Chapter 4: Design and Development

What is this chapter about?

The goals and policies in this chapter convey the City's intent to:

- Encourage building and site design that promotes human and environmental health and safetyhealth, public safety, and responds to local context.
- Promote strong links <u>between_among</u> building and site design, streets, and the public realm.
- Guide historic and cultural resource and scenic view preservation.
- Encourage the integration of nature into the built environment.
- Reduce carbon emissions and promote energy_ and <u>resource-resource-</u>efficient neighborhoods and buildings.

Why is this important?

Development and design shapes how Portland looks and functions. Past development, in combination with the natural landscape, has shaped how the city is experienced. Future development, and the treatment of built and natural heritage, has the potential to create a better, healthier, more efficient, and more pleasant Portland. New development and redevelopment can promote vibrant, accessible urban places for people of all ages, abilities, and backgrounds, while also enhancing natural resources, protecting health and safety, and promoting resilience.

As a growing city, Portland faces design and development challenges, as well as opportunities. The policies in this chapter encourage development that respects context, preserves historic and cultural resources, reduces carbon emissions, improves resource efficiency, minimizes risk from natural hazards, limits impacts to wildlife and natural systems, and integrates nature into the urban environment.

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Goals

Goal 4.A: Context-sensitive design and development

New development is designed to respond to and enhance the distinctive physical, historic, and cultural qualities of its location, while accommodating growth and change.

Goal 4.B: Historic and cultural resources

Historic and cultural resources are integral parts of an urban environment that continues to evolve and are preserved when possible.

Goal 4.C: Human and environmental health

Neighborhoods and development are <u>efficiently</u> designed_z and built to enhance human and environmental health.—They are designed and built to protect safety and livability—; support local access to healthy food—; limit negative impacts on water, <u>hydrology</u>, and air quality—; reduce carbon emissions—; encourage active and sustainable design—; <u>protect wildlife</u>; <u>address urban heat islands</u>; and integrate nature and the built environment.

Goal 4.D: Urban resilience

Buildings, streets, and open spaces are designed to ensure long-term resilience. They are designed, and to adjust to changing demographics, climate, and economy, and withstand and recover from natural disasters.

Policies

General development principlesContext

The design of buildings and other development can affect the safety, health, and quality of life of building users, neighbors and the environment.Portland's neighborhoods have distinctive characteristics and street environments that provide a sense of place and are a setting for public life. The following policies guide building and site design to respond to positive characteristics of their context and promote accessible and attractive public environments. They also support designing development to contribute to the quality of the public realm of streets and other open spaces, and encourage the integration of natural elements into the built environment encourage site and building designs that contribute to a welcoming and attractive public realm and respond to current and historical contexts.

- **Policy 4.1 Pattern areas.** Encourage building and site designs that respect the unique built natural, historic, and cultural characteristics of Portland's five pattern areas, described in the <u>Chapter 3</u>: Urban Form-chapter.
- **Policy 4.2 Community identity.** Encourage the development of character-giving design features that are responsive to place and the cultures of communities.
- **Policy 4.3** Site and context. Encourage development that responds to and enhances the positive qualities of site and context_—_the <u>neighborhood, the</u> block, the

public realm, and natural features.

- Policy 4.4 Natural features and green infrastructure-in-centers and corridors. Integrate natural and green infrastructure, such as street-trees, green spaces, ecoroofs, gardens, green walls, and vegetated stormwater management systems, into centers and corridors the urban environment. Encourage stormwater facilities that are designed to- be a functional and attractive element of public spaces, especially in ecenters and ceorridors.
- Policy 4.5 Pedestrian-oriented design. Enhance the pedestrian experience throughout Portland, through public and private development that creates accessible, <u>safe</u>, and attractive places for all those who walk and/or use wheelchairs or other mobility devices.
- **Policy 4.6** Street orientation. Promote building and site designs that enhance the pedestrian experience-in-centers and corridors, with windows, entrances, pathways, and other features that provide connections to the street environment.
- Policy 4.7Development and public spaces. Guide development to help create high--
quality public places and street environments, considering the role of
adjacent development in framing, shaping, and activating the public space of
streets and urban parks.
- Policy 4.8 Alleys. Encourage the continued use of alleys for parking access.—<u>and</u> eExpand their use as the location of the number of alley-facing accessory dwelling units. and as multi-purpose community space.
- **Policy 4.9 Transitional urbanism.** Encourage temporary activities and structures in areas that are transitioning to <u>being more</u>-urban, <u>in order</u> to promote job creation, entrepreneurship, active streets, and human interaction.

