



AGENDA

Phone: 541-682-5481
www.eugene-or.gov/pc

Meeting Location:
Sloat Room—Atrium Building
99 W. 10th Avenue
Eugene, OR 97401

The Eugene Planning Commission welcomes your interest in these agenda items. Feel free to come and go as you please at any of the meetings. This meeting location is wheelchair-accessible. For the hearing impaired, FM assistive-listening devices are available or an interpreter can be provided with 48 hour notice prior to the meeting. Spanish-language interpretation will also be provided with 48 hour notice. To arrange for these services, contact the Planning Division at 541-682-5675.

MONDAY, AUGUST 18, 2014 – REGULAR MEETING (11:30 a.m. to 1:30 p.m.)

11:30 a.m. I. PUBLIC COMMENT

The Planning Commission reserves 10 minutes at the beginning of this meeting for public comment. The public may comment on any matter, **except for items scheduled for public hearing or public hearing items for which the record has already closed.** Generally, the time limit for public comment is three minutes; however, the Planning Commission reserves the option to reduce the time allowed each speaker based on the number of people requesting to speak.

11:40 a.m. II. CHAIR/VICE-CHAIR ELECTIONS

Staff: Carolyn Burke, 541-682-8816

11:50 a.m. III. ENVISION EUGENE: EMPLOYMENT AND PUBLIC LANDS EXPANSION UPDATE

Staff: Alissa Hansen, 541-682-5508

Staff: Terri Harding, 541-682-5635

1:15 p.m. IV. ITEMS FROM COMMISSION AND STAFF

- A. Other Items from Staff
- B. Other Items from Commission
- C. Learning: How are we doing?

Commissioners: Steven Baker; John Barofsky; Rick Duncan; John Jaworski (Vice-Chair); Jeffery Mills; Kristen Taylor; William Randall (Chair)

AGENDA ITEM SUMMARY
August 18, 2014

To: Eugene Planning Commission
From: Terri Harding and Alissa Hansen, City of Eugene Planning Division
Subject: Envision Eugene Implementation:
UGB Expansion Analysis/Employment and Public Land Need

ACTION REQUESTED

This work session provides the Planning Commission with an update and opportunity to provide feedback on work in progress regarding land needs for employment and public uses, specifically parks and schools.

BRIEFING STATEMENT

This meeting continues the conversation about Envision Eugene implementation, more specifically moving from efficiency strategies within the current urban growth boundary (UGB) to planning for remaining land needs through an expansion of the UGB for jobs, parks, and schools.

UGB Expansion Analysis

To help protect farm and forest lands across the state, the UGB expansion process is controlled by a highly prescriptive and complex set of state laws. In Eugene, the first step in the analysis process includes considering those lands that are already designated or planned by Lane County for rural residential, rural commercial, rural industrial or other non-resource uses, then considering those lands designated as marginal lands. Lands planned for agricultural or forest uses are the last priority for consideration of expansion areas.

Factors that must be considered to determine if lands are suitable to be developed for the intended urban use include:

- Topographical and natural constraints, such as steep slopes, floodplain, wetlands, other protected natural resources and natural hazards.
- Availability and cost to provide public utilities and services
- Compatibility with surrounding uses
- Suitability of the land for the intended use. (For example, for employment uses, this includes parcel size and proximity to transportation facilities, as identified in the City's Economic Opportunities Analysis).

Staff has completed much of this analysis and is in the process of writing the findings necessary to justify the expansion for employment and public uses, as well as working on other components necessary for UGB expansion. These include amendments to the Public Facilities and Services Plan and the Metro Plan, land use code amendments, and zone changes.

Employment Land Need

Employment land includes land for both commercial jobs, such as offices and medical clinics, and industrial jobs, such as manufacturing and distribution. Much of the city's employment land need can be accommodated on existing lands, primarily in the downtown, in core commercial areas, and in the West Eugene and Highway 99 industrial areas. Strategies to increase the capacity for jobs on those lands include the recently adopted changes to the city zoning code that provided more flexibility in the Employment and Industrial zones, and consolidating and preparing brownfield sites for redevelopment. After doing all we can to utilize lands inside the current UGB as efficiently as possible, there is still a remaining need for employment sites over 10 acres in size.

The 2012 Envision Eugene Recommendation identified a need for UGB expansion to accommodate industrial jobs on between 400 and 500 buildable acres. The Clear Lake Road area was identified as the preferred location. Since then, the industrial land need has been updated via the City's Economic Opportunities Analysis (EOA) which is a study of the city's strengths and potential for job growth in various industries. The updated numbers show a need for 11 employment sites ranging in size from 10 to 100 acres each, totaling an estimate of 495 buildable acres (Attachment A).

The targeted industries for these new employment sites (identified in the City's EOA as those most likely to grow or locate in Eugene) include advanced manufacturing, food and beverage manufacturing, wood manufacturing, clean technology/renewable energy, biomedical, software development, warehousing and distribution, corporate offices, and health and wellness.

The 2012 Recommendation also proposed single family residential uses along the south side of Clear Lake Road. Since then, additional staff work following the state-mandated UGB analysis process, led to the removal of the proposed residential use in this location. This is due in part to the current farm land designation, which is a last resort under state law for housing expansion, along with environmental justice and compatibility concerns about locating new homes adjacent to new industrial development. The land on the south side of Clear Lake Road is now under study for campus employment type uses.

As a result of City Council direction and community input, the City has completed a draft Environmental Justice issue paper, pulling together existing data and information, as well as researching case studies in Oregon and across the nation (Attachment B). The paper includes analysis of demographic and other data in the Equity and Opportunity Assessment, which was completed for the Lane Livability Consortium (www.livabilitylane.org). The Equity and Opportunity Assessment maps contain information ranging from income levels and access to jobs around the region to educational attainment and access to affordable housing.

Staff held two consultation meetings with stakeholder groups and boards and commissions on the topic of environmental justice in the Clear Lake area. Stakeholders identified worst fears and best outcomes that could result from planning for jobs in the area, and are currently reviewing the issue paper and providing comments to staff. A frequently expressed best outcome was that planning for jobs in this area should bring economic, environmental, and social benefits to the surrounding residents, with particular attention paid to addressing potential health impacts of industrial pollution and vehicle emissions.

Regulatory tools that the City could use in the area include an overlay zone, with provisions such as performance standards and limits on certain uses within a certain number of feet of land planned for schools or residences. Non-regulatory tools include outreach and collaboration with affected stakeholders; health impact assessments; and good neighbor agreements between businesses and residents.

A natural resources inventory has been completed for the Clear Lake area and the results were shared with property owners at a meeting in June. The draft wetlands map is attached as Attachment D. Next, the City must evaluate the options of protecting the wetlands through Goal 5 regulations, or allowing them to be filled and restored elsewhere. A wetlands mitigation strategy will be a critical component of advancing the economic development potential of this land after it is included in Eugene's UGB. The City will look to partner with state agencies and conservation organizations to incorporate significant wetlands into a master plan for the area, and to offset the cost of wetland mitigation and prepare the needed employment sites for development.

Next steps include incorporating into the expansion proposal feedback on the environmental justice paper, ongoing technical analysis of the land, including the provision of utilities and other public services, and further evaluation of natural resources. Policies related to economic development will be included in Eugene's Comprehensive Plan as part of the UGB expansion package.

Public Land Need

The future need for public uses is based on long range planning efforts by local school districts, the University of Oregon, the City of Eugene and other utility providers. While much of the land needed for these uses is accommodated inside the current UGB, the 2012 Recommendation identified uses that specifically require expansion to address the land need.

Up to 338 acres are needed for UGB expansion for parks and schools. The properties being considered for inclusion within the UGB include 258 acres owned by the City of Eugene for developing community parks at Golden Gardens (223 acres) and Santa Clara (35 acres), and a portion of an 80 acre site owned by Bethel School District for a new school (see Attachments C and E). The Golden Gardens and Bethel Schools properties are part of the Clear Lake study area, and as such are included in the conceptual planning work described above.

NEXT STEPS

The outreach and technical work will continue over the next several months until a refined recommendation package is ready for public and commission review, expected in the fall. Formal adoption will require a public hearing before the Eugene and Lane County Planning Commissions, and a public hearing and action by the Eugene City Council and Lane County Board of County Commissioners.

FOR MORE INFORMATION

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Alissa Hansen: 541-682-5508, alissa.h.hansen@ci.eugene.or.us

ATTACHMENTS

- A. Excerpt of Economic Opportunities Analysis
- B. Environmental Justice Issue Paper
- C. Clear Lake Study Area Map
- D. Clear Lake Study Area Draft Wetland Map
- E. Santa Clara Community Park Map

Eugene Economic Opportunities Analysis - Excerpt
July 2014

**Table 1. Industrial land sufficiency, sites larger than
10 acres, Eugene 2012-2032**

Site size (Suitable Acres)	Site sufficiency	Average site size (suitable acres)	Average Suitable Gross Acres Needed
10 to 20 acres	(4)	15	(60)
20 to 50 acres	(2)	35	(70)
50 to 75 acres	(3)	63	(189)
75 acres and larger	(2)	88	(176)
Total	(11)		(495)

Source: ECONorthwest

The land deficit was calculated by multiplying the site deficit by the average site size in Table 31. For sites 10 to 20 acres, there is a deficit of 4 sites at an average size of 15 acres (4 sites times 15 acre sites equals a 60 acre deficit).

Complete EOA is available on the TRG website at www.envisioneugene.org

- > Public Input and Committees
- > Technical Resource Group



Environmental Justice Issue Briefing

Urban Growth Boundary
Expansion Analysis:
Clear Lake Road Area

Research and Analysis by:
Lokyee Au, Planning Intern
Terri Harding, Senior Planner
July 30 2014 DRAFT

Envision
Eugene

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Executive Summary

Since 2010, the City of Eugene has been working on its Envision Eugene plan to meet population and employment growth and demands in the next 20 years. After accepting the recommended Community Vision, strategies and actions in 2012, one of the council's specific directives was to analyze the potential environmental justice impacts and implications for neighbor communities from possible Urban Growth Boundary (UGB) expansion for industrial uses in the Clear Lake Road Area. This report will examine environmental justice impacts, and outline potential mitigation measures and recommendations for the City.

The residential area south of the Clear Lake Road study area contains between 14-26% Latino and other minority residents. Between 31% and 94% of elementary-age students qualify for free or reduced lunches, and youth ages 0-17 makeup 20-30% of the area's population. Seventeen to 33% of the population receives food stamps. Based on the Equity and Opportunity Assessment (EOA) conducted by the Lane Livability Consortium, the residential area was found to contain moderate to higher rates of economic and social vulnerability compared to other census tracts in the region. The EOA provides data that identify this area as an environmental justice community.

The 97402 zip code (where the proposed expansion is to be located) sees the majority of the industrial air toxin emissions in Eugene, as the majority of the industrial uses are located in west Eugene or the Highway 99 corridor. In 2013, of the thirty-one facilities reporting to the City's Toxics Right-to-Know Program, all but one facility is located in the 97402 zip code.

This zip code saw a total of 705,168 pounds of chemicals released through the environment (air, water, on-site disposal) in 2013, which accounts for over 99% of the City's entire air toxic emissions captured by the Toxics Right-to-Know Program. A total of 486,292 pounds of chemicals (69% of environmentally-released chemicals) were released into the air.

Chemicals released by the industrial businesses in the area affect human health, including the eyes, skin, respiratory system, central nervous system, liver, blood, GI tract, kidneys, and reproductive system. Most of the potential health impacts of the UGB expansion are due to the potential for increased industrial emissions and the increased emissions from vehicle traffic generated by growth in this area.

Based on the analysis, several key recommendations are made:

1. An Environmental Justice Overlay Zone should be implemented in the area. This overlay zone can contain one or several of the following requirements: conditional use permit for certain uses, prohibited uses, limited uses, performance standards, physical buffers or setbacks, noise restrictions, and green infrastructure and/or landscape standards.
2. Lower-impact industrial zoning: E-1 Campus Employment and I-2 Light Medium Industrial should be applied in this area, with E-1 zoning placed along Clear Lake Road, in the southern end of the expansion area, and I-2 zoning placed in the northern region along Airport Road. Heavy Industrial (I-3) zoning should be avoided.

3. Inter-agency and community collaboration between city, county, regional, and state agencies, as well as between community groups and organizations should be instituted as part of the expansion process and monitored and adjusted over time.



Environmental Justice Issue Briefing: Clear Lake Road UGB Expansion Proposal

1.0 Background

In 2010, the City of Eugene began to create a community vision for the next 20 years of population and job growth. This process, referred to as Envision Eugene, utilized a variety of methods to broaden participation, including listening sessions with community groups, boards and commissions, neighborhood groups, and individuals, resulting in a high-level vision for accommodating growth centered on seven pillars that balance the triple bottom line of sustainability. In 2012, the Eugene City Council accepted the pillars, strategies and actions, and directed staff to begin preparing planning documents for adoption, including a new comprehensive plan. One of the council's specific directives was to analyze the potential environmental justice impacts on existing or future residents from possible UGB expansion for industrial uses near the Eugene Airport. This report will focus on examining environmental justice impacts, as well as providing mitigation measures and recommendations for the City.

