

**Comprehensive Plan**  
**Goal 6, Section 4: Sound Quality Background Paper**

**EXECUTIVE SUMMARY**

The purpose of this report is to provide background information for the current update of the Goal 6, Section 4: Sound Quality chapter of Lake Oswego's Comprehensive Plan. The report assesses changes which have impacted noise regulations since the last Comprehensive Plan update in 1994 and highlights issues and trends that should be considered in the current Comprehensive Plan update.

Noise can diminish or disrupt one's quality of life and can have negative impacts on the natural environment. Currently, noise impacts are regulated by the City through a noise ordinance and development standards that prescribe regulations to prevent or mitigate noise impacts caused by new development.

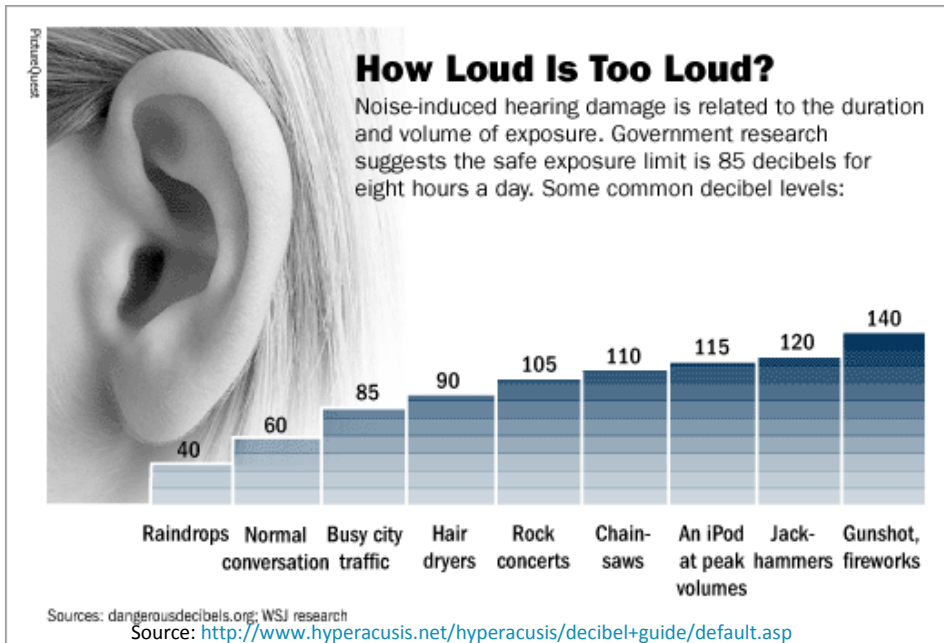
In general, the existing goal, policies, and recommended action measures for Sound Quality are still valid and relevant. However, in updating this section of the Comprehensive Plan, the City should:

- Consider establishing maximum acceptable decibel levels for certain types of equipment or uses
- Assess whether certain land uses need to be identified as "noise-sensitive" to help minimize impacts on these sites from noise-producing uses.
- Balance policies based on the need to regulate noise without imposing barriers to mixed use and compact development.

**BACKGROUND AND EXISTING CONDITIONS**

A quiet environment contributes significantly to Lake Oswego's quality of life. However, like most cities, Lake Oswego has many noise sources and significant potential for future noise problems exist. Transportation is the most significant source of continuous noise. This includes noise generated by traffic along major roadways and railroads which run through the City. Additional noise problems can result from industrial and commercial activity, including manufacturing processes, heating, ventilation and air conditioning equipment, and truck deliveries. The quiet environment of residential neighborhoods can also be affected by occasional noise caused by sources such as electric and gas engine power tools, barking dogs, car and house alarms, audio equipment, heating and air conditioning units, generators, and construction activity.

Noise can diminish or disrupt one's quality of life when it interferes with normal activities such as sleeping or communicating. Studies have shown that there are direct links between noise and health. Problems related to noise include hearing loss, stress, high blood pressure, sleep



loss, distraction and lost productivity, and a general reduction in quality of life and opportunities for tranquility.

The State of Oregon currently has laws regulating noise from new and used motor vehicles, industry and commerce, motor sports vehicles and facilities, and airports. Although state noise laws

remain on the books, the Oregon Department of Environmental Quality no longer enforces these regulations leaving local jurisdictions primarily responsible for regulating noise and preventing noise problems.

The City's Municipal Code regulates loud and disturbing noise as a nuisance and has specific noise prohibitions relating to:

- The keeping of animals
- Mechanical equipment
- Horns and sirens
- Noise amplification devices
- Gathering of persons
- Construction hours

Additionally, Lake Oswego's development standards for buildings and landscaping require mitigation of noise impacts on interior occupied spaces and adjacent properties.

Noise regulations are enforced by the Police Department and the City's code enforcement specialist; however, there is no on-going noise monitoring program and problems are dealt with on a complaint basis. Enforcement is often challenging because the City has no regulations that establish maximum allowable decibel or sound levels.

There are limits on what can be done to eliminate or regulate existing noise sources. In general, it is more effective to mitigate for or separate new noise-generating uses from noise-

sensitive uses up front than it is to address existing, on-going noise problems. Prevention of future problems can be achieved by either separating noise generating activities from noise sensitive uses, limiting the hours of noise emissions, or requiring noise insulation techniques to be utilized in new construction. Communities can work to prevent noise problems from occurring, especially in residential neighborhoods, through public education. However, enforcement of noise ordinances is the principal method cities use to address noise disruptions when they do occur in residential neighborhoods.