Health and safety

The design of buildings, site layout, and other development choices can affect the safety, health, and quality of life. The following policies guide building and site design to protect the health and livability of building users and neighbors, including minimizing risks of crime and fire. *Related policies specific to residential development are located in theChapter 5: Housing-chapter*.

- **Policy 4.10 Design for active living.** Encourage development and building and site design that promotes active living a healthy level of physical activity in daily life.
- Policy 4.11 Access to light and air. Provide for public access to light and air by managing

and shaping the height, and mass of buildings, while accommodating urban urban-scale development.

- Policy 4.12 Privacy and solar access. Encourage building and site designs that limit reductions inconsider privacy and solar access for residents and neighbors, while accommodating urban-urban-scale development.
- Policy 4.13 Crime-preventive design. Encourage building, and site, and public infrastructure design approaches that help prevent crime.
- **Policy 4.14** Fire prevention and life-safety. Encourage building and site design that improves fire prevention, safety, and life safetyreduces seismic risks.

Residential areas

There will be development and change, eEven in relatively stable lower-lower-density residentially zoned areas, there will be development and change. These policies encourage designs and development that continue theprovides continuity with existing development patterns. They also address design and development in lower-lower-density residential lyresidentially zoned areas (see Glossary) outside of centers-centers and corridors corridors. These policies also support these areas' continuing evolution as places that provide additional housing opportunities to meet the diverse needs of Portlanders, but that will not be places of major change in urban form and scale.

- Policy 4.15 Adaptable neighborhoods<u>Residential area continuity and adaptability</u>. Encourage more housing choices to accommodate a wider diversity of family sizes, incomes, and ages, and the changing needs of households over time. Allow adaptive reuse of existing buildings, and the creation of accessory dwelling units, and other arrangements that bring housing diversity that is compatible with the general scale and patterns of residential areas. to serve the changing needs of a household over time.
- **Policy 4.16** Scale and patterns. Encourage design and development that complements the general scale, character, and natural landscape features of neighborhoods. Consider building forms, scale, street frontage relationships, setbacks, open space patterns, and landscaping. Allow <u>for</u> a range of architectural styles and expression, and respect existing entitlements.
- Policy 4.17Demolitions. Encourage alternatives to the demolition of sound housing,
such as rehabilitation and adaptive reuse, especially affordable housing, and
when new development would provide no additional housing opportunities
beyond replacement.
- **Policy 4.18 Compact single-family options**. Encourage development and preservation of small resource-efficient and affordable single_-family homes in all areas of the city.

Policy 4.19 Resource efficient and healthy residential design and development. Support resource efficient and healthy residential design and development. <u>-- (see those polices belowalsoSee other related policies later in this chapter and in theChapter 5: Housing-chapter.)</u>.

Design and development of centers and corridors

Centers and corridors are places where large numbers of people live, work, and visit. Careful attention to the design of centers and corridors is necessary to ensure that they become places where people want to live and gather, and where getting around by walking, biking, or wheelchair is an attractive choice. These policies also encourage the development of centers as places that reflect the character and cultures of the surrounding neighborhoods.

- **Policy 4.20** Walkable scale. Focus services and higher-density housing in the core of centers to support a critical mass of demand for commercial services and more walkable access for customers.
- **Policy 4.21** Street environment. Encourage development in centers and corridors to include amenities that create a pedestrian-oriented environment and provide places for people to sit, spend time, and gather.
- Policy 4.22 Relationship between building height and street size. Encourage development in centers and corridors that is responsive to street space width, <u>thus</u> allowing taller buildings on wider streets.
- **Policy 4.23 Design for pedestrian and bicycle access.** Provide accessible sidewalks, highquality bicycle access, and frequent street connections and crossings in centers and corridors.
- **Policy 4.24 Residential uses on busy streets.** Improve the livability of places and streets with high motor vehicle volumes.—Encourage landscaped front setbacks, street trees, and other design approaches to buffer residents from street traffic.
- **Policy 4.25** Active gathering places. Locate public squares, plazas, and other gathering places in centers and corridors to provide places for community activity and social connections. Encourage location of businesses and services adjacent to these spaces that relate to and promote the use of the space.
- **Policy 4.26 Protect defining features.** Protect and enhance defining places and features of centers and corridors, including landmarks, natural features, and historic and cultural resources.
- Policy 4.27 Historic buildings in centers and corridors. Protect, restore, and improve and encourage the restoration and improvement of historic buildings-resources in centers and corridors-on-adopted inventories.
- **Policy 4.28 Public art.** Encourage new development and public places to include design elements and public art that contribute to the distinct identities of centers and corridors, and that highlight the history and diverse cultures of