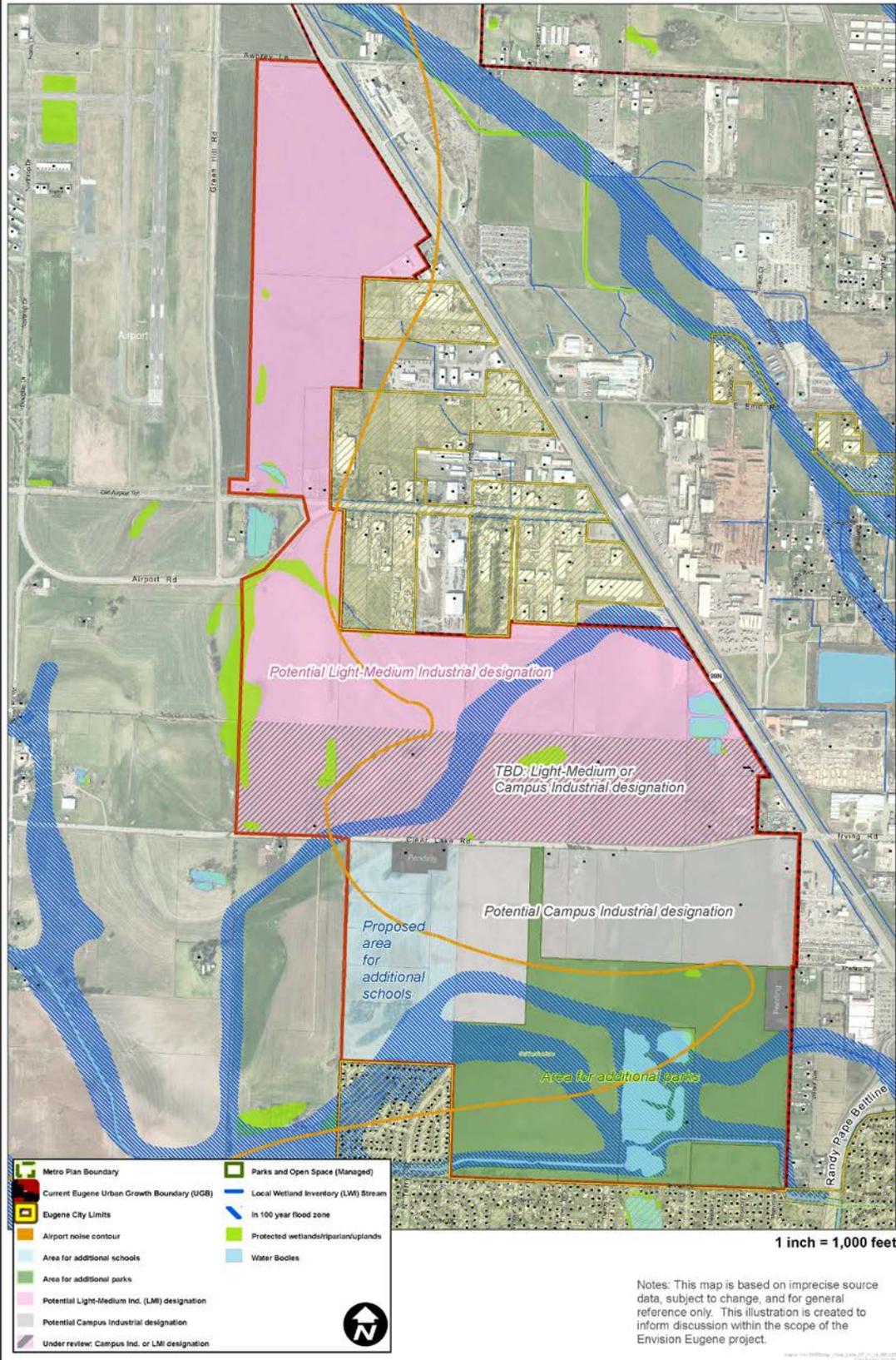
1.1 Clear Lake Road Expansion Area Proposal

Since June 2012, additional work has been completed on the potential UGB expansion areas. The result of this work is that the residential component of the Clear Lake expansion area has been eliminated from further consideration. State law outlines different procedures for industrial and residential expansion, and further evaluation of the Clear Lake area showed it did not meet the state requirements for residential expansion.

The City has identified a need for 11 employment sites for targeted industries totaling approximately 495 suitable acres of land for future industrial development ranging from 10 to over 75 acres in size¹. This study seeks to analyze the compatibility between future industrial uses in the Clear Lake Road area with current land uses in the area. The study area contains a total of approximately 940 acres of land and is bounded by Clear Lake Road to the south, Highway 99 to the east, Awbrey Lane to the north, and the Eugene Airport to the west. The study will identify potential impacts of industrial expansion on nearby residents, mitigation options, and provide recommendations to address potential issues.

¹ ECONorthwest, "Economic Opportunities Analysis." 2014.

Clear Lake Area: Potential UGB Expansion



According to Envision Eugene, the City's targeted industries (based on the City's competitive advantages) include:

Clean Technology/Renewable Energy
Environmental Services
Waste Remediation
Health & Wellness
Specialized Manufacturing
Software/Information Technology Services
Biosciences
Food Processing & Manufacturing

1.2 What is Environmental Justice (EJ)?

The US Environmental Protection Agency (EPA) offers the following definition for the term:

"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."

Environmental *Injustice*, then finds that particular communities are systematically burdened with disproportionate health and environmental risks and hazards, while simultaneously not experiencing the benefits that come from planning and development activities that create the burdens. The following section outlines what environmental injustice looks like in the subject area's surrounding community.

Environmental Justice is "fundamentally about fairness toward the disadvantaged and often addresses the exclusion of racial and ethnic minorities from decision-making. In essence, the goal is thus to ensure that the benefits and burdens (i.e., air pollution, noise, injuries, fatalities, division of communities) are distributed in a manner that will promote a just and equitable society².

2.0 Community Background

2.1 Current Land Uses

² Cairns et al, "Environmental Justice & Transportation: A Citizens Handbook." 2003.

The northern part of the Bethel neighborhood is located approximately 3,000 feet south of the proposed expansion area. Residential uses are also found along Clear Lake Road within the study area, and immediately east of the industries located along Highway 99. A small number of residential units are located in the center of the heavy and light-medium industrial uses along Highway 99. Residential use is the main subject of the compatibility assessment.

Light-medium and heavy industrial are located east of the proposed expansion area, running north and south along Highway 99. Agricultural land is located southwest of the proposed expansion area. High-traffic corridors Highway 99 and Route 569 (Randy Papé Beltline) run adjacent to and through the proposed expansion area and residential neighborhood. The railway runs north-south, parallel to Highway 99, east of the proposed expansion area and residential area. The Eugene Airport is located just west of the study area.

The property for the proposed Bethel District School is located directly south of the proposed industrial expansion area. The Golden Gardens Park area is located immediately east of the potential school site.

2.2 Equity and Opportunity Assessment

The Lane Livability Consortium was established in 2010. As funded by a U.S. Department of Housing and Urban Development (HUD) Regional Planning for Sustainable Communities grant, an 'Equity and Opportunity' assessment was conducted, by the City and community partners to identify vulnerable and burdened communities throughout the region. The assessment included several indicators commonly used to identify environmental injustice in cities: Race/Ethnicity, Poverty, Income, Supplemental Nutrition Assistance Program (SNAP) recipients and free or reduced lunch recipients, age, and housing type. It should be noted that the analysis was conducted at a regional level, based on census tract data, using data to compare census tracts with one another, with variables such as university student populations potentially skewing the data.

Maps showing the relative social and economic vulnerability of communities based on census tract can be found in Appendix 1.

Social Vulnerability

Overall, residents in the community south of the study area are more vulnerable according to social and demographic characteristics. According to the analysis, the community in question contains between 14% and 26% Latino and other minority residents. The area contains a medium to high percentage of residents with a disability (between 16% and 30%). The area also contains a high youth population, with 20% to 30% of individuals in the area ranging from age 0 and 17. Together, these characteristics expose the community to more social vulnerability.

Economic Vulnerability

According to the EOA's composite map, residents in the community experience moderate to high economic vulnerability based on several factors: poverty, median household income, percentage of food stamp recipients, and percentage of free and reduced lunch recipients. A medium to high percentage of elementary age students in the community is eligible for free or

reduced lunches (between 31% and 94%). A medium percentage of households in the area also receive food stamps (between 17% and 33%). Compared to other census tracts, this area is more economically vulnerable.

2.3 Community Assessment

Beyond Toxics and Centro Latino Americano, two local non-profits whose work serves community groups in the 97402 zip code (West Eugene), have found through their field work and research that the residential community is indeed an environmental justice community. In 2012, Beyond Toxics conducted an “Environmental Justice Bus Tour and Community Forum” to highlight public health risks and impacts as environmental injustice indicators in addition to the indicators explored by the consortium in the previous section. According to the organization, the concentrated location of industrial uses, higher proportion of low-income residents, higher proportion of minority/Latino/Latina residents, and a higher proportion of total industrial emissions in the area all indicate that the community experiences environmental injustice. The organization analyzed asthma rates and other health issues in the area to support the finding that this community is in fact experiencing disproportionate impacts related to their environment.

Age, Race/Ethnicity, and Health

Public health research finds that children and elderly are most susceptible to toxic burdens. Children’s bodies are in the process of development and their immature immune systems make them more susceptible to toxic effects. Moreover, compared to adults their bodies absorb more toxins in relation to their physical size and breathe proportionally more air than adults³. Elderly people are more susceptible to toxins and pollution as their bodies are more fragile, and this group generally has an already greater number of health issues related to the aging process⁴.

According to Sandoval and Herrera’s study for the Lane County, *Latino Public Participation and Regional Social Equity Indicators Project*, the county’s Latino population tends to be younger than the overall county population – 42% of the Latino population in the county is below the age of nineteen⁵. This, in addition to the understanding that children run a higher health risk from toxins and pollution, illustrates the multiple ways in which particular groups are disproportionately at risk and burdened by adverse health impacts. Latino youth run a higher risk of experiencing the negative effects of toxins and pollution in the community because of where they live.

This study, combined with Beyond Toxics’ study surrounding asthma rates throughout Eugene’s school children, highlight the intersection of race, ethnicity, income and age as it relates to environmental justice. In 2012, Beyond Toxics looked at self-reported asthma rates between Bethel and 4J school district students. Bethel School district is located in the 97402 zip code, and 4J School District encompasses all other zip codes in the City. It was found that students of color make up a higher percentage of enrollments in Bethel schools, as compared to 4J

³ Environmental Protection Agency, “Childrens Health Regulations.” Last Updated 2014. Accessed July 24, 2014. <<http://www2.epa.gov/children/regulations#3>>

⁴ Environmental Protection Agency, “Final Guidance for Incorporating Environmental Justice Concerns in EPA’s NEPA Compliance Analyses.” 1998.

⁵ Sandoval and Herrera, “Latino Public Participation and Regional Social Equity Indicators Project.” 2012.

schools. More importantly, average asthma rates in Bethel school children were higher than City-wide and nation-wide asthma averages. On average Bethel schools had an average asthma rate of 14.3%, while 4J schools had an average asthma rate of 8.1%⁶.

The organization's study findings corroborate the Centers for Disease Control and Prevention (CDC's) 2012 asthma prevalence trend study findings: asthma prevalence was higher in children and families below the poverty level, and average childhood asthma rates were at 9.5%⁷.

Beyond Toxics also engaged in a door-to-door community health survey of the 97402 neighborhood in 2010, with the organization finding households reported the following symptoms in one or more family members: 37% asthma, 19% headaches, 18% coughing, 14% fatigue, 8% nausea, 6% chest pains, and 4% irregular heartbeat⁸.

2.4 Industries & Emissions Profile

Air toxic emissions

According to Eugene's Toxics Right-to-Know Program, a total of 750,799 pounds of chemicals were released into the City's environment (through air, water, and on-site disposal) in 2013. 486,449 pounds of those chemicals (65%) were emitted to the air in the year 2013. Of that amount, 27,769 pounds of Extremely Hazardous Substances (EHS) were emitted through air alone, and 458,680 pounds of the remaining hazardous substances (non-EHS) were emitted through the air.

