3 LAND USE AND DEVELOPMENT

Image from Nelson Nygaard.

This section describes Seattle's framework for land use, growth, and urban form and explains how these factors relate to transit and access.

Image from Flickr user Oran Viriyincy.

3 LAND USE AND DEVELOPMENT

URBAN VILLAGE FRAMEWORK

The City of Seattle's Comprehensive Plan, *Toward a Sustainable Seattle*, is a 20-year plan that articulates a vision of how Seattle will grow in ways that sustain its values. The City first adopted the Comprehensive Plan in 1994 in response to the Statewide Growth Management Act of 1990. As the end of this 20-year period approaches, the City is beginning an updating process to address the community vision for the next 20 years, to 2030 and beyond. This presents an opportunity for the Transit Master Plan to influence the Comprehensive Plan.

The Comprehensive Plan makes basic policy choices and provides a flexible framework for adapting to real conditions over time. It is a collection of the goals and policies the City will use to guide future decisions about how much growth Seattle should make and where it should be located. The plan also describes, in a general way, how the City will address the effects of growth on transportation and other city facilities.

The initial building blocks of the Comprehensive Plan are the elements required by the state's Growth Management Act: land use, transportation, housing, capital facilities, and utilities. The City's plan also includes elements addressing neighborhood planning, human development, and the environment. Collectively, these elements articulate a vision of sustainability and social equity that is to be accomplished largely through accommodating growth in a compact urban form that reduces dependence on private automobile use for transportation.

The urban village strategy is central to achieving the land use and transportation goals set out in the Comprehensive Plan. This set of policies focuses future population and employment growth in locations designated as urban centers and urban villages. Urban centers are part of a regional strategy embodied in Puget Sound Regional Council's (PSRC) Vision 2040 Plan, which contains descriptions and minimum density standards for these intended high-density, mixed-use areas. Six of the region's 16 designated urban centers are in Seattle. In addition, Seattle's Comprehensive Plan designates about two dozen urban villages, which are expected to be neighborhood-oriented concentrations of mixed uses. The urban village strategy tries to match growth to the existing and intended character of the city's neighborhoods. Seattle has designated four categories of urban villages according to their degree of land use intensity (see Figure 3-1 to view these designated areas). These include:

- **Urban Centers –** the densest neighborhoods in the city, which serve as regional employment centers and high-density livable urban neighborhoods (Uptown, Downtown, South Lake Union, First Hill/Capitol Hill, the University District, and Northgate)
- **Manufacturing/Industrial Centers (MIC) –** home to heavy and light industrial businesses with critical connections to regional and local goods movement (Duwamish MIC, Interbay MIC)

Seattle's density will be focused in Urban Centers like Downtown (pictured above).