neighborhoods.

Transitions and offsite impacts

These policies address transitions between areas of differing types of activity and scale of development, such as where centers and corridors interface with adjacent lower-intensity residential zones. These policies also address the consideration and mitigation of offsite impacts from development.

- Policy 4.29Scale transitions. Create transitions in building scale in locations where
higher-density and <u>higher-</u>intensity development is adjacent to <u>smaller</u>
smaller-scale single-dwelling zoning. Ensure that new high-density and large-
scale infill development adjacent to single dwelling zones incorporates design
elements that soften transitions in scale and <u>strive to protectlimit</u> light and
privacy <u>impacts onfor</u> adjacent residents.
- **Policy 4.30** Land use transitions. Improve the interface between non-residential activities-uses and residential areasuses, in areas where commercial or employment areas-uses are adjacent to residentially-residentially-zoned land.
- Policy 4.31 Industrial edge. Protect non-industrially zoned parcels from the adverse impacts of facilities and uses on industrially zoned parcels. Use a variety of tools, including but not limited to vegetation, physical separation, land acquisition, and insulation, to Buffer-establish buffers between industrial sanctuaries and adjacent residential or mixed use areas to protect both the viability of long-term industrial operations and the livability of adjacent areas.

Off-site impacts

<u>These policies address the consideration and mitigation of off-site impacts from uses and development.</u>

- Policy 4.32 Off_site impacts. Use land use and other regulations to lLimit and mitigate public health impacts, such as odor, noise, glare, light pollution, air pollutants, and vibration that the public facilities, land uses, __ or development of a site may have on adjacent residential or institutional uses, and on significant fish and wildlife habitat areas. Pay particular attention to limiting and mitigating impacts to under-served and under-represented communities.
- **Policy 4.33** Auto-oriented <u>facilities</u>, uses, and exterior displays. Minimize the <u>adverse</u> impacts of <u>highways</u>, auto-oriented uses, vehicle areas, drive-through areas,

signage, and exterior display and storage areas on adjacent residential areasuses.

- **4.28<u>31</u>.b.** Minimizing industrial impacts. Protect non-industrial zoned parcels from the adverse impacts of activities on industrial zoned parcels.
- Policy 4.34 <u>Noise impacts.</u> Encourage building and landscape design and land use patterns that limit and/or mitigate negative noise impacts to building users and residents, particularly in areas near freeways, regional truckways, major city traffic streets, and other sources of noise.
- Policy 4.35 _____Air quality impacts. Encourage building and landscape design and land use patterns that limit and/or mitigate negative air quality and noise impacts to building users and residents, particularly in areas near freeways, regional truckways, high traffic streets, and other sources of air pollution.
- Policy 4.36 Diesel emissions. Encourage best practices to reduce diesel emissions and related impacts Wwhen considering land use and public facilities that will increase truck or train traffic, encourage best practices to reduce diesel emissions and related impacts.
- Policy 4.37 Light pollution. Encourage lighting design and practices that reduce the negative impacts of light pollution, including sky glow, glare, energy waste, impacts to public <u>health and</u> safety, disruption of ecosystems, and hazards to wildlife.
- **Policy 4.38** Airport noise. <u>Partner with the Port of Portland to <u>Rr</u>equire compatible land use designations and development within the noise-affected area of Portland International Airport, while providing <u>public noticedisclosure</u> of the level of aircraft noise and mitigating the potential impact of noise within the <u>affected</u> area.</u>
- 4.2831.g. Policy 4.39 Telecommunication facility impacts. Mitigate the visual impact of telecommunications and broadcast facilities near residentially zoned areas through physical design solutions.