The 97402 zip code (where the proposed expansion is to be located) sees the majority of the air toxic emissions in Eugene, as the majority of the industrial uses are located in this area. In 2013, of the thirty-one facilities reporting to the City's Toxic Right-to-Know Program, all but one facility is located in the 97402 zip code. A total of 15 industries in the 97402 area report emissions to the Environmental Protection Agency's Toxic Release Inventory (TRI) database. While there is overlap between businesses reporting to both the EPA and the City, four businesses only report to the EPA. Thus, a total of 35 industries report to the City and/or federal toxics inventories, and of the total, all but one are located in the 97402 area.

This zip code saw a total of 705,168 pounds of chemicals released through the environment (air, water, on-site disposal) in 2013, which accounts for over 99% of the City's entire air toxic emissions captured by the Toxics Right-to-Know Program (see Fig. 1). A total of 486,292 pounds of chemicals (69% of environmentally-released chemicals) were released into the air (see Fig. 2).

⁶ Beyond Toxics, "Environmental Justice in West Eugene: Families, Health, and Air Pollution." 2012.

⁷ Centers for Disease Control and Prevention, "Trends in Asthma Prevalence, Health Care Use, and Mortality in the United States, 2001–2010." 2012.

⁸ Beyond Toxics, "Environmental Justice in West Eugene: Families, Health, and Air Pollution" Presentation. 2012.

Maps displaying industrial emissions based on Toxics Right-to-Know Program and EPA Toxics Release Inventory (TRI) data can be found in Appendix 2.

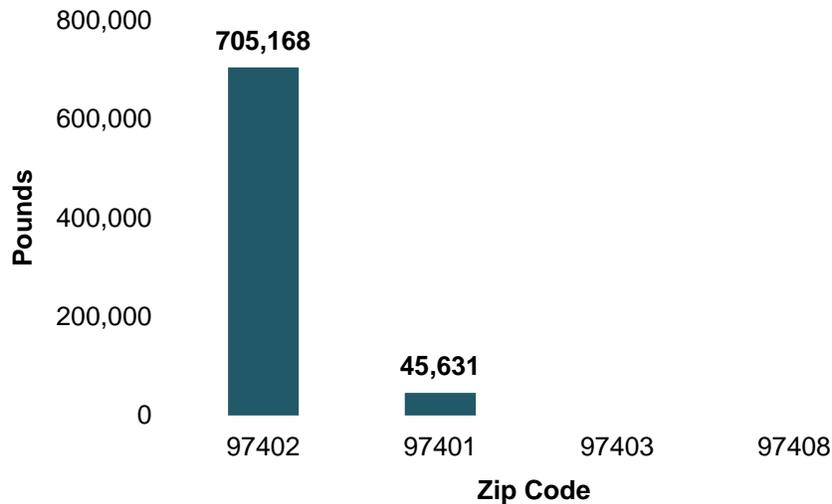


Figure 1. Total toxic emissions released through the environment (air, water, on-site disposal) in 2013 according to Eugene Toxics Right-to-Know Program

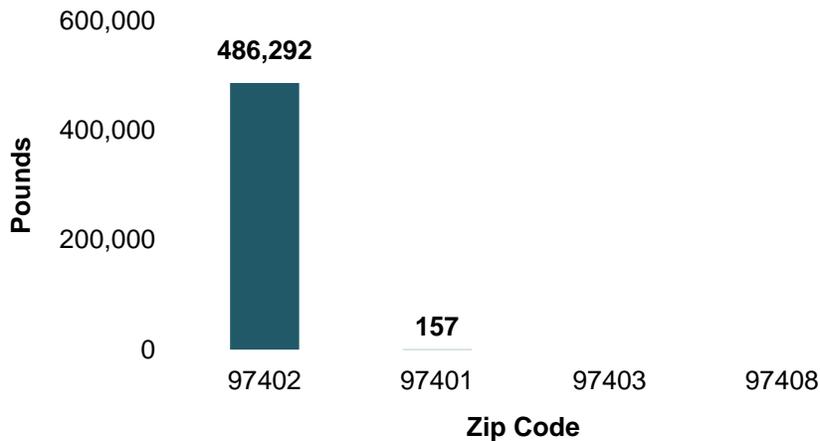


Figure 2. Total air toxic emissions in 2013 according to Eugene Toxics Right-to-Know Program

In 2013, industrial development in the 97402 area released a total of 43,186 (56%) pounds of the following Extremely Hazardous Substances (EHS) into the environment (air, water, and on-site disposal):

1. Formaldehyde (14,988 lbs.)
2. Sulfuric Acid (8,986 lbs.)
3. Hydrogen Peroxide (6,500 lbs.)
4. Nitric Acid (5,700 lbs.)
5. Phenol/Benzene (5,695 lbs.)
6. Methane, trichloro-/chloroform (721 lbs.)

7. Ammonia (492 lbs.)
8. Ethanol (72 lbs.)
9. Peracetic Acid (28 lbs.)
10. Cyclohexylamine (5 lbs.)

In the same year, a total of 673,348 pounds of hazardous substances were released into the environment. The top 10 toxic chemicals emitted into the air were:

1. Sodium Hydroxide (165,902 lbs.)
2. Methanol (116,886 lbs.)
3. Ethyl alcohol/ethanol (90,869 lbs.)
4. Acetone (90,710 lbs.)
5. Sulfuric Acid (8,986 lbs.)
6. Naphtha Solvent (33,587 lbs.)
7. Toluene/Methylbenzene (15,240 lbs.)
8. Xylenes (27,577 lbs.)
9. Formaldehyde (14,988 lbs.)
10. Isopropyl Alcohol (13,483 lbs.)

Industrial Pollutants

In addition to the toxic chemicals released into the City and community, particular industrial pollutants are released into the air that are not catalogued in Eugene's Toxics Right-to-Know Program or EPA's Toxics Release Inventory (TRI) database. These industrial air pollutants are overseen and managed by the region's air protection agency, Lane Regional Air Protection Agency (LRAPA). The agency oversees and manages permits for industrial air pollution emission including: 1. Particulate Matter (PM, PM₁₀, PM_{2.5}), 2. Ozone, 3. Nitrogen Oxides (NO_x), 4. Carbon Monoxide (CO), 5. Sulfur Dioxide (SO₂), 6. Hazard Air Pollutants (HAPs), 7. Volatile Organic Compounds (VOCs), 8. Lead, 9. Sulfuric Acid, 10. Fluorides, and 11. Several types of municipal waste emissions.

Addition data and graphs illustrating relative air quality in the study area can be found in Appendix 3. The data are based on information collected through air monitoring sites, with Peterson Barn (PBARN) as the monitoring site for West Eugene.

3.0 Environmental/Health Hazards

The current residential community already experiences a host of environmental and health hazards due to current and historical industrial activity surrounding the area. The following section provides information to examine the health and environmental hazards and impact the community currently experiences in order to understand the potential implications of expanding the area's industrial uses.

3.1 Risk Factors

According to the EPA, risk factors related to human and environmental health and the subject area in relation to environmental justice should be assessed through the following factors:

- Emissions (Point and non-point sources of emissions)
- Toxics (Presence of or exposure to highly toxic pollutants)
- Pollutants (Exposure to multiple pollutants)
- Locations (Exposures through multiple locations – home, school, work, recreation, etc.)
- Concentrations (Exposures to emissions from concentrated locations of the same type of industry/industries)

Exposures

The surrounding community experiences *multiple exposures*, in which exposure to toxins or pollutants come from more than a single source in the area. This stems from the fact that there are *multiple toxic emissions* in the area, with each industrial development in the area emitting alongside one another. As mentioned previously, the residential community is bounded by Light-Medium and Heavy Industrial uses on the north, east, and south. Moreover, Highway 99, a major road that sees 10,000-20,000 vehicle trips daily⁹, runs along the east side of the community. The Eugene Airport bounds the community on the west. Each of these uses presents another exposure, and the different industrial uses of the area produce multiple toxic emissions.

The industrial developments produce *varying hazards* in several ways: 1. each toxic emission creates a different human health hazard, 2. each industrial emitter produces more than a single hazard by nature of producing more than one toxic emission, 3. the aggregate number of toxins and pollutants emitted into the area create a variety of human health hazards, and 4. the synergistic effects of toxics chemically reacting to each other in the area can create an increased variety of hazards.

Lastly, the community experiences a *constant exposure* to toxins and pollutants under certain weather/meteorological conditions. Community members' homes are located in the heart of the industrial development of the City. Those who live in the area may or may not be able to escape the exposure during all times of the day. Particularly for children, who live in the area and also attend school in the area, exposure is constant unless they engage in activities that take them out of the community.

Population Demographics

As discussed previously in the Environmental Justice Community assessment section, the community surrounding the subject area contains multiple overlapping risk factors that place residents at a higher risk of adverse health effects. The overlapping factors also indicate the environmental injustice the community faces, as these factors illustrate how different groups are systematically unfairly burdened by disproportionate health and environmental risks and impacts. These factors include Race, Ethnicity, Poverty, Income, and Age.

⁹ City of Eugene Public Works Transportation Division, "City of Eugene 2013 Traffic Flow Map." 2013.

Sensitive Uses

Locations that contain populations with higher health risks than others in their environment are considered to contain sensitive uses. These groups include elderly, disabled, children, and patients. The uses that contain these populations include schools, daycare centers, hospitals, retirement centers, and assisted living facilities. These groups should be given special consideration due to the higher health risks they face.

3.2 Current Hazards and Risks

Toxic Air Emissions

Using the Center for Disease Control and Prevention's NIOSH Pocket Guide to Chemical Hazards, the common symptoms of exposure to the top 10 toxic emissions in 2013 are provided in the sections below. Each chemical targets a different combination of the following organs:

Eyes	Blood
Skin	Gastrointestinal tract
Respiratory system	Kidneys
Central nervous system	Reproductive system
Liver	

Industrial Criteria Pollutants

Particulate Matter (PM 10 and PM 2.5)

According to the EPA, particulate matter, also known as particle pollution or PM, is a "complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles.¹⁰" Most importantly, the size of the particles is directly linked to their potential for causing health problems. Particles less than 10 micrometers in diameter pose the greatest risks and problems, as they can get deep into the lungs, and into the bloodstream.

Those with heart or lung disease, older adults, and children are at the greatest risk from exposure to particulate matter. Health effects of long term exposure to particulate matter include reduced lung function, development of chronic bronchitis, premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, irritation of the airways, and coughing or difficulty breathing¹¹.

Nitrogen Oxides

Nitrogen dioxide (NO₂) is one of a group of highly reactive gasses known as "oxides of nitrogen," or "nitrogen oxides (NO_x)." In addition to contributing to the formation of ground-level

¹⁰ Environmental Protection Agency, "Particulate Matter: Health." Last Updated 2014. Accessed May 15, 2014. < <http://www.epa.gov/airquality/particulatematter/health.html>>

¹¹ Environmental Protection Agency, "Particle Pollution and Your Health." September 2013. Accessed May 15, 2014. < <http://www.epa.gov/airquality/particulatematter/pdfs/pm-color.pdf>>

ozone, and fine particle pollution, NO₂ is linked with a number of adverse effects on the respiratory system¹².

Hazardous Air Pollutants (HAPs)

Also known as toxic air pollutants or air toxics, Hazardous Air Pollutants are those that cause or may cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental and ecological effects¹³. A number of toxic chemicals catalogued by the EPA and/or Eugene Toxics Right-to-Know are considered to be HAPs. Among the listed 187 HAPs regulated by the EPA¹⁴, a few of the most notable pollutants found in the study area include: Methanol, Toluene, Naphthalene, Xylenes, Formaldehyde, and Benzene. The first five toxins mentioned also happen to be five of the top 10 toxins emitted into the 97402 area according to available data.

Volatile Organic Compounds

Volatile organic compounds (VOCs) are organic compounds that easily become vapors or gases. Scents or odors come from VOCs. Volatile organic compounds are released from burning fuel, diesel exhaust, solvents, paints, glues, etc. Many VOCs are also Hazardous Air Pollutants (HAPs). Long-term exposure to VOCs can cause damage to the liver, kidneys, and central nervous system. Short-term exposure to VOCs can cause eye and respiratory tract irritation, headaches, dizziness, visual disorders, fatigue, loss of coordination, allergic skin reactions, nausea, and memory impairment¹⁵.

Noise Pollution

The traditional definition of noise is “unwanted or disturbing sound”. Sound becomes unwanted when it either interferes with normal activities such as sleeping, conversation, or disrupts or diminishes one’s quality of life. Problems related to noise include stress related illnesses, high blood pressure, speech interference, hearing loss, sleep disruption, and lost productivity¹⁶. Moreover, exposure to noise disproportionately affects low-income children and is often caused by poor urban planning that places homes adjacent to airports, railroad yards, highways, and other sources of noise¹⁷.