## **SUMMARY OF EMERGING ISSUES, CHALLENGES AND TRENDS**

As more infill development occurs in the City and demand for mixed-use development rises, the potential for noise conflicts may increase. Because noise complaints are very hard to resolve after an area is developed, it is important to evaluate potential noise-related issues as part of the initial planning and zoning decisions. Development applications should be reviewed in regard to noise impacts – particularly in mixed-use developments or when new development that generates amplified noise levels is located next to noise sensitive areas such as residential neighborhoods, schools, hospitals, libraries, parks, natural areas and open spaces. In these situations, noise mitigation through site or structure design, or limiting the hours of noise emissions should be explored at the development phase to help prevent noise conflicts.

There are several methods that the City can utilize to address noise impacts. Development standards can be established to regulate the location, hours of operation, or maximum decibel levels of noise generating activities adjacent to noise-sensitive areas or to require noise abatement through the use of building material, vegetation, walls, berms, and other landforms to mitigate for noise impacts. The effectiveness of each of these techniques to mitigate noise impacts varies and should be taken into consideration. As an example, the City's current Landscaping Standard in LOC Chapter 50 requires screening and buffering to mitigate noise impacts from adjacent transportation routes or dissimilar uses; however, according to the US Department of Transportation, vegetation must be a minimum of 100 feet thick, 20 feet high, and so dense that it cannot be seen through in order to provide a 5-dBA noise reduction (for reference, an urban street is 80 dBA). The psychological effect of installing vegetation can be beneficial in reducing perceived noise, but it is important not to rely on vegetation alone to provide adequate sound mitigation.

Techniques for enforcement and monitoring should also be a consideration. Development standards can be established without setting maximum decibel levels, but can be more difficult to enforce since noise levels can be perceived differently by individuals. Maximum decibel levels can be more easily measured, but the ease of measurement could increase the number of complaints that the Planning & Building Service's sole code enforcement staff would need to investigate. A source for maximum noise levels for different types of uses is ORS Chapter 340, Division 35.

## **SUSTAINABILITY CONSIDERATIONS AND PROPOSED INDICATORS**

The current Goal 6, Sound Quality section of the Comprehensive Plan supports the City's vision of a sustainable community by addressing noise impacts, which can have negative effects upon quality of life and wildlife, through the use of development standards, a noise ordinance, and enforcement; however, the section could further support the City's commitment to sustainability by addressing the following:

- Current policy states that the quiet character of areas of the community unaffected by major noise sources should be protected. This policy could be more effective if the land uses that are considered noise-sensitive are more clearly defined. Are there particularly sensitive areas in the city we want to protect from new noise impacts (for example, specific natural areas or significant sites)?
- Currently, enforcement of noise regulations can be difficult and/or subjective because the City has not established maximum decibel levels for new noise-generating equipment or uses. A policy to establish maximum decibel levels for certain (new) equipment and uses would set reasonable limits on these noise sources to protect quality of life and can be measured and verified.
- As the City continues to develop (mainly through infill and redevelopment), noise conflicts will naturally increase, particularly where mixed-use development occurs. Assure that policies address noise concerns but do not impose unreasonable barriers to mixed-use or compact development.

## **RECOMMENDED PLAN UPDATES AND POLICY QUESTIONS TO CONSIDER**

### Goal

The Goal 6 chapter of the Comprehensive Plan sets the following goal (general statement indicating a desired end) for the sound quality in the City: "reduce noise levels in Lake Oswego and maintain the quiet character of the community in which people can converse, relax, play and sleep without interference from noise." Given the continued increase in infill development and redevelopment is it a more realistic goal to maintain current noise levels or to mitigate for noise impacts?

### Policies

The current policies for Goal 6, Section 4: Sound Quality are as follows:

1. Protect and maintain the quiet character of those areas of the community unaffected by major noise sources.
2. Ensure development complies with state and local noise regulations.

3. Prevent noise problems through zoning regulations, development standards and ordinances that prescribe fines and other penalties for violations.
4. Evaluate the noise potential of proposed development and separate noise-sensitive and noise-producing land uses.
5. Locate, design and buffer land uses which generate noise such as major transportation facilities, industrial development and active recreation areas to protect existing and future noise sensitive land uses.
6. Require noise mitigating construction and site design measures for noise sensitive development that would be impacted by existing or future noise producing land uses.
7. Minimize noise impacts on residential neighborhoods, public open spaces, recreation and natural areas.

Policy questions to consider:

- Should areas of the community that are “unaffected by major noise sources” (Policy 1) or noise-sensitive be identified specifically for protection, or define “noise-sensitive” land uses to help minimize the impact of noise-producing uses on these sites?
- Do we want to adopt the maximum noise levels (decibels) for certain land uses established by the state (see ORS Chapter 340, Division 35) or maintain current regulations, which do not specify maximum decibel levels?
- Rather than separate all noise-sensitive and noise-producing land uses (Policy 4), should we focus on mitigating impacts? Otherwise, this could pose a barrier to mixed use development.