Additional policies about environmental quality are found in Chapter 7: Environment and Watershed Health.

Scenic resources

Portland's signature views of Mt. Hood and other mountain peaks, bridges, and rivers are important to the city's identity. They-These views strengthen connections to the local and regional landscape. These policies encourage the recognition, enhancement, and protection of public views and significant scenic resources, as designated in the Scenic Resources Inventory and Protection Plans.

Policy 4.40 Scenic resources. Enhance and celebrate Portland's scenic resources to

reinforce local identity, histories, and cultures and contribute toward wayfinding throughout the city. Consider views of mountains, hills, buttes, rivers, streams, wetlands, parks, bridges, the Central City skyline, buildings, roads, art, landmarks, or other elements valued for their aesthetic appearance or symbolism.

- Policy 4.41 Scenic resource protection. Protect <u>and manage</u> designated significant scenic resources by maintaining scenic resource inventories, protection plans, regulations, and other tools., including public views and scenic sites and corridors; and update or reconfirm the inventory of significant views, sites, and corridors in the future.
- Policy 4.42 Vegetation management. <u>Maintain regulations and other tools for managing</u> vegetation in a manner that preserves or enhances designated significant scenic resources. Provide allowances for the pruning and cutting of trees and shrubs to maintain or enhance designated public views.
- Policy 4.32 Utility lines. Maintain designated scenic views, sites, and corridors by encouraging the placement of utility lines underground.
- Policy 4.43Building placement, height, and massing. Maintain regulations and othertools related to building placement, height, or and massing in order to
preserve designated significant scenic resources.
- Policy 4.33 Regulatory guidance. Avoid adverse impacts to scenic resources as part of land use reviews, where practicable.
- Policy 4.3444 New public views Future development. Encourage new public and private development to contribute to creatingcreate new public viewpoints providing views of Portland's rivers, bridges, the surrounding mountains, hills and buttes, the Central City skyline, and other landmark features.

Historic and cultural resources

Portland has several hundred designated historic landmarks and historic and conservation districts. These special places help create a sense of place, contribute to neighborhood character, and recognize <u>past-Portland's</u> history<u>and events</u>. More than half of Portland's buildings are over 50 years old, creating a vast pool of potentially significant properties. These policies support the protection of all resources of statewide significance and <u>encourageand</u> preservation of historic and culturally significant resources<u>r in the context of a city that continues to grow and change</u>.

Policy 4.45 Historic and cultural resource protection. <u>Protect and </u>€encourage the protection and restoration of high-quality historic buildings, and places, and

<u>districts</u> that contribute to the distinctive character and history of Portland's evolving urban environment, where feasible.

- **Policy 4.46 Continuity with established patterns.** Encourage development that fills in vacant and underutilized gaps within the established urban fabric, while preserving and complementing historic resources.
- Policy 4.47 Demolition. Protect significant-historic structures-resources from demolition until and p. Provide opportunities can be provided for public comment, and encourage pursuit of alternatives to demolition, or other actions that mitigate for the loss.
- Policy 4.48 City-owned historic resources. Keep City-owned historic resources in a state of good repair.
- Policy 4.49 Historic Resources Inventory. Survey and inventory historic resources as part of future planning projects<u>Maintain and periodically update Portland's</u> <u>Historic Resources Inventory to inform historic and cultural resource</u> <u>preservation strategies.</u>, with a focus on areas of anticipated growth and change.
- Policy 4.50 Preservation equity. Expand historic preservation inventories, regulations, and programs to encourage historic preservation in areas <u>and in</u> <u>communities</u> that are under represented byhave not benefited from current <u>past</u> historic preservation efforts, <u>especially areas</u> – with high concentrations of under-served and/or under-represented people.
- **Policy 4.51 Cultural diversity.** Work with Portland's diverse communities to identify and preserve places of historic and cultural significance.
- Policy 4.52 Cultural heritage and social significance. Encourage the protection and enhancement of cultural heritage structures and sites as valuable and important public assets. Encourage awareness and appreciation of cultural diversity and the social significance of historic places and their roles in enhancing community identity and sense of place.
- **Policy 4.53 Community structures.** Encourage the adaptive reuse of historic community structures, such as <u>former schools</u>, meeting halls, and places of worship, for arts, cultural, and community uses that continue their role as anchors for community and culture.
- Policy 4.54 Archaeological resources. Protect and preserve archaeological resources in place, especially those sites and objects associated with <u>Native</u> American Indian cultures. Work in partnership with tribal governments and the state on avoiding disturbances to Native American archaeological resources.