The subject area is located in close proximity to several noise pollution sources: the Eugene Airport, Highway 99, Randy Papé Beltline, the railroad, and certain industries. The proposed

¹² Environmental Protection Agency, “Nitrogen Oxides.” Last Updated February 14, 2013. Accessed May 15, 2014. < <http://www.epa.gov/air/nitrogenoxides/>>

¹³ Environmental Protection Agency, “Pollutants and Sources.” Last Updated September 18, 2013. Accessed May 15, 2014. < <http://www.epa.gov/ttn/atw/pollsour.html>>

¹⁴ Environmental Protection Agency, “The Clean Air Act Amendments of 1990 List of Hazardous Air Pollutants.” Last Updated August 8, 2013. Accessed May 15, 2014. <<http://www.epa.gov/ttn/atw/orig189.html>>

¹⁵ National Library of Science, “Volatile Organic Compounds (VOCs).” Last Updated April 4, 2014. Accessed May 19, 2014. <http://toxtown.nlm.nih.gov/text_version/chemicals.php?id=31>

¹⁶ Environmental Protection Agency, “Noise Pollution.” Last Updated July 16 2012. Accessed May 19, 2014. <<http://www.epa.gov/air/noise.html>>

¹⁷ National Center for Healthy Housing, “Housing and Health: New Opportunities for Dialogue and Action.” 2012.

school property also falls within the federal airport noise contour lines, within which sensitive populations are not advised to be located.

Transportation Vehicle Pollution

According to the National Center for Healthy Housing, living in close proximity to high-traffic roadways and associated air pollution exposure can result in reduced lung function, increased rates of asthma and chronic bronchitis, and increased hospital visits. More importantly, it has been found that residents of homes within 1,000 feet of busy streets suffer greater risk of exposure to air pollution¹⁸.

The subject area is located in proximity to several traffic pollution sources: Highway 99, Randy Papé Beltline, and the railroad. Highway 99, a major arterial road that sees between 10,000 and 20,000 vehicle trips daily¹⁹, runs along the east side of the community. Randy Papé Beltline, a major arterial road that cuts through the residential neighborhood, sees between 20,000 and 45,000 vehicle trips²⁰. Because of the existing industrial sector's proximity to and dependence on all three transportation networks, the subject area experiences heavier volumes of traffic in comparison with the rest of the City.

3.3 Environmental Factors

The City of Eugene is located downwind of the Willamette Valley, bounded by the Coastal Ranges on the west and the Cascade Mountain Range on the east. The valley's topography creates a basin in which the City is located, enhancing air stagnation and heightening the effects of poor air quality and poor ventilation in the area, particularly during inversion periods.

3.4 Cumulative Impacts

The U.S. Environmental Protection Agency (EPA) offers the following definition for the term:
"...the incremental impact(s) of the action when added to other past, present, and reasonably foreseeable future actions...."

Cumulative Impact assessment accounts for multiple exposures in a geographic area from combined emissions and discharges, from all sources, as well as social, economic, and biological factors that may increase community susceptibility to the toxic effects of pollutants²¹. The following are common variables of concern recognized by the US EPA that relate to the proposed expansion area:

- Number/concentration of point and nonpoint release sources.
- Presence of listed or highly ranked toxic pollutants with high exposure potential.
- Multiple exposure sources and/or paths for the same pollutant.
- Historical exposure sources and/or pathways.
- Potential for aggravated susceptibility due to existing air pollution (in urban areas), lead poisoning, existence of abandoned toxic sites.

¹⁸ National Center for Healthy Housing, "Housing and Health: New Opportunities for Dialogue and Action." 2012.

¹⁹ City of Eugene Public Works Transportation Division, "City of Eugene 2013 Traffic Flow Map." 2013.

²⁰ City of Eugene Public Works Transportation Division, "City of Eugene 2013 Traffic Flow Map." 2013.

²¹ Pastor et al, "Equity Issue Brief: Advancing Environmental Justice through Sustainability Planning."

- Frequency of impacts.

While taken individually, industrial use pollution may fall within “permitted” or “allowable” emission limits, more needs to be done to determine the total allowable amount of pollution that is emitted into the area. The question then becomes: how much pollution and toxins total are emitted into the air by industrial uses in the area? This can be answered by looking at historical data found through Eugene’s Toxics Right-to-Know Program data:

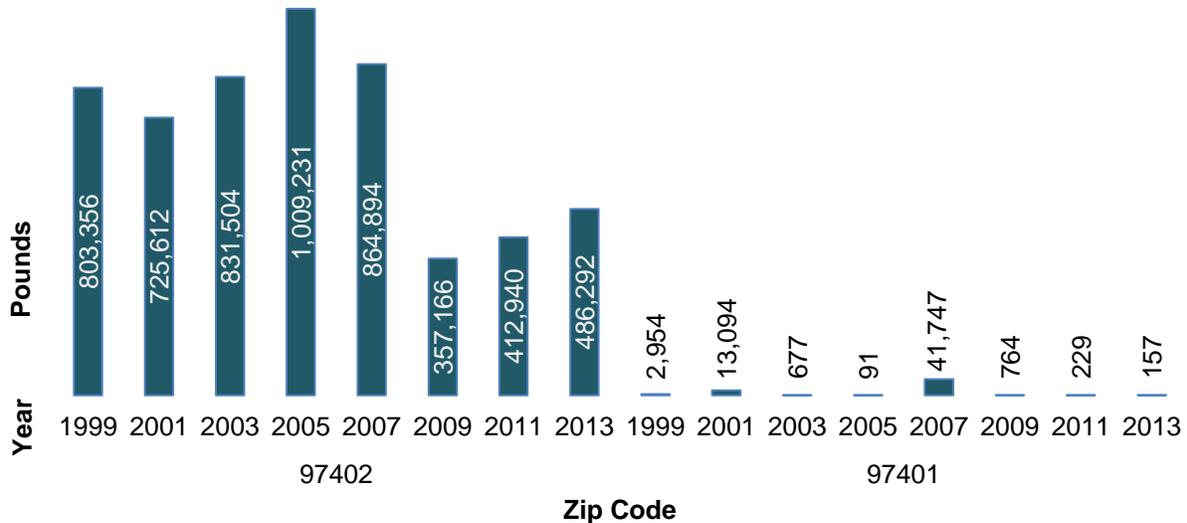


Figure 3. Total Toxic Air Emissions in zip codes 97401 and 97402 according to Eugene Toxics Right-to-Know Program

Little has been done to address how the total amount of pollution/toxins emitted by all industrial uses in the area affects human and environmental health. In this sense, no one knows exactly how damaging the total toxic concentration and exposure rates are for the residents, nor does anyone know how the emitted pollutants and toxins react with one another chemically.

The residential area located directly south of the proposed industrial expansion area is already susceptible to various forms of air pollution and health hazards as a result of numerous industrial sites present, and therefore presently experiences a disproportionate environmental, health, and social burden. As seen from the graph, the 97402 zip code has consistently and unfairly shouldered the majority of the toxic burden for the City. The residential community is bounded by industrial uses on its northern, eastern, and southern borders. Cumulative effects of the variety of air toxic emissions from industrial uses would be exacerbated if future industrial uses produce air toxic emissions or pollution. The area contains heavily used transportation facilities (Highway 99, Route 569, railroad, and airport) that add to the cumulative impact through transportation vehicle exhaust pollution and diesel particulate matter.

4.0 Potential Health Impacts of Expansion

Overall, the community may face a number of impacts and risk factors as a result of the industrial expansion.

Increased Industrial Emissions

A likely potential result of the approval of the expansion plan is an increase in industrial emissions in the subject area. The actual amount of increased emissions in the area depends on the future uses and production activity. Odor, noise, light, matter, and/or environmental (air, water, soil) pollution could also increase as a result of the expansion of industrial uses in the area. The actual increase once again depends on the proposed uses and activity on site. Such increases may lead to increased adverse health effects described earlier in the report.

Increased Transportation Needs and Emissions

The siting of a new industrial zone and the intended increase in jobs may lead to increased transportation needs and emissions in the area. Manufacturing businesses may require the access and increased use of Highway 99, Randy Papé Beltline, or the railways to transport materials and products. To access their jobs, employees of the industrial area may add automobile traffic on Highway 99 or Randy Papé Beltline. This increase in uses may lead to an overall increase in automobile and railway emissions, as well as noise and light pollution in the area. The increase may also lead to an overall increase in danger or risk to pedestrians and/or bicyclists in the area.

5.0 Mitigation Measures

Land use regulations and other procedures can set the stage for the city and how it imagines future industrial sectors and uses in the future. They can discourage noxious and toxic land uses to protect human and environmental health of the community, while simultaneously encouraging cleaner industrial uses that promote economic and social development. The following recommendations were created in recognition that it is easier to prevent human and environmental health risks than address them retroactively.

5.1 Environmental Justice (EJ) Overlay Zone

It is recommended that an Environmental Justice Overlay Zone be created specifically for this study area to address and protect the human and environmental health risks industrial expansion in the study area poses to the surrounding residential community. The provisions of this overlay zone would be intended to implement policies in the Metro Plan, forthcoming Eugene Comprehensive Plan, LRAPA State Implementation Plan, Lane County Community Health Improvement Plan (CHIP), and LRAPA permitting policies that call for the protection of human and environmental health. An EJ overlay zone also recognizes the unique situation of the expansion area, and can contain the one or all of the following requirements:

Performance Standards

A new code section can be modeled based on the current Commercial Zone Land Use and Permit Requirements found in Eugene Code 9.2160. Standards based on allowable, maximum, or restricted air pollutant output, noise output, or other environmental outputs can be set. The

standards should be developed in collaboration with the agencies and community groups mentioned in this report.

Site Review

Site Review processes can be another component of the EJ overlay zone. Section 9.8425 of the Eugene Code states the purpose of the Site Review as “a means to maintain or improve the character, integrity, and harmonious development of an area, address potential environmental impacts, and to provide a safe, stable, efficient, and attractive on-site environment.” The list of uses that might be subject to an approved Site Review permit should be developed collaboratively with the agencies and stakeholder groups mentioned in this report.

Conditional Use Permit

Eugene Code Section 9.8090 General Conditional Use Permit Approval Criteria states that a conditional use permit can be granted only if the development proposal conforms to the following criteria:

- (2) The location, size, design, and operating characteristics of the proposal are reasonably compatible with and have minimal impact on the livability or appropriate development of surrounding property.
- (7) The proposal does not create any significant risk to public health and safety, including but not limited to soil erosion and flood hazard, or an impediment to emergency response.

Certain uses could be required to obtain a Conditional Use Permit in all or parts of the study area. Using the criteria of compatibility and lack of significant risk to public health and safety, the City could require a Health Impact Assessment or other analysis be submitted as part of the land use application process. The list of Conditionally Allowed uses should be developed collaboratively as outlined above.

Prohibited Practices

Similar to Eugene Code Section 9.4840 *Wetland Buffer Overlay Zone*, practices that would adversely affect human and environmental health of the surrounding community can be identified and prohibited. Determining which industrial uses should not be allowed in the area can greatly reduce the chance of particular toxic emissions occurring in the area and further decreasing the toxic exposure of the surrounding community. The Oregon Department of Environmental Quality (DEQ), LRAPA, and/or Lane County Public Health can all help inform which industrial uses to prohibit from the area.

Uses that create high risks for the community such as products manufacturing that require frequent, intense, or disruptive chemical processing; high toxic environmental output, incineration of materials, create high adverse health effects, create high environmental hazard, etc. are discouraged.

Buffer Zone

Also similarly to Eugene Code Section 9.4840 /WB Wetland Buffer Overlay Zone, practices that would affect human and environmental health of the surrounding community should be identified and placed at a set minimum distance away from sensitive uses and general residential uses.

A buffer distance of approximately 1,000-2,000 feet between I-2 light medium industrial and residential uses should be put in effect. The distance should be determined based on:

- Level of risk and burden imposed on the community.
- Concentration of the intended activity in the area.
- Community and agency input.
- Frequency of the intended activity's impacts.
- Amount, frequency, intensity, and toxicity of environmental (air, water, soil) emissions.

In 2005 the California Environmental Protection Agency and California Air Resources Board published the Air Quality and Land Use Handbook: A Community Health Perspective based on collaboration between Environmental Justice groups and stakeholders and the agencies²². The handbook can provide guidance in regards to the future siting of uses in the area, separation distances, buffer zones, prohibited uses, etc. as they relate to sensitive land uses.

Noise Levels

Restrictions on outdoor/environmental noise levels produced by future uses should be set in place as well. The National Center for Healthy Housing suggests that noise levels of 55 decibels outdoors and 45 decibels indoors prevent activity interference and annoyance for residents²³. Uses that require activity that creates more than the noise level cap could be considered depending on their distance from the community and other sensitive land uses.

Using noise restrictions found under Eugene Code Section 9.2530 Natural Resource Zone Development Standards, the cap on decibels could be reduced during night hours. The Code caps noise levels at 57 decibels during daytime hours and increases the cap to 45 decibels during nighttime hours. Similar noise level caps should be considered for new uses within 1,000 to 2,000 feet of residential areas.

