



## CHAPTER 9 Noise

### 9.1 Introduction

This chapter examines noise levels in the study area. A desktop survey using aerial photography, Google Earth, ArcGIS, and the updated City of Bellevue Comprehensive Plan and zoning was used to determine locations of noise-sensitive land uses in the study area. Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include residences, hospitals, schools, childcare facilities, transient lodging, libraries, and certain types of recreational uses. Information is provided on how noise is defined and the noise levels when impacts occur.

The potential impacts identified for the No Action Alternative and Action Alternatives include analysis of the “build-out” housing unit capacity and job capacity associated with each alternative. For the No Action Alternative and the Action Alternatives, these capacities for growth are higher than the overall citywide growth targets of 35,000 new housing units and 70,000 new jobs by 2044. It is not expected that the “build-out” housing and job capacities would all occur by 2044, but the EIS nonetheless assumes this growth when evaluating potential environmental impacts associated with the alternatives.

After describing existing noise levels and the methods used for the impact analysis, each alternative was analyzed to determine the effects on existing and proposed noise-sensitive land uses within the study area. This includes construction, stationary commercial

activities, and the resulting increased noise levels associated with increases in traffic.

A section on mitigation measures follows that describes features of the alternatives, other city programs and regulations, and other ways to address noise impacts, as applicable.

## 9.2 Affected Environment

### 9.2.1 Background

---

#### ACOUSTICAL TERMS

Noise is defined as sound that is loud or unpleasant or that causes disturbance. There are several different ways to measure noise, depending on the source of the noise, the receiver, and the reason for the noise measurement. Some statistical noise levels are stated in this EIS in A-weighted decibels (dBA). Noise levels stated in terms of dBA reflect the response of the human ear by filtering out some noise in the low- and high-frequency ranges that the ear does not detect well.

The most frequently used noise descriptors are summarized below:

- Leq: The Leq, or equivalent sound level, is used to describe noise over a specified period of time in terms of a single numerical value; the Leq of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. The Leq may also be referred to as the average sound level.
- Lmax: The maximum, instantaneous noise level experienced during a given period of time.
- Ldn: Also termed the day-night average noise level (DNL), the Ldn is the average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dB to measured noise levels between the hours of 10 p.m. to 7 a.m. to account for greater nighttime noise sensitivity.
- CNEL: CNEL, or Community Noise Equivalent Level, is the average A-weighted noise level during a 24-hour day that is obtained after an addition of 5 dB to measured noise levels between the hours of 7 p.m. to 10 p.m. and after an addition of 10 dB to noise levels between the hours of 10 p.m. to 7 a.m. to account for greater noise sensitivity in the evening and nighttime, respectively.

The effects of noise on people can be listed in three general categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as startling and hearing loss

In most cases, environmental noise produces effects in the first two categories only. Workers in industrial plants, however, may experience noise effects in the last category, physiological effects. No completely satisfactory way exists to measure the subjective effects of noise, or to measure the corresponding reactions of annoyance and dissatisfaction. This lack of a standard is primarily because of the wide variation in individual thresholds of annoyance and habituation to noise. Thus, an important way of determining a person's subjective reaction to a new noise is to compare it to the existing or "ambient" environment to which that person has adapted. In general, the more a new noise exceeds the previously ambient noise level, the less acceptable the new noise will be judged by listeners.

The following general relationships exist between noise levels and human perception:

- A 1- or 2-decibel (dB) increase is not perceptible to the average person.
- A 3 dB increase is just barely perceptible to the human ear.
- A 5 dB increase is readily perceptible to the human ear.
- A 10 dB increase is perceived as a doubling in loudness to the average person.

---

## REGULATORY CRITERIA CITY OF BELLEVUE

The Washington State Department of Ecology (Chapter 173-60 WAC) has classified three areas or zones based on land use and established maximum permissible noise levels, titled Environmental Designation for Noise Abatement (EDNA).