Image from Flickr user Payton Chung

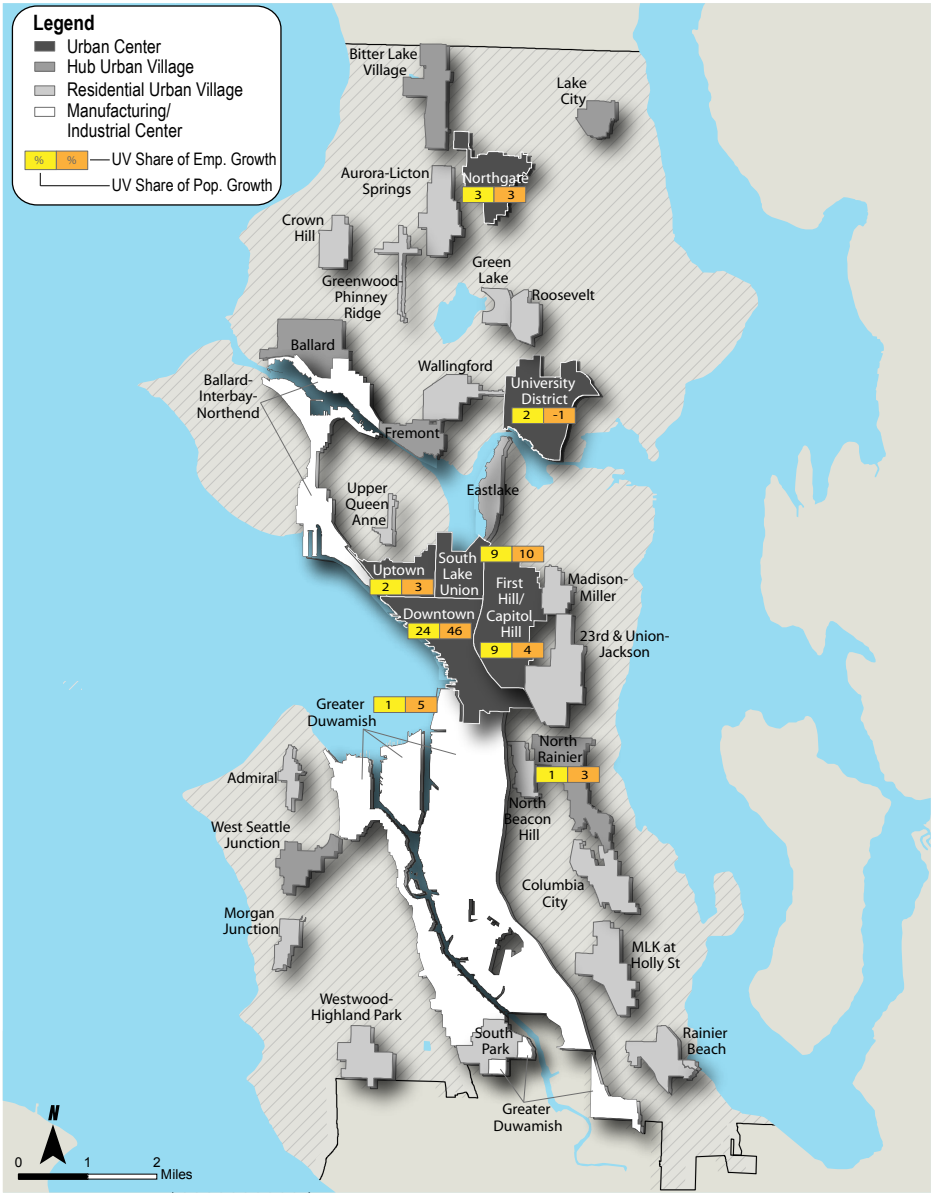
- **Hub Urban Villages –** walkable, 20-minute neighborhoods that provide a balance of housing and employment; less dense than Urban Centers, yet supportive of high frequency transit (Bitter Lake Village, North Rainier)
- **Residential Urban Villages –** primarily residential with some neighborhoods goods and services for local residents; may not include

employment and in some cases employment is de-emphasized (Upper Queen Anne, Eastlake, 23rd & Union-Jackson, Morgan Junction)

Seattle is currently home to roughly 575,000 residents and 500,000 employees. According to the city's 2030 growth projections, Seattle's population and employment will increase by 17% (net growth of roughly 100,000 new residents) and 42% (net growth of roughly 210,000 new employees), respectively. Overall, the city has zoning capacity to accommodate over 250,000 additional residents and over 250,000 jobs. That capacity provides the city the ability to increase both households and jobs by about 50% beyond current levels. Seattle's Urban Centers and villages are projected to absorb 63% of population growth and 91% of employment growth. This means that the vast majority of growth will be concentrated in only one-third of the city's land area. Figure 3-1 shows the locations and types of urban villages and calls out the designated areas absorbing the greatest share of the city's growth.

Urban villages indicate not only where existing and future population and employment growth should occur, but also where public investments in infrastructure and services should be made, particularly transit service. The City recognizes the mutually supportive relationship between transit and land use and seeks to improve the quality of transit service by clustering the city's transit market in dense, mixed use neighborhoods along the Urban Village Transit Network (UVTN)—Seattle's backbone for high quality transit service (see Section 4 for more detail on the UVTN). The urban village strategy will promote walkable, urban lifestyles supported by compact development, placemaking, attractive streetscape design, and

FIGURE 3-1 URBAN VILLAGE DESIGNATIONS AND GROWTH



About a quarter of residential and half the employment growth is expected to go into downtown, while roughly a third of population and less than half of employment growth will be distributed in urban villages designations throughout the city. South Lake Union is expected to see the highest shares of both residential and employment growth outside of downtown. Capitol Hill is also projected to see a high share of residential growth (9%).

Source: City of Seattle

top-quality transit and non-motorized transportation systems. The urban village strategy coupled with strategic transportation investment programs are intended to decrease reliance on automobile travel and make transit and non-motorized transportation options the modes of choice for Seattleites (see the City's Walk, Bike, Ride initiative and the Planning for Transit Communities section on page 3-5 for more information).