Green Infrastructure, Design, and Landscaping

The incorporation of green infrastructure or landscaping requirements in the area can address aesthetic, proximity, and environmental health concerns related to the placement of industrial activity in the area. As suggested by the Bay Area Regional Health Inequities Institute (BARHII), zoning policies that require the planting of urban trees or the incorporation of green building principles can be used to address or mitigate issues of air, soil, and/or water pollution²⁴. The incorporation of minimum landscaping requirements similar to that found in Eugene Code Section 9.2461 Special Development Standards (20% in the E-1 zone) could be used to

²² California Environmental Protection Agency & California Air Resources Board, "Air Quality and Land Use Handbook: A Community Health Perspective." 2005. <<http://www.arb.ca.gov/ch/landuse.htm>>

²³ National Center for Healthy Housing, "Housing and Health: New Opportunities for Dialogue and Action." 2012.

²⁴ Bay Area Regional Health Inequities Institute, "Healthy Planning Guide."

promote greenery that can serve as buffers, environmental enhancements, and livability enhancements.

5.2 Inter-Agency Collaboration

Because the environmental justice impacts rarely result from one single agency or actor, certain permit and regulation policies should be a collaborative effort between City of Eugene Planning Division and other air quality and human health agencies.

Lane Regional Air Protection Agency (LRAPA)

Collaboration and communication should be increased and constant between the City Planning Division and LRAPA. The majority of health problems and concerns related to the expansion proposals as well as the subject area as a whole are related to air toxic emissions and air quality. Therefore, it is imperative that both agencies collaborate to address air quality and human health concerns related to industrial uses in the area. Requiring collaboration in decision-making between the two agencies allows for greater checks and balances and increases the chances of identifying particular developments not suitable for the area due to human and environmental health risks they pose onto the surrounding community. Working with the air protection agency, effective mitigation and proactive measures can lead to better outcomes.

Pollution Prevention and Reduction Encouragement

The City can work with LRAPA to strategize and determine stronger steps incoming industries can take to minimize and/or reduce emissions to address the adverse human and environmental effects emissions historically and currently pose to the community. The agencies should also simultaneously work with current existing industries to find ways of reducing or preventing the amount of air pollution generated through production or transportation of industrial goods.

Lane County Public Health: Cumulative Health Impact Study

A study researching the cumulative health impacts of land uses in this part of the City can be done in collaboration between the City of Eugene and the Lane County Public Health. The agencies acknowledge that land use can have public health impacts, thus a health study to gather baseline information regarding the community to work with in the future would be beneficial for both the community and agencies.

Centers for Disease Control and Prevention (CDC): Health Impact Study (HIA)

Defined as “a combination of procedures, methods, and tools by which a policy, program, or project may be judged as to its potential effects on the health of a population, and the distribution of those effects,” an HIA provides a practical framework to identify health impacts and measures to address them²⁵. Health Impact Assessments can aid in the understanding of public health and environmental justice impacts to the subject area and present ways land use and planning can address potential impacts.

²⁵ Centers for Disease Control and Prevention, “Health Impact Assessment.” Last Updated January 3, 2014. Accessed May 29, 2014. <<http://www.cdc.gov/healthyplaces/hia.htm>>

Eugene Toxics Right-to-Know Program

As the City's public information source, it would be beneficial to engage in communication with the program staff and Toxics Board members to find avenues of collaboration. The program could help provide insights and networks with the industrial businesses in the area, as well as provide feedback regarding future development in the area.

Lane Transit District

Collaboration and communication with the City's public transportation agency is important to address the increased vehicle traffic impacts that may occur as a result of the increased employment and development in the area. Services that connect the expansion area to the community and City will be important for mitigating or reducing vehicle emissions, air pollution, and traffic congestion, while enhancing pedestrian safety, and air quality in the area.

5.3 Community Collaboration

Thoughtful engagement and collaboration with the community to ask what types of industries they themselves would or would not like to see in the area can be beneficial for all parties involved. This empowers community members and provides them larger control they hold over their health, environment, and community. This also allows community members to reflect on their experiences in the community, identify community needs, and gaps they see in relation to planning and land use. Community collaboration can also allow the City to build relationships and rapport with the community, as well as gain supporters for future development in the area that is in line with the community's vision and values.

Networks

Clear, sustained, and authentic communication between the City and the community should be carried out when new industrial development will occur in the area. This communication and participation should begin prior to the development of the area. Community outreach should be conducted through several channels:

- Local organizations
- Neighborhood Associations
- Community leaders
- City departments
- Bethel School District
- Media (newspaper, radio, TV, online)

Community Resource Group

Furthermore, the City should create a community resource group – similar to the community resource group created to inform the Envision Eugene Community Vision, a resource group comprised of residents of the area, organizations serving the area, and neighborhood associations of the area should be created to utilize local community knowledge unavailable anywhere else. Reaching this group will require the City to reach out to the already existing networks that are trusted by the community.

Meeting Accessibility and Inclusivity

For meetings and hearings, identify safe and inviting locations and practical times. As identified in *Latino Public Participation and Regional Social Equity Indicators Project*, Latino-identifying members of the community feel a heightened sense of insecurity and lack of belonging in some public spaces²⁶. To address this and ensure an inclusive environment, the City should conduct meetings and hearings in safe spaces such as schools, community centers, or churches, accessible locations such as those within walking distance or close proximity to bus stops, and during convenient times (i.e. not during the middle of a work day).

Good Neighbor Agreements

Good Neighbor Agreements can also be utilized as a means of community collaboration. A recent and similar case can be found in Portland between ESCO Corporation and the Nob Hill neighborhood. This agreement included emissions reductions, monitoring, community monitoring, the establishment of a Neighborhood Advisory Committee, dispute resolution, and required lines of communication between the company and community members²⁷.

More recently, Intel struck an agreement with Hillsboro, OR in Washington County regarding air quality monitoring and transparency for their computer chip manufacturing facilities. The agreement included the establishment of an Air Quality Advisory Committee consisting of members appointed by the Neighbors for Clean Air and the Northwest Environmental Defense Center, the requirement for Intel to monitor and report air quality at its factories, to fund third-party air quality monitoring elsewhere in the community, and conduct a risk assessment to identify particular hazards and means of addressing them²⁸.

5.4 Low-Impact Industrial Designations

The City has proposed two different zoning categories for the industrial expansion: E-1 Campus Employment, and I-2 Light-Medium Industrial. It is recommended that the parcels within 4,000 to 6,000 feet north of the residential subject area be designated as E-1 Campus Employment or otherwise address possible human health hazards. Further north, land in the expansion area could be either E-1 Campus Employment or I-2 Light Medium Industrial. It should be noted that I-3 zoning is not recommended. This arrangement of zones and allowable land uses creates a built buffer between future industrial emissions and existing residential uses, and also limits the total amount of industrial emissions that will come out of this area.

Conclusion

Public health, environmental health, socioeconomic status, race, ethnicity, and age are all connected with land use, air emissions, and health policies. As Lane Livability Consortium, Beyond Toxics, and Centro Latino Americano have found, residents living near the subject area experience higher social and economic vulnerabilities – higher rates of poverty, higher rates of SNAP food recipients, lower median household income, higher rates of non-white residents,

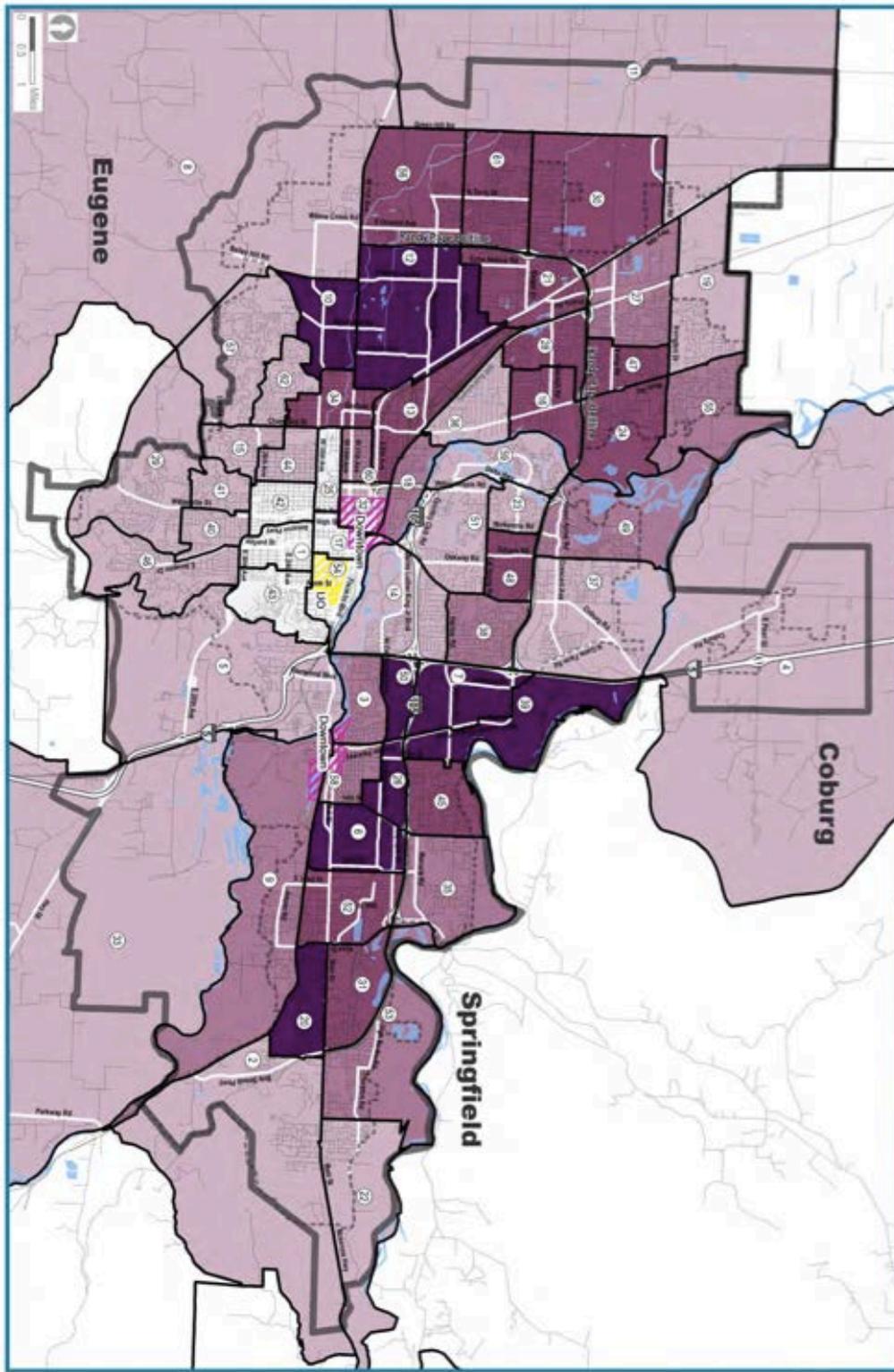
²⁶ Sandoval and Herrera, "Latino Public Participation and Regional Social Equity Indicators Project." 2012.

²⁷ ESCO Good Neighbor Agreement. 2011.

²⁸ The Oregonian, "Intel Strikes Deal with Oregon Environmental Groups on Air Quality." May 29, 2014. <http://www.oregonlive.com/siliconforest/index.ssf/2014/05/intel_strikes_deal_with_enviro.html>

closer proximity to industrial emissions, and higher rates of health problems such as asthma. Put together, these vulnerabilities place the subject area's surrounding community at a greater risk of adverse health effects, as well as a greater burden of bearing those risks in relation to the benefits they do not receive from the risk. With the UGB expansion, the City has the potential to facilitate preventative measures and foster positive effects on the subject area's surrounding community.

Ultimately, what is good for the subject area's surrounding community is good for all residents of the City. Industrial toxins and their adverse health effects do not have boundaries, and safer and healthier industrial uses in the area comes as a benefit to all. It is possible to attract the target industries identified, provide the estimated jobs needed, and ensure environmental justice in the area, simultaneously through a collaborative planning process.