Jurisdictions may designate EDNAs or their own classifications. The City of Bellevue has adopted maximum permissible environmental noise levels in Bellevue City Code (BCC) 9.18.030, as shown in

**Table 9-1.**

**TABLE 9-1 Bellevue Maximum Permissible Environmental Noise Levels**

EDNA of Receiving Property (dBA)			
EDNA of Noise Source	Class A	Class B	Class C
Class A Residential	55	57	60
Class B Commercial	57	60	65
Class C Industrial	60	65	70

SOURCE: Bellevue City Code

The code sets allowable outdoor noise levels in residential areas near proposed future commercial and industrial facilities; it is based on noise that may emanate from operations within buildings and does not address transportation noise from motor vehicles, rail transport, or aircraft, which are addressed at the state and federal levels. The allowable noise limits apply to all hours, with 10 dBA lower allowable limits at night (10 p.m. to 7 a.m.) for receiving property in Class A EDNAs.

Temporary construction activity that complies with the allowable hour limitations set by BCC 9.18.020 is exempt from the numerical noise limits.

## FEDERAL AND STATE GUIDELINES

This analysis addresses noise standards associated with highways consistent with Washington State Department of Transportation (WSDOT) and Federal Highway Administration (FHWA) guidelines. A major source of noise in urban environments is from vehicles traveling on roads; as growth leads to additional traffic, noise levels may increase. Federal aid projects—transportation facilities receiving federal funding—are subject to federal noise guidelines. WSDOT 2020 Traffic Noise Policy and Procedures (WSDOT 2020) are consistent with those of the FHWA (23 CFR 772) and have been approved by FHWA for use on federal-aid projects in Washington. FHWA guidelines state that noise abatement must be considered when a noise impact affects a particular land use or Activity Category. The FHWA Activity Categories B and C with a Noise Abatement Criteria (NAC) of 67 dBA apply to residences, churches, schools, recreation areas, and similar land use activities in proximity to state or federal highways. **Table 9-2** describes WSDOT’s NAC by land use category. Other developed lands (e.g., hotels/motels or other business areas) are included in Activity Category E, with an NAC

of 72 dBA. FHWA determines a noise impact to occur when predicted future traffic noise levels “approach” or exceed the established FHWA NAC for a given Activity Category. WSDOT defines “approach” as within 1 dBA of the FHWA NAC (66 dBA for Activity Categories B and C or 71 dBA for Category E).

**TABLE 9-2 WSDOT Noise Abatement Criteria (NAC) by Land Use Category**

Activity Category	dBA, Leq	Description
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Residential (single- and multi-family units).
C	67 (Exterior)	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52 (Interior)	Auditoriums, daycare centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72 (Exterior)	Hotels, motels, offices, restaurants, bars, and other developed lands, properties, or activities not included in Categories A through D or F. Includes undeveloped land permitted for these activities.
F	—	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	—	Undeveloped lands that are not permitted.

SOURCE: WSDOT 2020

NOTE: Leq = equivalent noise level

## CRITERIA FOR INCREASES IN NOISE LEVELS

FHWA and WSDOT consider a traffic noise impact to occur if future predicted noise levels substantially exceed the existing noise levels. While FHWA guidance does not specifically define what constitutes a substantial increase, FHWA provides state highway agencies the flexibility in establishing their own definition of what constitutes a substantial increase. The WSDOT guidance states that a predicted future traffic noise level of 10 dBA or more above existing noise levels constitutes a substantial increase. For the assessment of

exposing new residential uses to transportation noise, noise levels in excess of the NAC are used to determine a substantial noise exposure impact.

---

## METHODOLOGY

Traffic noise levels were evaluated using algorithms of the FHWA's Traffic Noise Model (TNM). The model is based on reference energy emissions levels for automobiles, medium trucks (two axles), and heavy trucks (three or more axles) with consideration given to vehicle volume, speed, and distance to the receptor. Both existing and future noise receivers were modeled. Documenting noise levels generated by traffic from future development is helpful to local agencies and the public to aid in future land use planning. To capture locations where sensitive noise receivers could be located in the future, noise receivers were modeled at distances along highways throughout the study area in locations where residential uses are located.

