.73	2641.00	2636.00
						6339621.92	2273754.98	2641.00	2636.00
						6339618.44	2273772.34	2641.00	2636.00
						6339599.35	2273768.87	2641.00	2636.00
						6339595.87	2273805.33	2641.00	2636.00
AREASOURCE	CAR11	5.00	r			6339662.06	2274360.23	2641.00	2636.00
						6339681.59	2274362.40	2641.00	2636.00
						6339683.76	2274338.53	2641.00	2636.00
						6339713.17	2274339.46	2641.00	2636.00
						6339742.36	2273901.25	2641.00	2636.00
						6339722.83	2273901.25	2641.00	2636.00
						6339723.91	2273880.63	2641.00	2636.00
						6339537.28	2273865.44	2641.00	2636.00
						6339526.22	2273865.52	2641.00	2636.00
						6339515.32	2273867.36	2641.00	2636.00
						6339504.84	2273870.91	2641.00	2636.00
						6339495.07	2273876.09	2641.00	2636.00
						6339486.25	2273882.76	2641.00	2636.00
						6339478.60	2273890.74	2641.00	2636.00
						6339472.32	2273899.85	2641.00	2636.00
						6339467.57	2273909.84	2641.00	2636.00
						6339464.47	2273920.45	2641.00	2636.00
						6339463.10	2273931.43	2641.00	2636.00
						6339463.50	2273942.48	2641.00	2636.00
						6339624.09	2274303.81	2641.00	2636.00
						6339640.36	2274296.21	2641.00	2636.00
AREASOURCE	CAR12	5.00	r			6340041.60	2274837.08	2641.00	2636.00
						6341809.53	2275014.05	2641.00	2636.00
						6341809.53	2274971.58	2641.00	2636.00
						6341680.34	2274952.11	2641.00	2636.00
						6341680.34	2274929.10	2641.00	2636.00
						6340046.91	2274776.91	2641.00	2636.00
AREASOURCE	CAR13	5.00	r			6341936.95	2275022.90	2641.00	2636.00
						6342094.45	2275038.82	2641.00	2636.00
						6342094.45	2275014.05	2641.00	2636.00
						6342119.23	2275008.74	2641.00	2636.00
						6342108.61	2274826.46	2641.00	2636.00
						6342083.84	2274831.77	2641.00	2636.00
						6342083.84	2274808.76	2641.00	2636.00
						6341814.84	2274778.68	2641.00	2636.00
						6341811.30	2274877.78	2641.00	2636.00
						6341922.79	2274891.94	2641.00	2636.00
AREASOURCE	CAR14	5.00	r			6341804.22	2274748.59	2641.00	2636.00
						6341832.54	2274752.13	2641.00	2636.00
						6341836.08	2274702.58	2641.00	2636.00
						6342060.83	2274718.51	2641.00	2636.00
						6342082.07	2274693.73	2641.00	2636.00
						6342074.99	2274651.26	2641.00	2636.00
						6341928.10	2274130.97	2641.00	2636.00
						6341860.85	2274123.89	2641.00	2636.00