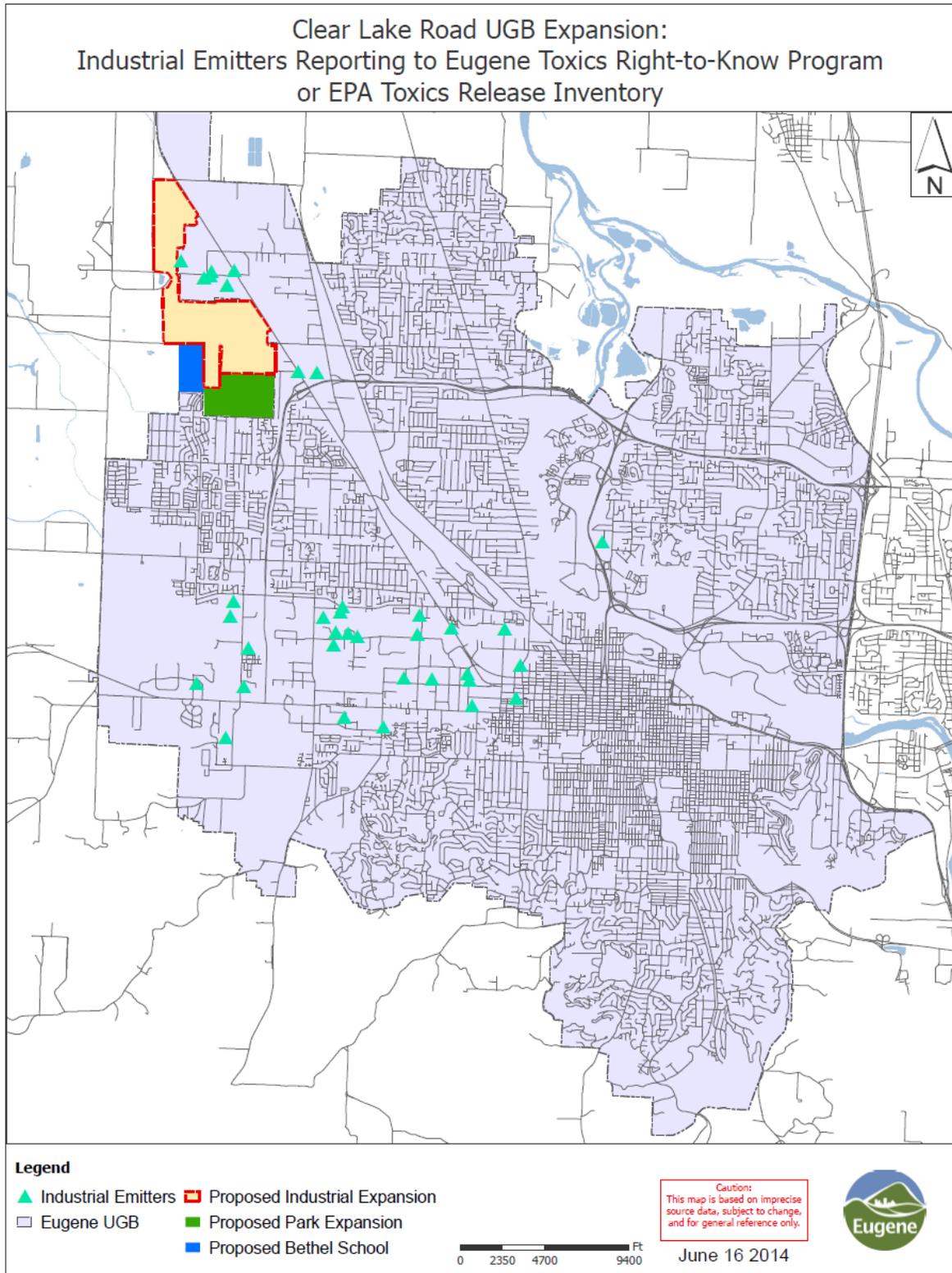


LIVABILITY LANE

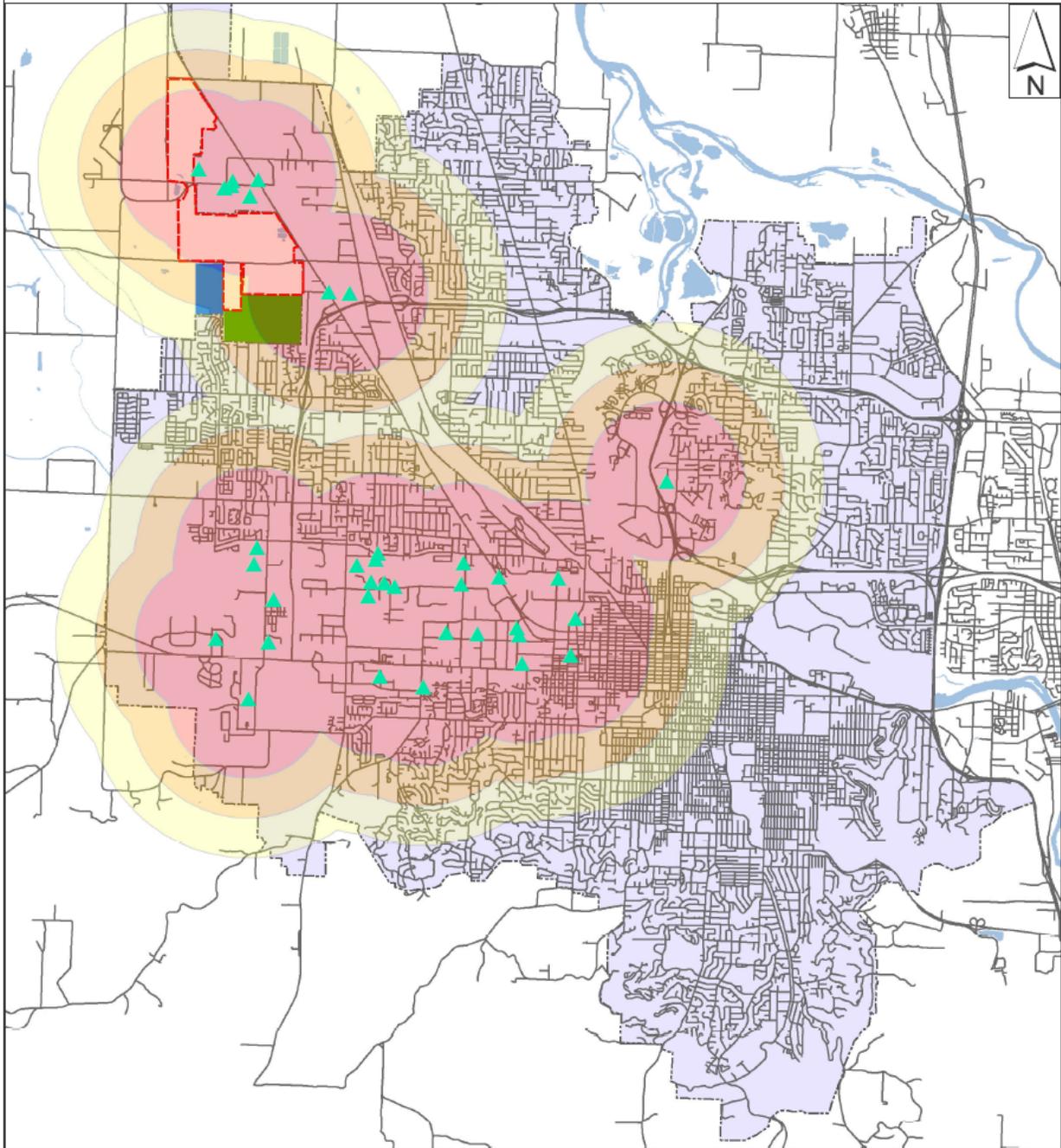
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 Caution: This map is based on response source data, subject to change, and is provided for general reference only. The map is based on the data provided by the Oregon State Department of Transportation (ODOT) and is not intended to be used for any other purpose. The author and publisher are solely responsible for the accuracy of the information and representations contained in this publication. Such representations do not constitute a warranty, and the publisher assumes no liability for any errors or omissions, or for any damages, including consequential damages, arising from the use of this publication. Such representations do not constitute a warranty, and the publisher assumes no liability for any errors or omissions, or for any damages, including consequential damages, arising from the use of this publication.

- Census 2010 Tracts
- Metropolitan Planning Organization Area boundary
- Urban Growth Boundaries
- Social and Demographic Characteristics of the Population**
 - Less Vulnerable
 - Moderately Vulnerable
 - More Vulnerable

Appendix 2



Clear Lake Road UGB Expansion: Industrial Emitters Reporting to Eugene Toxics Right-to-Know Program or EPA Toxics Release Inventory



Legend

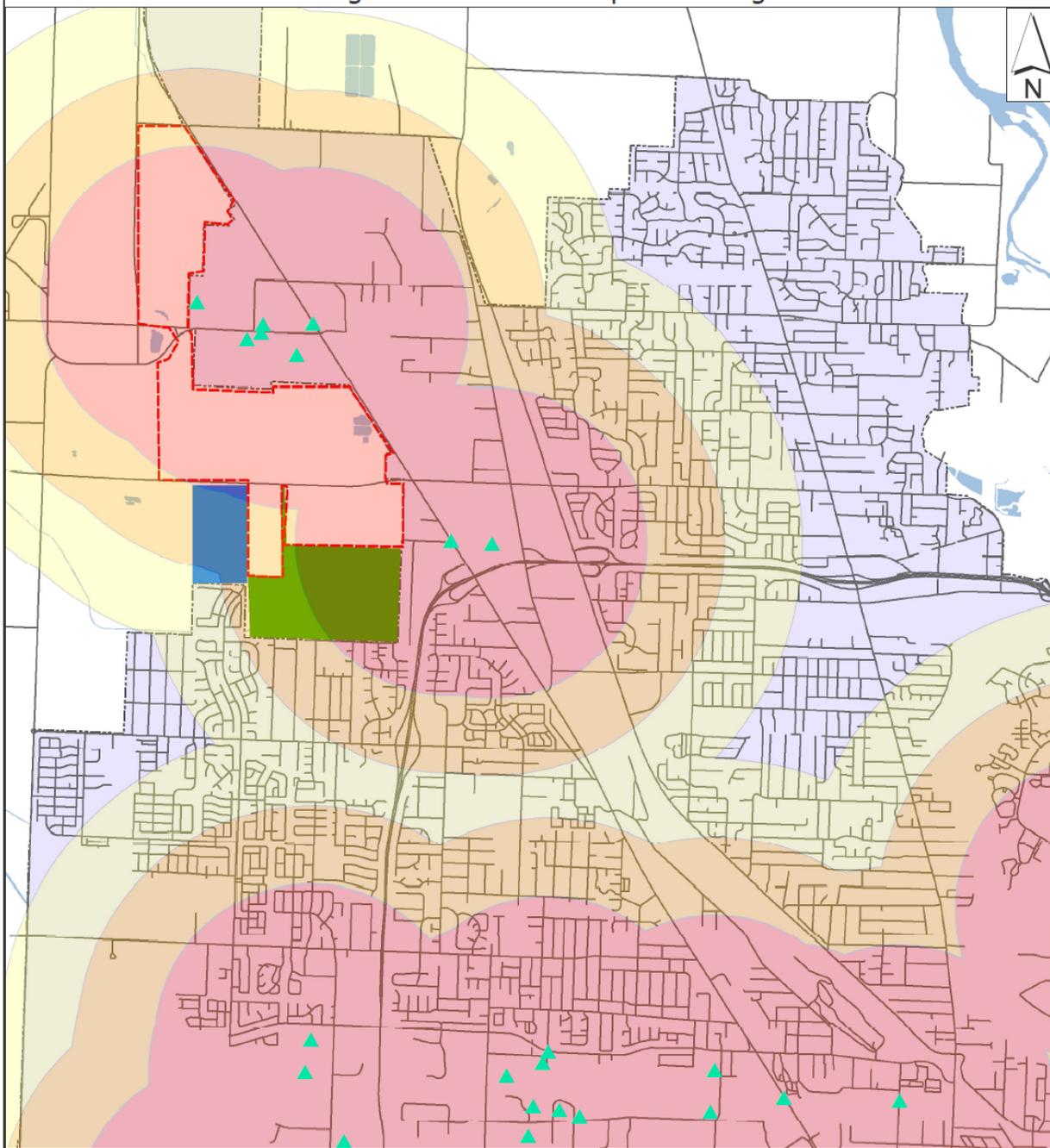
- ▲ Industrial Emitters ▭ Proposed Industrial Expansion
- 4000 ft from source ▭ Proposed Park Expansion
- 6000 ft from source ▭ Proposed Bethel School
- 8000 ft from source ▭ Eugene UGB

Caution:
This map is based on imprecise
source data, subject to change,
and for general reference only.