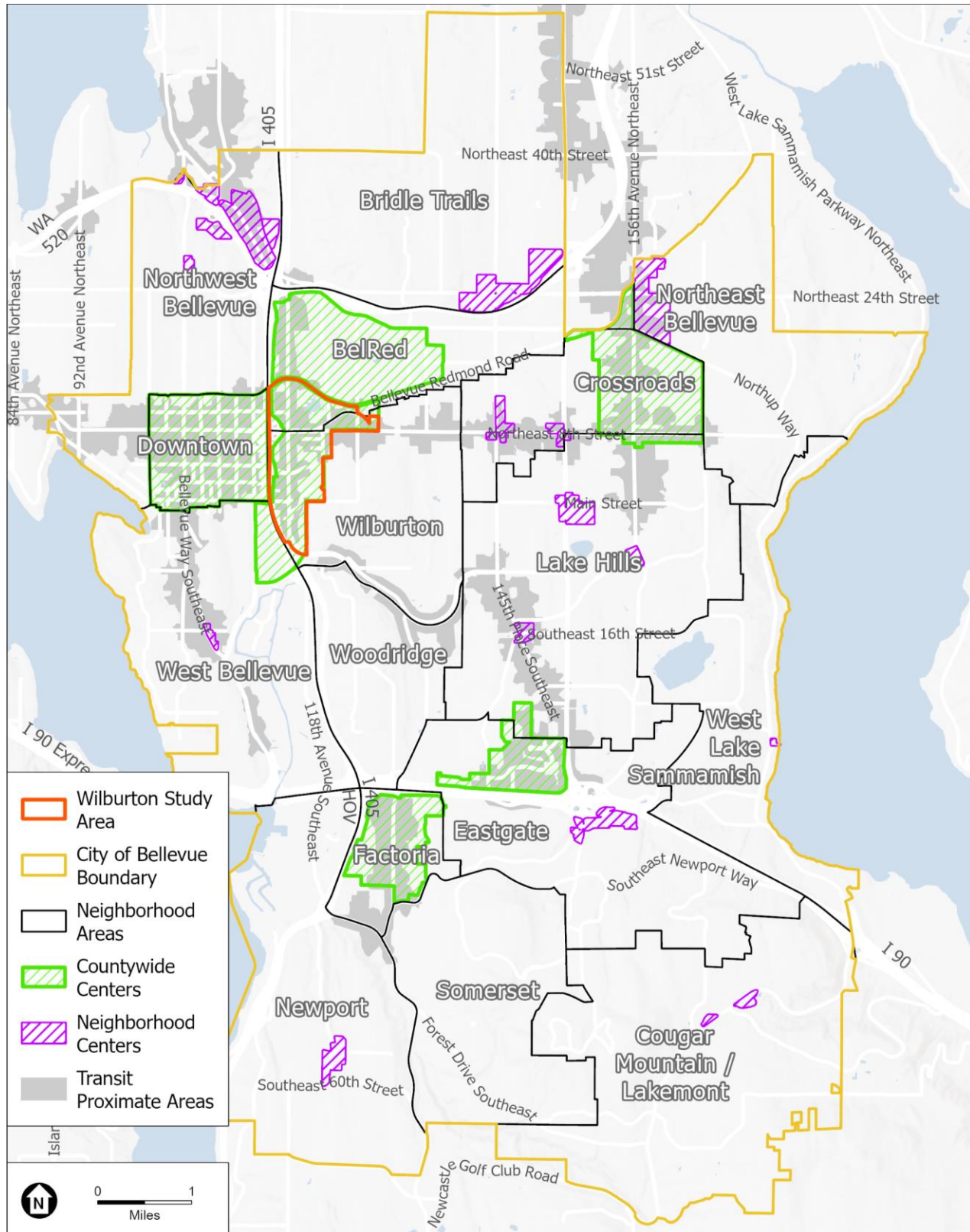
---

## NOISE-SENSITIVE RECEIVERS WITHIN THE STUDY AREA

The noise study area covers all areas within the City of Bellevue. Information is provided on a citywide basis as shown in **Figure 9-1**. Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Noise-sensitive land uses typically include residences, hospitals, schools, childcare facilities, transient lodging, libraries, and certain types of recreational uses. Noise-sensitive residential receivers are found throughout the study area.

With respect to inequality of noise exposures in the U.S., it is estimated that nighttime and daytime noise levels are higher in locations with higher proportions of nonwhite residents and people of lower socioeconomic status (Seltenrich 2017). For example, it is estimated as a difference of 4.0 dBA between urban block groups with 75 versus 0 percent black residents, and a difference of 2.9 dBA between urban block groups with 50 versus 0 percent of residents living below the poverty level.

More specifically, in highly segregated metropolitan areas in the United States, differences in political power across race and class lines affect decision-making about the siting of undesirable land uses, including major industries or roadways. This can lead to demographic disparities in noise exposures and potentially increase noise levels overall for everyone (Seltenrich 2017).