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
AREASOURCE	CAR15	5.00	r			6341850.23	2275672.38	2645.61	2640.61
						6341935.18	2275683.00	2651.99	2646.99
						6341938.72	2275659.99	2648.04	2643.04
						6341963.50	2275658.22	2649.08	2644.08
						6341982.96	2275405.15	2641.00	2636.00
						6341903.33	2275399.84	2641.00	2636.00
						6341910.40	2275323.75	2641.00	2636.00
						6342018.36	2275330.83	2641.00	2636.00
						6342037.82	2275316.67	2641.00	2636.00
						6342046.67	2275267.12	2641.00	2636.00
						6342066.14	2275263.58	2641.00	2636.00
						6342078.53	2275145.01	2641.00	2636.00
						6342050.21	2275145.01	2641.00	2636.00
						6342050.21	2275113.15	2641.00	2636.00
						6341917.48	2275095.46	2641.00	2636.00
						6341878.55	2275141.47	2641.00	2636.00
						6341834.61	2275646.57	2641.00	2636.00
AREASOURCE	CAR16	5.00	r			6340706.14	2275615.32	2641.00	2636.00
						6340884.09	2275679.55	2641.00	2636.00
						6340946.59	2275694.31	2641.00	2636.00
						6341082.87	2275705.59	2641.00	2636.00
						6341657.53	2275668.27	2641.00	2636.00
						6341649.71	2275622.26	2641.00	2636.00
						6340756.48	2275535.46	2641.00	2636.00
						6340733.05	2275533.72	2641.00	2636.00
						6340720.89	2275589.28	2641.00	2636.00
AREASOURCE	CAR17	5.00	r			6340128.08	2275301.05	2641.00	2636.00
						6340181.24	2275306.48	2641.00	2636.00
						6340186.67	2275288.03	2641.00	2636.00
						6340206.20	2275288.03	2641.00	2636.00
						6340232.24	2274982.04	2641.00	2636.00
						6340217.05	2274978.79	2641.00	2636.00
						6340208.37	2274935.39	2641.00	2636.00
						6339984.85	2274915.85	2641.00	2636.00
						6339971.83	2275038.47	2641.00	2636.00
						6340100.95	2275275.01	2641.00	2636.00
AREASOURCE	COLD01	8.00	r			6340359.78	2275424.34	2644.00	2636.00
						6341718.53	2275556.31	2644.00	2636.00
						6341726.87	2275495.86	2644.00	2636.00
						6340366.30	2275362.58	2644.00	2636.00
AREASOURCE	COLD02	8.00	r			6340053.98	2274718.51	2644.00	2636.00
						6341660.16	2274868.40	2644.00	2636.00
						6341668.50	2274810.03	2644.00	2636.00
						6340061.92	2274653.08	2644.00	2636.00
AREASOURCE	COLD03	8.00	r			6339806.97	2273959.52	2644.00	2636.00
						6341726.87	2274142.96	2644.00	2636.00
						6341733.46	2274083.54	2644.00	2636.00
						6339816.84	2273896.21	2644.00	2636.00
AREASOURCE	COLD04	8.00	r			6339581.99	2273064.01	2564.00	2556.00
						6341535.11	2273525.81	2564.00	2556.00
						6341548.46	2273468.65	2564.00	2556.00
						6339592.45	2273005.74	2564.00	2556.00
AREASOURCE	COLD05	8.00	r			6339594.58	2272347.18	2564.00	2556.00
						6341696.95	2272849.50	2564.00	2556.00
						6341710.46	2272784.49	2564.00	2556.00
						6339604.55	2272287.96	2564.00	2556.00
AREASOURCE	COLD06	8.00	r			6339543.79	2271965.05	2564.00	2556.00
						6341899.69	2272524.08	2564.00	2556.00
						6341914.24	2272463.63	2564.00	2556.00
						6339558.46	2271906.20	2564.00	2556.00
AREASOURCE	COLD07	8.00	r			6339706.99	2271275.81	2564.00	2556.00
						6342062.65	2271836.25	2564.00	2556.00
						6342076.78	2271772.34	2564.00	2556.00
						6339722.61	2271213.31	2564.00	2556.00
AREASOURCE	DRY01	8.00	r			6339512.54	2272084.84	2564.00	2556.00
						6341738.24	2272614.35	2564.00	2556.00
						6341745.18	2272562.27	2564.00	2556.00
						6339535.11	2272031.02	2564.00	2556.00
AREASOURCE	DRY02	8.00	r			6339628.86	2272220.26	2564.00	2556.00
						6340818.10	2272501.51	2564.00	2556.00
						6340830.25	2272445.95	2564.00	2556.00
						6339641.01	2272168.17	2564.00	2556.00
AREASOURCE	DRY03	8.00	r			6340362.39	2275546.74	2644.00	2636.00
						6340721.66	2275585.75	2644.00	2636.00
						6340720.89	2275529.38	2644.00	2636.00
						6340365.86	2275496.39	2644.00	2636.00

Barrier(s)

Name	Sel.	M.	ID	Absorption		Z-Ext.	Cantilever		Height		Coordinates			
				left	right		horz.	vert.	Begin	End	x	y	z	Ground
						(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)

Building(s)

Name	Sel.	M.	ID	RB	Residents	Absorption	Height		Coordinates				
							Begin		x	y	z	Ground	
							(ft)		(ft)	(ft)	(ft)	(ft)	
BUILDING			BUILDING00001	x	0		50.00	r	6340301.02	2275356.19	2686.00	2636.00	
									6341726.87	2275495.86	2686.00	2636.00	
									6341718.53	2275556.31	2686.00	2636.00	
									6341785.24	2275562.56	2686.00	2636.00	
									6341829.02	2275095.62	2686.00	2636.00	
									6340296.85	2274945.53	2686.00	2636.00	
									6340261.41	2275322.84	2686.00	2636.00	
BUILDING			BUILDING00002	x	0		50.00	r	6339769.45	2274624.50	2686.00	2636.00	
									6341668.50	2274810.03	2686.00	2636.00	
									6341660.16	2274868.40	2686.00	2636.00	
									6341726.87	2274874.65	2686.00	2636.00	
									6341804.00	2274109.61	2686.00	2636.00	
									6341733.12	2274099.19	2686.00	2636.00	
									6341726.87	2274142.96	2686.00	2636.00	
									6339806.97	2273959.52	2686.00	2636.00	
									6339815.31	2273905.32	2686.00	2636.00	
									6339754.86	2273896.98	2686.00	2636.00	
									6339700.66	2274472.33	2686.00	2636.00	
BUILDING			BUILDING00003	x	0		50.00	r	6339365.04	2272908.89	2606.00	2556.00	
									6339465.10	2272975.60	2606.00	2556.00	
									6341614.30	2273484.24	2606.00	2556.00	
									6341762.31	2272865.12	2606.00	2556.00	
									6339502.62	2272325.21	2606.00	2556.00	
BUILDING			BUILDING00004	x	0		50.00	r	6339488.03	2271889.53	2606.00	2556.00	
									6341981.19	2272479.47	2606.00	2556.00	
									6342129.20	2271852.01	2606.00	2556.00	
									6339638.12	2271262.07	2606.00	2556.00	

APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS

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15718 - Beaumont Heights Business Center

CadnaA Noise Prediction Model: 15718-02e_Construction.cna
Date: 06.11.24
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	752.86
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	48.3	48.3	54.9	55.0	45.0	0.0				5.00	r	6341036.77	2276132.37	2648.68
RECEIVERS		R2	35.1	35.0	41.7	55.0	45.0	0.0				5.00	r	6343764.32	2276117.04	2642.91
RECEIVERS		R3	47.6	47.4	54.1	55.0	45.0	0.0				5.00	r	6342402.53	2274458.17	2679.00
RECEIVERS		R4	37.3	37.2	43.9	55.0	45.0	0.0				5.00	r	6343677.41	2274776.61	2670.46
RECEIVERS		R5	40.0	39.9	46.5	55.0	45.0	0.0				5.00	r	6338684.58	2276118.91	2600.98
RECEIVERS		R6	42.2	42.1	48.8	55.0	45.0	0.0				5.00	r	6339647.38	2276245.95	2583.00
RECEIVERS		R7	34.3	34.2	40.9	55.0	45.0	0.0				5.00	r	6345452.91	2273708.46	2707.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		Construction	122.6	15.6	15.6	60.7	-46.3	-46.3	PWL-Pt	115.6					8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	Construction	8.00	r			6340228.47	2276061.87	2602.67	2594.67
						6342381.87	2276036.17	2684.85	2676.85
						6342312.39	2274028.43	2685.71	2677.71
						6342274.27	2272927.23	2633.87	2625.87
						6342846.08	2272961.36	2573.82	2565.82
						6342337.19	2271656.34	2513.24	2505.24
						6342340.42	2271582.04	2510.43	2502.43
						6339736.76	2270965.05	2487.12	2479.12

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6338752.29	2270733.44	2478.37	2470.37
						6337938.63	2270726.83	2478.00	2470.00
						6337918.08	2270797.07	2478.00	2470.00
						6337947.15	2271129.80	2483.78	2475.78
						6337959.44	2271180.36	2485.97	2477.97
						6337974.11	2271230.27	2488.59	2480.59
						6337991.13	2271279.44	2490.67	2482.67
						6338010.47	2271327.74	2487.23	2479.23
						6338032.08	2271375.08	2484.23	2476.23
						6338055.91	2271421.33	2485.47	2477.47
						6338081.91	2271466.40	2485.26	2477.26
						6338110.02	2271510.18	2482.30	2474.30
						6338201.17	2271616.95	2486.44	2478.44
						6338287.78	2271782.54	2493.07	2485.07
						6338365.23	2271872.16	2497.08	2489.08
						6338397.26	2271914.27	2498.31	2490.31
						6338427.50	2271957.68	2499.48	2491.48
						6338455.91	2272002.31	2500.60	2492.60
						6338482.43	2272048.08	2501.65	2493.65
						6338507.01	2272094.92	2502.64	2494.64
						6338529.63	2272142.75	2503.57	2495.57
						6338550.23	2272191.48	2504.43	2496.43
						6338568.78	2272241.02	2505.22	2497.22
						6338585.25	2272291.30	2505.95	2497.94
						6338599.61	2272342.21	2506.60	2498.60
						6338650.39	2272572.68	2509.08	2501.08
						6338723.30	2272955.49	2512.80	2504.80
						6338757.16	2273142.99	2509.38	2501.38
						6338775.39	2273372.16	2503.39	2495.39
						6338793.48	2273435.31	2503.91	2495.91
						6338813.56	2273497.85	2504.51	2496.51
						6338835.62	2273559.72	2505.16	2497.16
						6338859.62	2273620.86	2505.88	2497.88
						6338885.55	2273681.21	2506.67	2498.67
						6338913.39	2273740.71	2507.51	2499.51
						6338943.09	2273799.30	2508.33	2500.33
						6339370.22	2274551.76	2519.62	2511.62
						6339682.44	2274542.19	2536.21	2528.21
						6339708.61	2275150.25	2568.21	2560.21