June 16 2014

Clear Lake Road UGB Expansion: Existing Conditions and Proposed Sitings



Legend

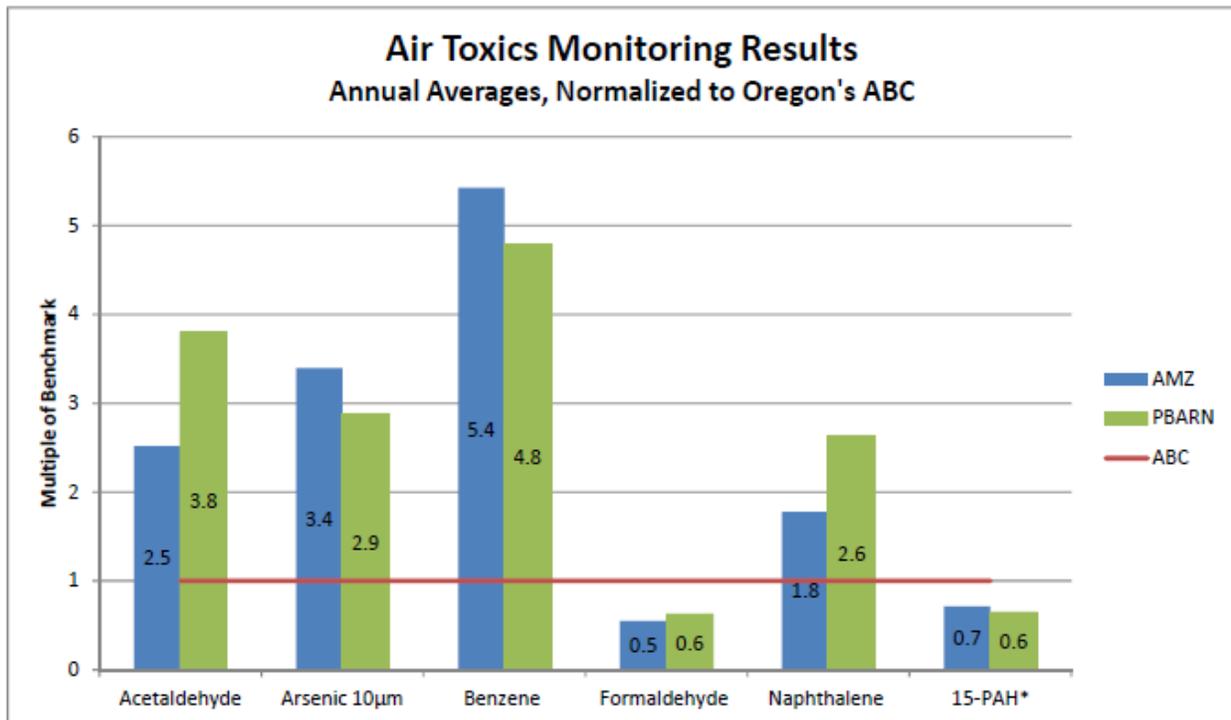
- ▲ Industrial Emitters
- Proposed Industrial Expansion
- 4000 ft from source
- Proposed Park Expansion
- 6000 ft from source
- Proposed Bethel School
- 8000 ft from source
- Eugene UGB

Caution:
This map is based on imprecise
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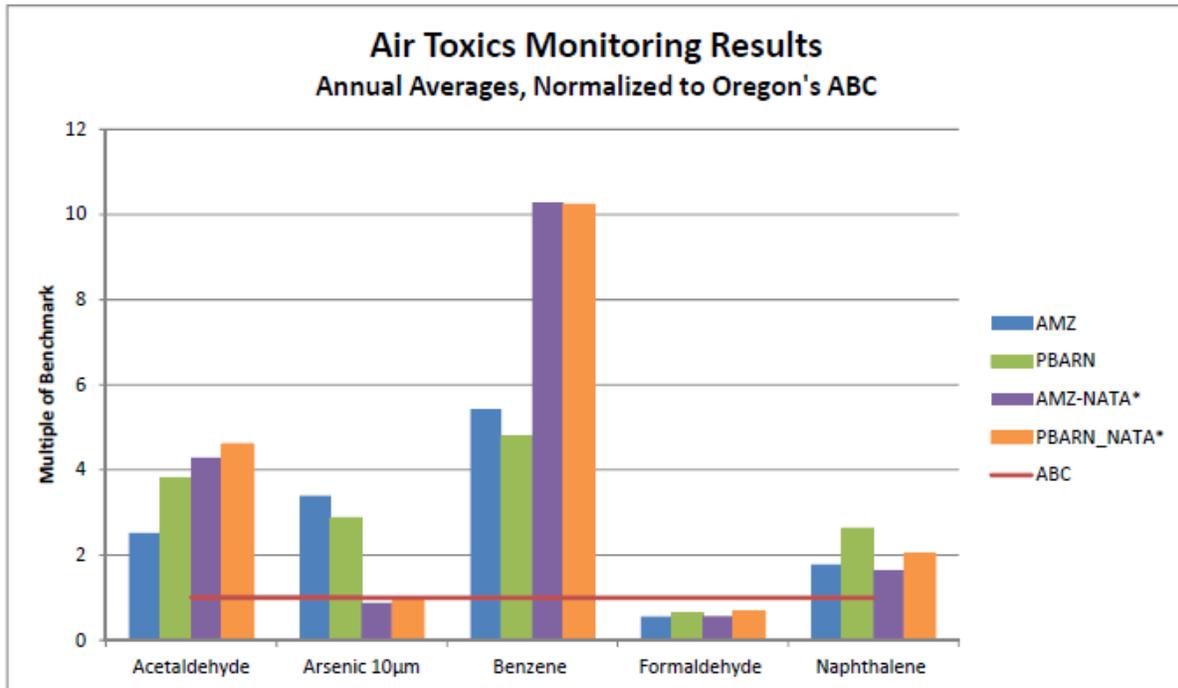
June 16 2014

Appendix 3

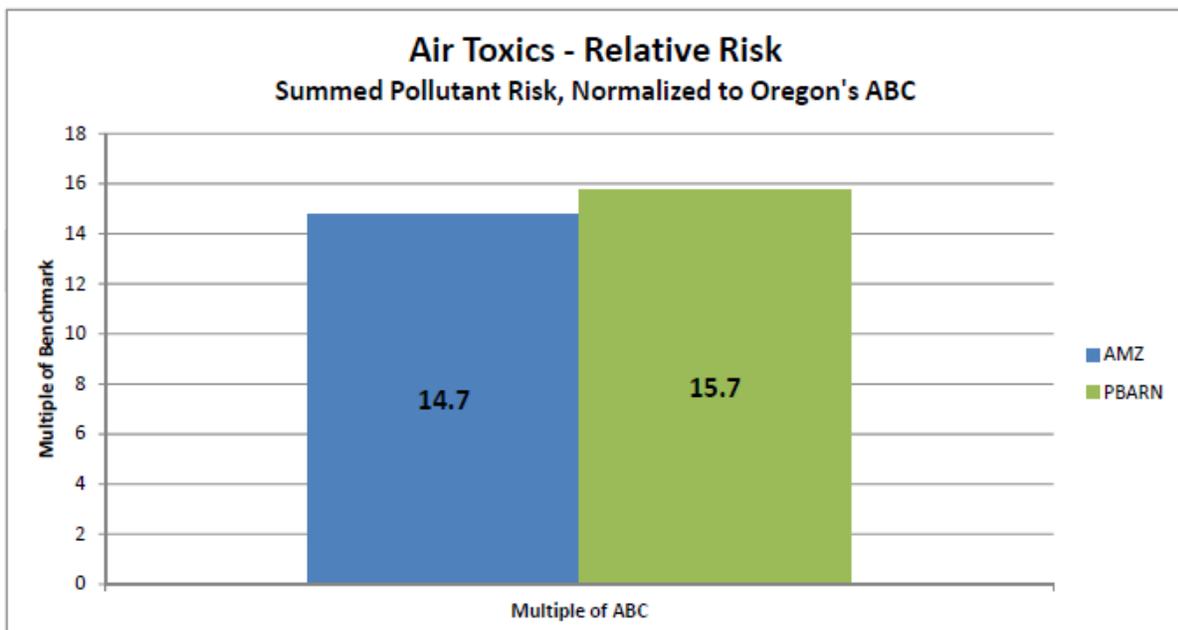


* Monitoring observations are 15-PAH, ODEQ's ABC is based on a group of 32-PAH.

Methylene Chloride	< 0.5 * ABC
Cadmium 10µm	< 0.5 * ABC
Manganese 10µm	< 0.5 * ABC
Lead 10µm	< 0.5 * ABC
Chloromethane	< 0.5 * ABC
Toluene	< 0.5 * ABC
Ethyl Benzene	< 0.5 * ABC
Cobalt 10µm	< 0.5 * ABC
n-Hexane	< 0.5 * ABC
Beryllium 10µm	< ABC
Bromomethane	< ABC
Carbon Disulfide	< ABC
Chloroform	< ABC
Nickel 10µm	< ABC
Tetrachloroethylene	< ABC
Trichloroethylene	< ABC
Acrylonitrile	Unknown (ABC < MDL)
Carbon Tetrachloride	Unknown (ABC < MDL)
Vinyl Chloride	Unknown (ABC < MDL)

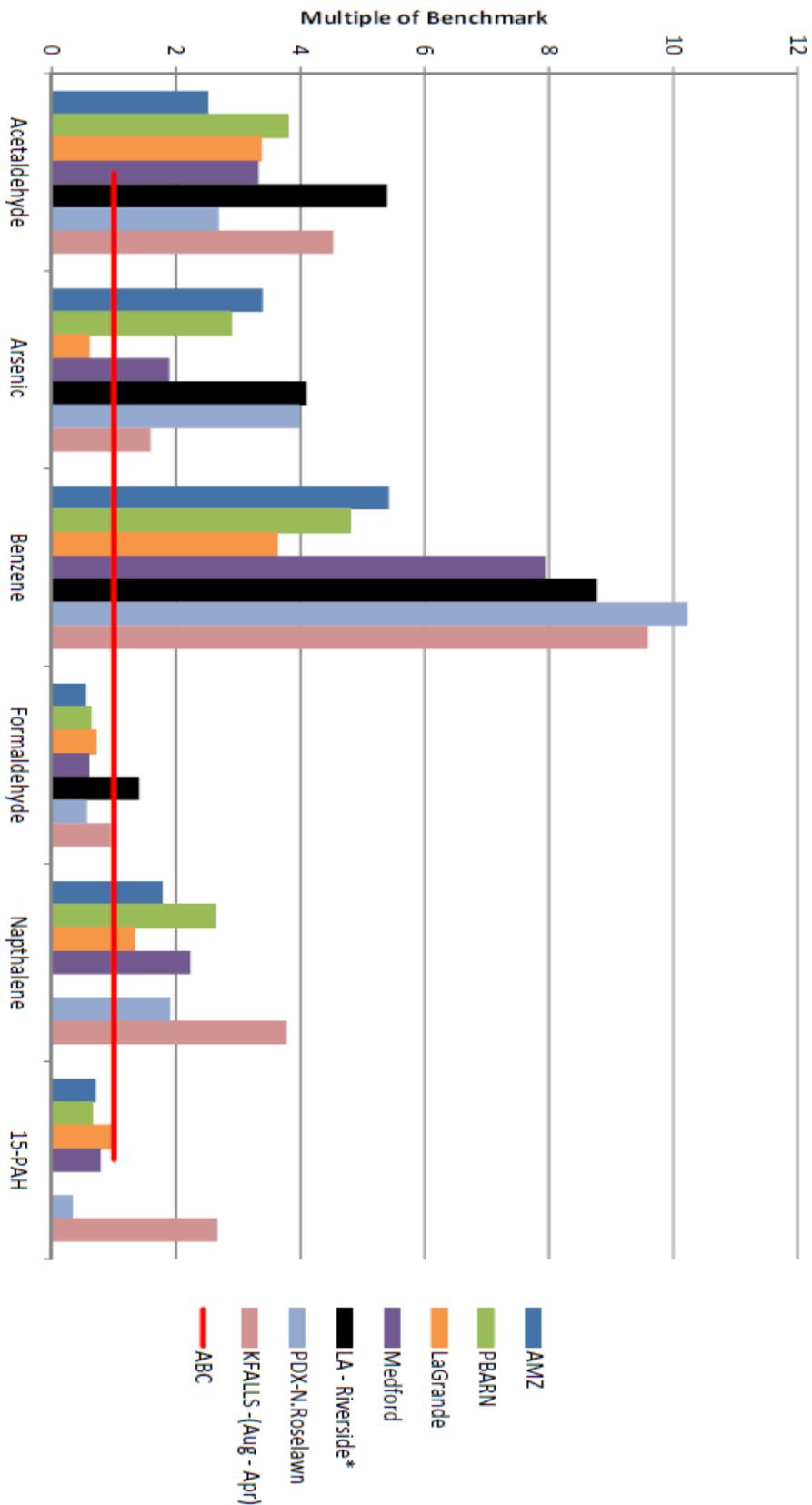


* Modeled estimates are taken from the 2005 NATA.