SOURCE: City of Bellevue 2023; Prepared by BERK 2023

**FIGURE 9-1 City of Bellevue Geographies**

## 9.3 Potential Impacts

### 9.3.1 Thresholds of Significance

The following thresholds of significance are considered in this chapter and would occur under the following:

- Future traffic noise levels of 10 dBA or more above existing noise levels.
- Expose new residential uses to noise levels in excess of the NAC presented in Table 9-2.
- Short-term construction activities occur outside of the exempt hours of BCC 9.18.020.
- Future commercial facilities would use stationary mechanical equipment, outdoor loading docks, or outdoor material storage areas that generate noise in excess of the noise limits of BCC 9.18.030. Future public parks and plazas have the potential to result in public events that involve amplified sound that could also generate noise in excess of the noise limits of BCC 9.18.030.

### 9.3.2 Impacts Common to All Alternatives

---

#### SHORT-TERM IMPACTS

Under all alternatives, there would be temporary impacts in noise during construction. Construction activities would be temporary in nature and it is expected that most activities would occur during daytime working hours. Individual development projects constructed under the Comprehensive Plan Periodic Update would likely not be concentrated in one area at any given time. Typical construction equipment would include dump trucks, cement pumpers, backhoes, excavators, and other heavy equipment. Within Bellevue, construction activities are exempt between the hours of 7 a.m. and 6 p.m. on weekdays and 9 a.m. and 6 p.m. on Saturdays that are not legal holidays. Any construction outside of these hours or on Sundays would require expanded exempt hours and be subject to criteria noted in BCC 9.18.020.C (Noise Exemptions) or would require a noise variance.

Future public parks and plazas have the potential to result in public events that involve amplified sound that could generate noise in excess of the noise limits of BCC 9.18.030. However, operation of sound amplification equipment requires compliance with a permit



issued pursuant to BCC 9.18.045A or a conditional use permit issued pursuant to Land Use Code Chapter 20.30B.

---

## LONG-TERM IMPACTS

### Noise from Stationary Commercial Operations

Future commercial facilities could use stationary mechanical equipment that, unless properly designed or controlled, could cause community noise levels to exceed the allowable city noise ordinance limits. In addition, future facilities could use outdoor loading docks and outdoor material storage areas that, unless properly designed and controlled, could generate substantial amounts of noise in the surrounding community. Such uses would be subject to the noise limits of BCC 9.18.030. Mitigation measures to reduce these noise impacts to less-than-significant levels are described in Section 9.4, *Mitigation Measures*.

### Traffic Noise Increases Associated with the Plan

**Table 9-3** provides a high-level summary of Existing Conditions, No Action Alternative, Alternative 1, Alternative 2, and Alternative 3 potential noise levels from four freeway segments that would support traffic increases resulting from development under each of the alternatives. Receptor locations were modeled at a distance of 150 feet from the center of each highway. As shown in Table 9-3, the existing noise levels adjacent to the freeway segments range from 73 to 77 dBA, and the increases over existing conditions in the alternatives range from zero to 1 dBA. As noted above, an increase of 1 dBA is not perceptible to the average person and a 3 dBA increase is barely perceptible. Because all increase in noise along all roadway segments would be less than 10 dBA, the impact with respect to transportation noise would be **less than significant** for all alternatives.

Depending on funding sources, a more detailed traffic noise analysis could be conducted for specific receptors and considering NAC criteria, as well as including field measurements to identify existing conditions and potential noise impacts and any necessary mitigation measures.

**TABLE 9-3 Existing, No Action, and Future Potential Noise Levels (in dBA)**

Highway Segment	Existing Conditions	No Action Alternative		Alternative 1		Alternative 2		Alternative 3	
		Future Noise	Increase over Existing	Future Noise	Increase over Existing	Future Noise	Increase over Existing	Future Noise	Increase over Existing
I-405 north of SR 520	77	78	1	78	1	78	1	78	1
I-405 between SR 520 and I-90	77	77	<1	77	<1	78	<1	78	1
I-405 south of I-90	76	76	<1	76	<1	76	<1	76	<1
SR 520 west of I-405	73	73	<1	73	<1	73	<1	73	<1
SR 520 east of I-405	74	75	1	75	1	75	1	75	1
I-90 west of I-405	75	75	<1	75	<1	76	1	76	1
I-90 east of I-405	76	77	1	77	1	77	1	77	1

SOURCE: Prepared by ESA 2023

Because the Grand Connection would cross over I-405, there would be increases in noise by bringing the receiver closer to the interstate; for receivers near the Grand Connection, however, the increase in noise over existing conditions would not be perceptible to the average person.