APPENDIX 10.2:

CADNAA CONCRETE POUR NOISE MODEL INPUTS

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15718 - Beaumont Heights Business Center

CadnaA Noise Prediction Model: 15718-02e_Pour.cna
Date: 06.11.24
Analyst: B. Lawson

Calculation Configuration

Configuration	
Parameter	**Value**
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	752.86
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.50
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID	Level Lr			Limit. Value			Land Use			Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Type	Auto	Noise Type			X	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	41.3	-65.5	38.3	55.0	45.0	0.0				5.00	r	6341036.77	2276132.37	2648.68
RECEIVERS		R2	25.9	-77.6	22.9	55.0	45.0	0.0				5.00	r	6343764.32	2276117.04	2642.91
RECEIVERS		R3	41.7	-65.2	38.7	55.0	45.0	0.0				5.00	r	6342402.53	2274458.17	2679.00
RECEIVERS		R4	28.4	-76.3	25.4	55.0	45.0	0.0				5.00	r	6343677.41	2274776.61	2670.46
RECEIVERS		R5	33.6	-72.5	30.6	55.0	45.0	0.0				5.00	r	6338684.58	2276118.91	2600.98
RECEIVERS		R6	35.5	-71.0	32.5	55.0	45.0	0.0				5.00	r	6339647.38	2276245.95	2583.00
RECEIVERS		R7	25.5	-77.8	22.5	55.0	45.0	0.0				5.00	r	6345452.91	2273708.46	2707.00

Area Source(s)

Name	M.	ID	Result. PWL			Result. PWL''			Lw / Li			Operating Time			Height	
			Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		Construction	107.3	0.3	0.3	45.4	-61.6	-61.6	PWL-Pt	100.3					8	r

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	Construction	8.00	r			6340228.47	2276061.87	2602.67	2594.67
						6342381.87	2276036.17	2684.85	2676.85
						6342312.39	2274028.43	2685.71	2677.71
						6342274.27	2272927.23	2633.87	2625.87
						6342846.08	2272961.36	2573.82	2565.82
						6342337.19	2271656.34	2513.24	2505.24
						6342340.42	2271582.04	2510.43	2502.43
						6339736.76	2270965.05	2487.12	2479.12

Name	ID	Height				Coordinates			
		Begin		End		x	y	z	Ground
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
						6338752.29	2270733.44	2478.37	2470.37
						6337938.63	2270726.83	2478.00	2470.00
						6337918.08	2270797.07	2478.00	2470.00
						6337947.15	2271129.80	2483.78	2475.78
						6337959.44	2271180.36	2485.97	2477.97
						6337974.11	2271230.27	2488.59	2480.59
						6337991.13	2271279.44	2490.67	2482.67
						6338010.47	2271327.74	2487.23	2479.23
						6338032.08	2271375.08	2484.23	2476.23
						6338055.91	2271421.33	2485.47	2477.47
						6338081.91	2271466.40	2485.26	2477.26
						6338110.02	2271510.18	2482.30	2474.30
						6338201.17	2271616.95	2486.44	2478.44
						6338287.78	2271782.54	2493.07	2485.07
						6338365.23	2271872.16	2497.08	2489.08
						6338397.26	2271914.27	2498.31	2490.31
						6338427.50	2271957.68	2499.48	2491.48
						6338455.91	2272002.31	2500.60	2492.60
						6338482.43	2272048.08	2501.65	2493.65
						6338507.01	2272094.92	2502.64	2494.64
						6338529.63	2272142.75	2503.57	2495.57
						6338550.23	2272191.48	2504.43	2496.43
						6338568.78	2272241.02	2505.22	2497.22
						6338585.25	2272291.30	2505.95	2497.94
						6338599.61	2272342.21	2506.60	2498.60
						6338650.39	2272572.68	2509.08	2501.08
						6338723.30	2272955.49	2512.80	2504.80
						6338757.16	2273142.99	2509.38	2501.38
						6338775.39	2273372.16	2503.39	2495.39
						6338793.48	2273435.31	2503.91	2495.91
						6338813.56	2273497.85	2504.51	2496.51
						6338835.62	2273559.72	2505.16	2497.16
						6338859.62	2273620.86	2505.88	2497.88
						6338885.55	2273681.21	2506.67	2498.67
						6338913.39	2273740.71	2507.51	2499.51
						6338943.09	2273799.30	2508.33	2500.33
						6339370.22	2274551.76	2519.62	2511.62
						6339682.44	2274542.19	2536.21	2528.21
						6339708.61	2275150.25	2568.21	2560.21