Public art

Public art and cultural amenities enrich people's lives. They offer educational experiences, enliven public spaces, and foster creativity. This helps build a sense of community and identity for an area. These policies This policy supports including public art in development.

Policy 4.55 Public art and development. Create incentives for public art as part of public and private development projects.

Resource-efficient design and development

These policies support resource efficient design and development, from the location of development to the types of building materials. They apply to new development as well as to the continued and adaptive reuse of existing buildings.

- **Policy 4.56 Rehabilitation and adaptive reuse.** Encourage rehabilitation and adaptive reuse of buildings, especially those of historic or cultural significance, to conserve natural resources, reduce waste, and demonstrate stewardship of the built environment.
- Policy 4.57 Compact housing. Promote the development of compact, space- and energyefficient housing types that minimize use of resources, such as smaller detached homes or accessory dwellings, and attached homes.

Policy 4.48<u>49</u> Prioritize reuse. Encourage maintenance, rehabilitation, and/or relocation of viable buildings over demolition and new construction.

- **Policy 4.58** Seismic and energy retrofits. Promote seismic and energy efficiency retrofits of historic buildings and other existing structures to reduce carbon emissions, save money, and improve public safety.
- **Policy 4.59** Life cycle efficiency. Encourage use of technologies, techniques, and materials in building design, construction, and removal that result in the least environmental impact over the life cycle of the structure.
- **Policy 4.60** Materials and practices. Encourage use of natural, resource-efficient, recycled, recycled content, and non-toxic building materials and energy-efficient building practices.
- Policy 4.61 Water use efficiency. Encourage site and building designs that <u>make-use</u> <u>water</u> efficiently-use of water and manage stormwater as a resource.
- **Policy 4.62 Optimizing benefits.** Provide mechanisms to evaluate and optimize the range of benefits from solar and renewable resources, tree canopy, ecoroofs, and building design.

- **Policy 4.63 Energy efficiency.** Encourage and promote energy efficiency significantly beyond the Statewide Building Code and the use of solar and other renewable resources in individual buildings and at a district scale.
- **Policy 4.64 District energy systems.** Encourage and remove barriers to the development and expansion of low-carbon heating and cooling systems that serve multiple buildings or a broader district.
- **Policy 4.65 Ecodistricts.** Encourage the creation of ecodistricts, where multiple partners work together to achieve sustainability and resource efficiency goals at a district scale.
- **Policy 4.66 Energy-producing development.** Encourage and promote development that uses renewable resources, such as solar, wind, and water to generate power on-site and to contribute to the energy grid.

Goals and policies related to energy infrastructure can be found in Chapter 8: Public Facilities and Services.

Designing with nature

Incorporating natural features and functions into development <u>improves human and</u> <u>ecological health</u>, yieldings tangible social, environmental, and economic benefits. # <u>improves human and watershed health</u>. How this integration looks and functions depends on local conditions and characteristics. Regardless, dD esigning with nature provides or enhances ecosystem services, such as stormwater management, cooling of air and water, reduction of landslide and flooding risks, protection or <u>improvement enhancement</u> of fish and wildlife habitat, and the ability of opportunities for Portlanders to enjoy nature in their daily lives. These policies <u>apply to a broad range of land uses and development sites</u>, <u>encourage encouraging</u> development and design that designed to enhances the identity and beauty of Portland's neighborhoods, <u>business districts</u>, and industrial districts, while improving <u>environmental watershed</u> health and preparing for the effects of resilience to climate change.

Additional goals and policies about the integration of nature into the built environment <u>and</u> <u>infrastructure</u> are found in Chapter 7: <u>Environment and Watershed Health, Chapter 8: Public</u> <u>Facilities and Services, and Chapter 9: Transportation</u>.

Policy 4.58-67_Design with nature. Encourage design and site development practices that enhance, and avoid the degradation of, watershed health and ecosystem services and that incorporate trees and vegetation.