### Exposure of New Residential Uses to Excessive Traffic Noise Levels

Action Alternatives could result in new residential uses proximate to freeways that generate the relatively high noise levels indicated in Table 9-3 at a distance of 150 feet. Given that the NAC for residential uses in Table 9-2 is an exterior value of 67 dBA, such noise exposure in excess of this NAC was calculated for each of the highway segments analyzed, and the distance required to avoid exposure in excess of the NAC is presented in **Table 9-4**. These distances are conservative in that they do not account for intervening structures or topography that would attenuate traffic noise.

As can be seen from Table 9-4, if residential development under the Comprehensive Plan Periodic Update were to occur within 2,000 feet of I-405, 1,200 feet of I-90, or 1,000 feet of SR 520, the noise exposure of these uses would likely approach or exceed the NAC. Mitigation measures to reduce these potential noise impacts to less-than-significant levels are described in Section 9.4, *Mitigation Measures*.

TABLE 9-4 Existing, No Action, and Future Potential Noise Levels (in dBA)

Highway Segment	Distance (feet) to Residential NAC (67 dBA)			
	No Action Alternative	Alternative 1	Alternative 2	Alternative 3
I-405 north of SR 520	1,890	1,925	1,930	1,950
I-405 between SR 520 and I-90	1,775	1,790	1,805	1,820
I-405 south of I-90	1,390	1,410	1,420	1,425
SR 520 west of I-405	625	665	685	690
SR 520 east of I-405	920	960	980	1,005
I-90 west of I-405	1,110	1,130	1,145	1,150
I-90 east of I-405	1,460	1,925	1,495	1,505

### 9.3.3 Impacts of Alternative 0 (No Action)

The No Action Alternative would have less capacity for development than Alternatives 1, 2, and 3. Since this is the No Action Alternative, there would not be any change and, therefore, no construction beyond that allowed by current zoning. Stationary commercial operations would be the same, and there are no other impacts beyond those described above in Section 9.3.1, *Impacts Common to All Alternatives*. The No Action Alternative would result in smaller increases in traffic noise compared to Alternatives 2 and 3. As shown in Table 9-3, noise increases along I-90 west of I-405 would increase by 1 dBA under Alternatives 2 and 3, unlike the No Action Alternative.

Noise exposure of new noise-sensitive uses would be the same as that allowed by current zoning.

### 9.3.4 Impacts of Alternative 1

Construction and stationary commercial operations impacts would be the same as described above in Section 9.3.1, *Impacts Common to All Alternatives*.

Future noise levels due to increases in traffic under Alternative 1 range from 73 to 78 dBA at a distance of 150 feet, with increases above existing levels up to 1 dBA. Similar to the No Action Alternative, noise increases along I-90 west of I-405 would increase by less than 1 dBA. Under Alternative 1, development of new noise-sensitive uses in proximity to freeways could expose people to noise levels in excess of the 67 dBA residential NAC.

### 9.3.5 Impacts of Alternative 2

Future noise levels under Alternative 2 range from 73 to 78 dBA at a distance of 150 feet, with increases over existing conditions levels up to 1 dBA. Noise increases along I-90 west of I-405 would increase by 1 dBA, unlike the No Action Alternative or Alternative 1. Under Alternative 2, development of new noise-sensitive uses in proximity to freeways could expose people to noise levels in excess of the 67 dBA residential NAC.

### 9.3.6 Impacts of Alternative 3

Future noise levels under Alternative 3 range from 73 to 78 dBA at a distance of 150 feet, with increases over existing conditions levels 1 dBA or less. Noise increases along I-90 west of I-405 would increase by 1 dBA, unlike the No Action Alternative or Alternative 1. Under Alternative 3, development of new noise-sensitive uses in proximity to freeways could expose people to noise levels in excess of the 67 dBA residential NAC.

## 9.4 Mitigation Measures

### 9.4.1 Incorporated Plan Features

There are no features of the Comprehensive Plan Periodic Update that are specific to noise or noise reduction.