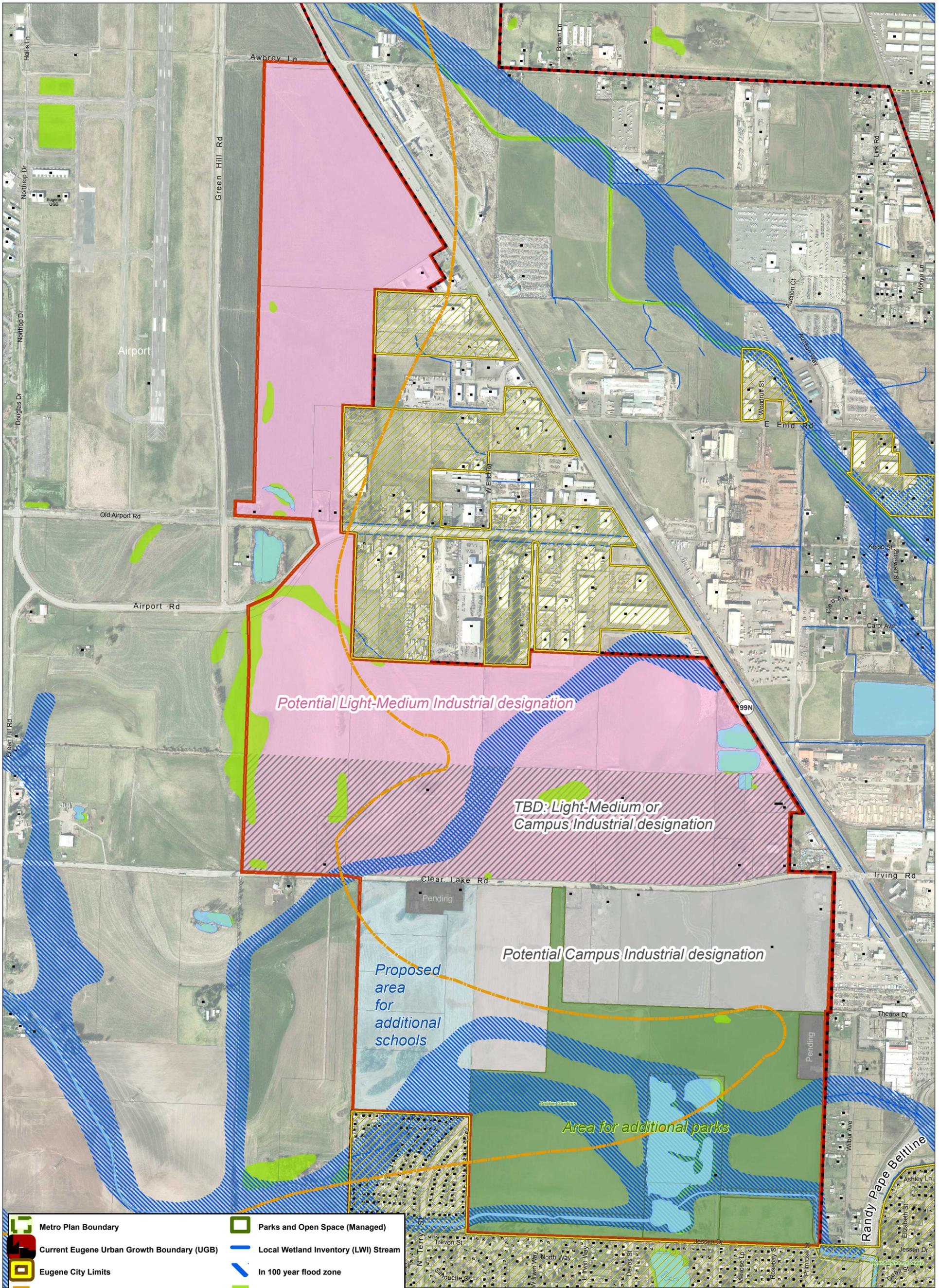
Air Toxics Monitoring Results

Annual Averages (May 2010 - April 2011), Normalized to Oregon's ABC



* LA - Riverside: Annual average for arsenic is from the calendar year 2009, all others are 2010.

Clear Lake Area: Potential UGB Expansion

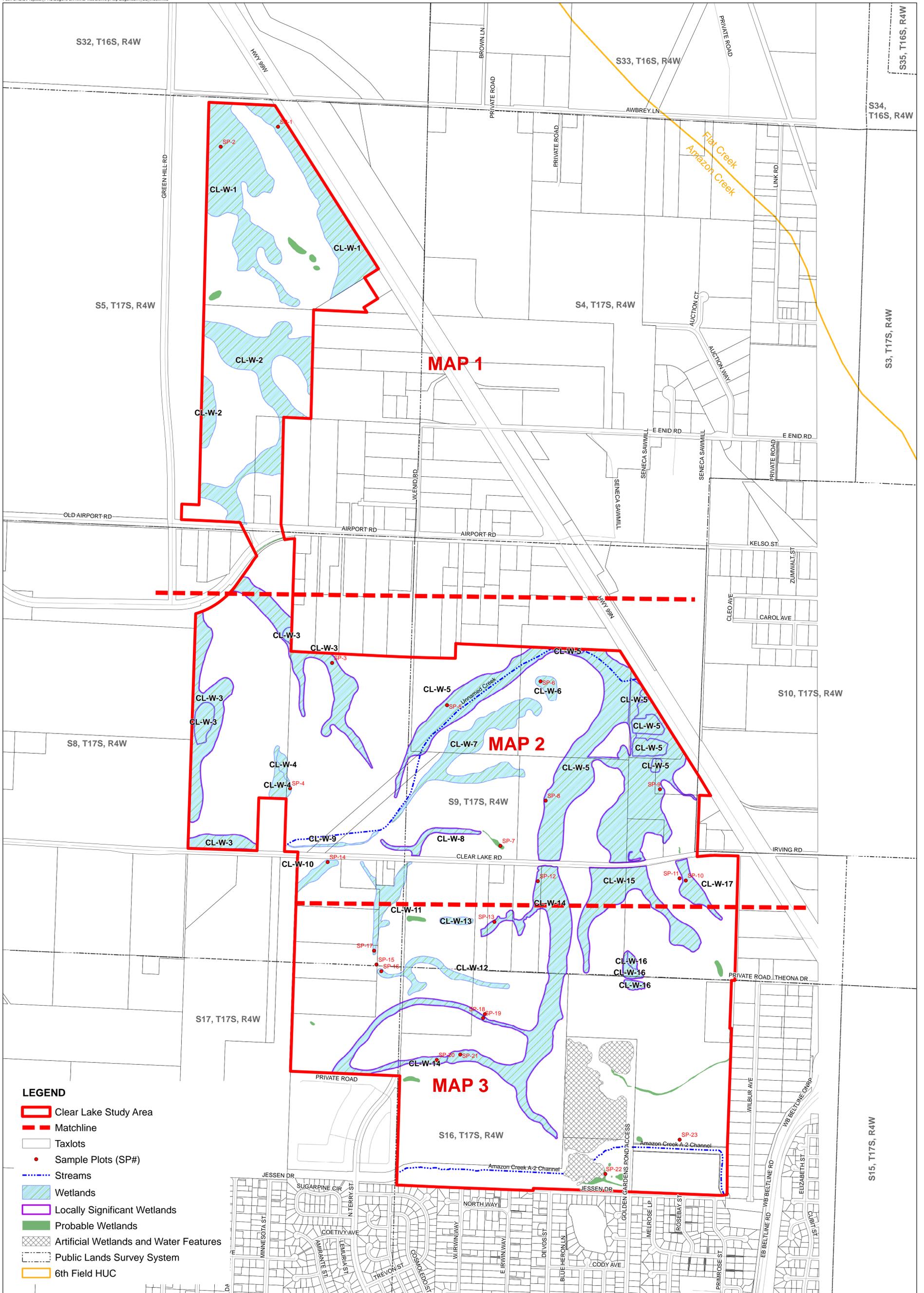


	Metro Plan Boundary		Parks and Open Space (Managed)
	Current Eugene Urban Growth Boundary (UGB)		Local Wetland Inventory (LWI) Stream
	Eugene City Limits		In 100 year flood zone
	Airport noise contour		Protected wetlands/riparian/uplands
	Area for additional schools		Water Bodies
	Area for additional parks		
	Potential Light-Medium Ind. (LMI) designation		
	Potential Campus Industrial designation		
	Under review: Campus Ind. or LMI designation		



1 inch = 1,000 feet

Notes: This map is based on imprecise source data, subject to change, and for general reference only. This illustration is created to inform discussion within the scope of the Envision Eugene project.



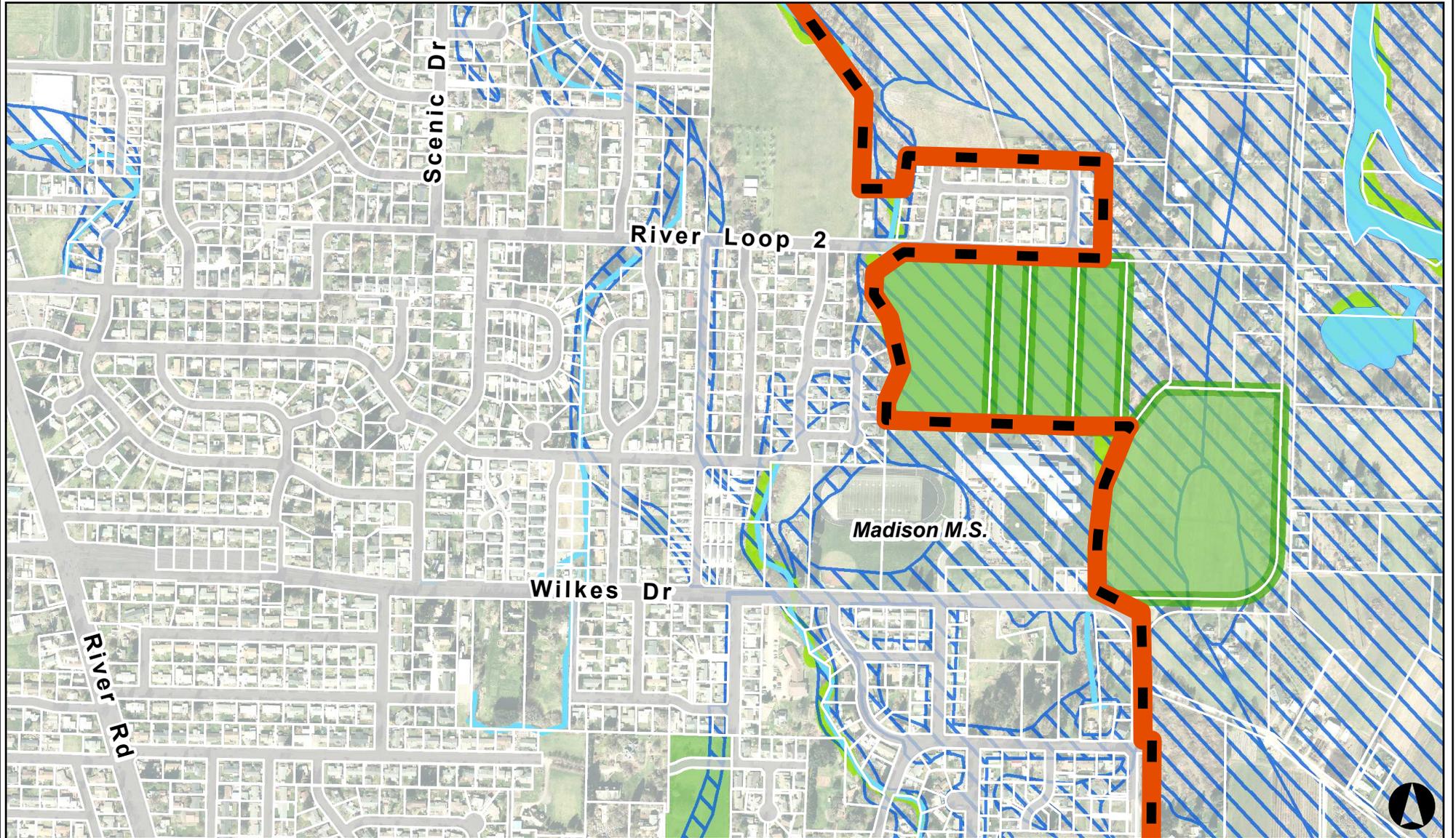
EUGENE, OREGON - Clear Lake Subarea
Local Wetlands Inventory - Index Map

Information shown on this map is for planning purposes, represents the conditions that exist at the map date, and is subject to change. The location and extent of wetlands and other waters is approximate. There may be unmapped wetlands and other waters present that are subject to regulation. A current Oregon Department of State Lands-approved wetland delineation is required for state removal-fill permits. You are advised to contact the Department of State Lands and the U.S. Army Corps of Engineers with any regulatory questions.
Map Completed 6-24-2014



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Public Lands UGB Expansion: Future Santa Clara Community Park



-  Current Eugene Urban Growth Boundary (UGB)
-  Future Santa Clara Community Park (35 acres)
-  100 year flood zone
-  Goal 5 Protection (riparian)
-  Water

0 250 500 1000 Ft