Policy 4.59-68 Flexible development options. Encourage flexibility in the division of land, the siting and design of buildings, and other improvements to reduce the impact of development on environmentally sensitive areas and to retain healthy trees.

- **Policy 4.69 Low-impact development and best practices.** Encourage use of low-impact development, habitat-friendly development, bird-friendly design, and green infrastructure, especially for City-owned, managed, or funded facilities.
- **Policy 4.70** Impervious surfaces. Limit use of and strive to reduce impervious surfaces to reduceand associated impacts on hydrologic function, air and water quality, habitat connectivity, and tree canopy, and urban heat island effects.
- **Policy 4.71 Hazards to wildlife.** Encourage building, <u>lighting</u>, site, and infrastructure design and practices that provide safe fish and wildlife passage, and reduce or mitigate hazards to birds, bats, and other wildlife.
- **Policy 4.72** Access to nature. Promote equitable, safe, and well-designed physical and visual access to nature for all Portlanders, while also protecting-maintaining the functions and values of significant natural resources, fish, and wildlife. Provide access to major natural features, including:
 - Water bodies, such as the Willamette and Columbia rivers, Smith and Bybee Lakes, creeks, streams, and sloughs.
 - Major topographic features, such as the West Hills, Mt. Tabor, and the East Buttes.
 - Natural areas, such as Forest Park and Oaks Bottom.

Hazard-resilient design

Portland has varied topography, with hills, buttes, abundant trees, and vegetation. It is also located at the confluence of two major river systems. As a result, there are periodic floods, wildfires, and landslides. The city is also in a seismically active region, at risk for earthquakes from local faults and the Cascadia Subduction Zone in the Pacific Ocean. These policies direct development away from hazard-prone areas, seek to reduce hazard risks and impacts, and improve resilience to disasters and climate change.

- Policy 4.61-73_Reducing natural hazards and climate change risks and impacts. Limit development in or near areas prone to natural hazards where practicable, using the most current hazard and climate change-related information and maps.
- Policy 4.60-74 <u>Evaluating Geological hazards</u>. Evaluate slope and soil characteristics, including liquefaction potential, landslide hazards, and other geologic hazards.
- Policy 4.62-75_Disaster-recovery-resilient development. Encourage development and site management approaches that reduce the risks and impacts of natural disasters or other major disturbances and that improve will enhance-the ability of people, wildlife, natural systems, and property to withstand and recover from a natural disaster or other major disturbancesuch events.
- Policy 4.76 Portland Harbor facilities. Reduce natural hazard risks to critical public and private energy and transportation facilities in the Portland Harbor.
- **Policy 4.6377** Urban heat islands. Encourage development, building, <u>landscaping</u>, and infrastructure design that reduces urban heat island effects.
- Policy 4.6478 Planning and disaster recovery. Facilitate effective disaster recovery by providing recommended updates to land use designations and development codes, as warranted, in preparation for natural disasters.

Healthy Food

Access to healthy food is important for many reasons. A nourishing diet is critical to maintaining good health and avoiding chronic disease later in life. This leads to better long_term public health outcomes and lower healthcare costs. Food behaviors are shaped at an early age; <u>c</u>-Children who are exposed to healthy foods are more likely to develop healthful food behaviors than those who are not.

In spite of these benefits, many Portlanders do not have good access to healthy food. These policies promote a range of approaches for improving access to healthy food through

buying and growing.—_The policies help meet the Portland Plan goal for 90 percent of Portlanders to live within a half-mile of a store or market that sells healthy food.

- Policy 4.6579 Grocery stores in centers. Facilitate the <u>retention and</u> development of grocery stores and neighborhood-based markets offering fresh produce in centers.
- **Policy 4.6680** Neighborhood food access. Encourage small, neighborhood-based retail food opportunities, such as corner markets, food co-ops, food buying clubs, and community-supported agriculture pickup/drop off sites, to fill in service gaps in food access across the city.
- **Policy 4.6781 Growing food.** Increase opportunities to grow food for personal consumption, donation, sales, and educational purposes.
- Policy 4.6882 Access to community gardens. Ensure that community gardens are allowed in areas close to or accessible via transit to people living <u>in centers and other</u> high-density areasareas zoned for mixed use or multi-dwelling development, where residents have few opportunities to grow food in yards.