### 9.4.2 No Action Alternative (Alternative 0)

Alternative 0 (No Action) has capacity for adding 41,000 new housing units. This is above the regional growth target for Bellevue, which is 35,000 new units, but does not meet other new planning requirements, including affordable housing across income bands and a range of housing types. There would be capacity for 124,000 new jobs under this alternative, which is above the regional growth target of 70,000 jobs.<sup>1</sup> Housing capacity within the Wilburton study area would be small (less than 1 percent of the citywide total), and the Wilburton study area would have a modest share of citywide job capacity (5 percent) with no changes to allowed uses or building intensities.

---

<sup>1</sup> Housing and job capacity used in this EIS analysis are higher under the No Action Alternative than the capacity that was reported in King County's 2021 Urban Growth Capacity Report.

Development of new commercial uses under Alternative 0 (No Action) could result in new noise impacts from mechanical equipment or loading docks that may exceed the City of Bellevue Noise Standards in BCC 9.18.030. Therefore, compliance with the Class B Commercial Maximum Permissible Noise Levels of BCC 9.18.030 would be a required mitigation measure. Methods of achieving these standards include using low-noise-emitting heating, ventilation, and air conditioning (HVAC) equipment, locating HVAC and other mechanical equipment within a rooftop mechanical penthouse, and using shields and parapets to reduce noise levels to adjacent land uses. For commercial loading docks, specific design measures could be implemented that may include but are not limited to shielding from features integrated into site design, and/or restrictions on hours for commercial deliveries within commercial and mixed use areas.

While all of this growth would increase traffic on freeways and local roadways, as discussed above, noise levels on freeways throughout the Study Area under the No Action Alternative would increase by 1 dBA or less and would therefore be less than significant, and no mitigation measures are required.

### 9.4.3 Alternative 1

Alternative 1 allows for apartment and condominium buildings as well as gentle density increases across the city, resulting in capacity for an additional 59,000 housing units. Mandatory inclusionary affordable housing would be required in the growth corridor with incentives for affordable housing in other locations. Job capacity would increase, with space for an additional 179,000 jobs, which is nearly double Bellevue's regional growth target.

The Wilburton study area would increase its shares of total citywide housing capacity to about 8 percent and job capacity to about 17 percent. While all of this growth would increase traffic on freeways and local roadways, as discussed above, noise levels on freeways throughout the Study Area under the Alternative 1 would increase by 1 dBA or less and would therefore be less than significant, and no mitigation measures are required.

Development of new commercial uses under Alternative 1 could result in new noise impacts from mechanical equipment or loading docks that may exceed the City of Bellevue Noise Standards in BCC 9.18.030. Therefore, compliance with the Class B Commercial Maximum Permissible Noise Levels of BCC 9.18.030 would be a required mitigation measure. Methods of achieving these standards

include using low-noise-emitting HVAC equipment, locating HVAC and other mechanical equipment within a rooftop mechanical penthouse, and using shields and parapets to reduce noise levels to adjacent land uses. For commercial loading docks, specific design measures could be implemented that may include but are not limited to shielding from features integrated into site design, and/or restrictions on hours for commercial deliveries within commercial and mixed use areas.

Under Alternative 1, development of new noise-sensitive uses in proximity to freeways could expose people to noise levels in excess of the 67 dBA residential NAC. Therefore, construction of new noise-sensitive land uses should either provide a buffer distance commensurate with the distances provided in Table 9-4, or project plans should be reviewed by a qualified acoustical consultant to ensure that appropriate construction upgrades (typically higher-rated Sound Transmission Class [STC] values for windows) are specified to ensure compliance with the interior noise criterion of 45 dBA L<sub>dn</sub>.<sup>2</sup>

#### 9.4.4 Alternative 2

Alternative 2 focuses growth in more Mixed Use Centers as well as in areas with good access to transit and jobs. It allows for high-rise residential buildings in Mixed Use Centers as well as townhouses and small multi-family residential buildings in Neighborhood Centers and along transit corridors; duplex and other lower-density housing types would be allowed across the city. Existing multi-family areas would allow a broader array of housing typologies at higher densities. There would be capacity for 77,000 additional housing units. Voluntary inclusionary affordability would be offered in Mixed Use and Neighborhood Centers. Similar to Alternative 1, job capacity would increase to include space for an additional 177,000 jobs, 53,000 above the No Action Alternative. The Wilburton study area would have the highest share of total citywide housing capacity at 10 percent, and (like Alternative 1) it would have a 15 percent share of total citywide job capacity. While all of this growth would increase traffic on freeways and local roadways, as discussed above, noise levels on freeways throughout the Study Area under the Alternative 2 would increase by 1 dBA or less and would, therefore, be less than significant, and no mitigation measures are required.

---

<sup>2</sup> An interior noise level of 45 dBA L<sub>dn</sub> is the commonly accepted maximum recommended interior noise level for residential uses (HUD 2009).

Development of new commercial uses under Alternative 2 could result in new noise impacts from mechanical equipment or loading docks that may exceed the City of Bellevue Noise Standards in BCC 9.18.030. Therefore, compliance with the Class B Commercial Maximum Permissible Noise Levels of BCC 9.18.030 would be a required mitigation measure. Methods of achieving these standards include using low-noise-emitting HVAC equipment, locating HVAC and other mechanical equipment within a rooftop mechanical penthouse, and using shields and parapets to reduce noise levels to adjacent land uses. For commercial loading docks, specific design measures could be implemented that may include but are not limited to shielding from features integrated into site design, and/or restrictions on hours for commercial deliveries within commercial and mixed use areas.

Under Alternative 2, development of new noise-sensitive uses in proximity to freeways could expose people to noise levels in excess of the 67 dBA residential NAC. Therefore, construction of new noise-sensitive land uses should either provide a buffer distance commensurate with the distances provided in Table 9-4, or project plans should be reviewed by a qualified acoustical consultant to ensure that appropriate construction upgrades (typically higher-rated STC values for windows) are specified to ensure compliance with WSDOT's interior noise standard of 45 dBA, Ldn.

### 9.4.5 Alternative 3

Alternative 3 would allow a greater diversity of housing types in all centers and along transit corridors, combining the areas of focus in Alternatives 1 and 2. There would be capacity for 95,000 additional housing units. Mandatory inclusionary affordable housing would be required in Mixed Use Centers, with incentives for affordable housing in other locations. Like Alternative 2, existing multi-family areas would allow a broader array of housing typologies at higher densities. Additional density would also be allowed within the city's existing lowest density areas. Job capacity would increase slightly to include space for an additional 200,000 jobs (76,000 above the No Action Alternative). The Wilburton study area would increase its share of total citywide housing unit capacity to 9 percent and (like Alternatives 1 and 2) would have capacity for 16 percent of total citywide job capacity. While all of this growth would increase traffic on freeways and local roadways, as discussed above, noise levels on freeways throughout the Study Area under the Alternative 2 would increase by 1 dBA or less and would, therefore, be less than significant, and no mitigation measures are required.

Development of new commercial uses under Alternative 3 could result in new noise impacts from mechanical equipment or loading docks that may exceed the City of Bellevue Noise Standards in BCC 9.18.030. Therefore, compliance with the Class B Commercial Maximum Permissible Noise Levels of BCC 9.18.030 would be a required Mitigation Measures. Methods of achieving these standards include using low-noise-emitting HVAC equipment, locating HVAC and other mechanical equipment within a rooftop mechanical penthouse, and using shields and parapets to reduce noise levels to adjacent land uses. For commercial loading docks, specific design measures could be implemented that may include but are not limited to shielding from features integrated into site design, and/or restrictions on hours for commercial deliveries within commercial and mixed use areas.

Under Alternative 3, development of new noise-sensitive uses in proximity to freeways could expose people to noise levels in excess of the 67 dBA residential NAC. Therefore, construction of new noise-sensitive land uses should either provide a buffer distance commensurate with the distances provided in Table 9-4, or project plans should be reviewed by a qualified acoustical consultant to ensure that appropriate construction upgrades (typically higher rated STC values for windows) are specified to ensure compliance with the interior noise standard of 45 dBA, Ldn.

## **9.5 Significant Unavoidable Adverse Impacts**

Under all alternatives, noise would occur citywide and in the Wilburton study area. Transportation noise impacts would be less than significant and noise from stationary sources and loading docks associated with commercial uses would be less than significant with mitigation. Therefore, there would be no significant, and unavoidable noise impacts.