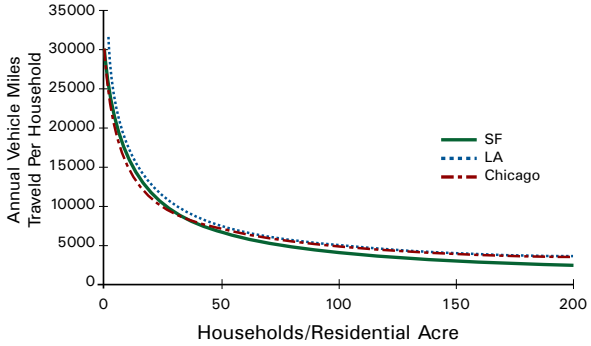
Although the urban village strategy seeks to accommodate projected growth in strategic development nodes, the strategy neglects the potential for concentrated corridor development along key high ridership local bus routes. A high density, mixed-use corridor approach could further strengthen the potential for transit-oriented development and segment-by-segment placemaking initiatives.

KEY LAND USE FACTORS AFFECTING TRAVEL BEHAVIOR

Density, land use diversity, design, regional destinations, and distance to quality transit (often called the five "Ds") are key factors commonly cited as influencing trip making, transit use, and length of driving trips.[1] [2] Demand management (pricing and incentives) and demographics (income and household size) are also considered important factors, but to a lesser extent. Extensive research shows that the built environment—including neighborhood form, land use patterns, transportation network, and urban design—significantly impacts travel behavior. Compact development is also linked to positive externalities such as reduced greenhouse gas emissions, active community environments, and increased livability (urban open spaces, affordable housing, and transportation options).[3]

Densely populated, transit-supportive environments play a significant role in people's travel behavior. Focusing density (i.e., employment, retail employment[4], and housing per acre) in areas with good access to transit is a key determinant of transit use.[5] More recently, studies have shown that working

FIGURE 3-2 VEHICLE MILES TRAVELED VS RESIDENTIAL DENSITY



Research confirms that automobile travel decreases as density increases

Source: Holtzclaw, J. et al (2002)

and living near transit stops or living within transit-oriented developments (TODs) is related to increased transit use and lower numbers of vehicle trips.[6] [7] In fact, a recent study of 17 urban and suburban TODs found that they generated 47% fewer vehicle trips than projected.[8] Similarly, highly pedestrian-friendly environments (e.g. high connectivity, sidewalk completeness) lead to more transit and walking trips and fewer vehicle trips compared to less walkable areas of cities.[9] Figure 3-2 displays the relationship between community form (residential density) and travel behavior in three urban contexts (Los Angeles, Chicago, and San Francisco).

1 Cervero, Robert and Kara Kockelman (1997), "Travel Demand and the 3Ds: Density, Diversity, and Design," *Transportation Research Part D*, Vol. 2, pp 199-219.

2 Ewing, Reid and Robert Cervero (2001), "Travel and the Built Environment: A Synthesis," Transportation Research Record 1780, Washington, DC: Transportation Research Board, pp 87-114.

3 Ewing, Reid, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen (2008). *Growing Cooler: Evidence on Urban Development and Climate Change*. Urban Land Institute.

4 Retail employment per acre is separated from employment per acre because it displays a higher propensity for transit use.

5 Nelson\Nygaard (1997), *Primary Transit Network Phase II Report*. Report for Tri-Met.

6 Cervero, Robert and GB Arrington (2008), Effects of TOD on Housing, Parking, and Travel. Transportation Research Board, TCRP Report 128.

7 Lund, Hollie, Robert Cervero, and Richard Willson (2004), *Travel Characteristics of Transit-Oriented Development in California*. Final Report.

8 TOD study sites were located in Washington DC, Portland, Philadelphia, and San Francisco. Baseline projected trip demand derives from Institute of Transportation Engineer's Trip Generation Manual.

9 Parsons Brinckerhoff Quade and Douglas, Inc., with Cambridge Systematics, Inc. and Calthorpe Associates (1993), *Making the Land Use Transportation Air Quality Connection.The Pedestrian Environment*. Report prepared for 1000 Friends of Oregon.

Several studies specific to the Puget Sound region have linked land use and urban form to travel behavior. In Seattle, development patterns that are compact, walkable, and on a community scale generate roughly 8% fewer vehicle miles traveled than conventional growth patterns typified by segregated land uses.[10] Residents of Seattle's most walkable and diverse neighborhoods (in terms of land use mixing) drive 26% fewer miles per day than those living in sprawling areas with poor pedestrian connectivity.[11]

In coordination with greater land use diversity and intensity, developing attractive streets that provide space for all road users—also known as a complete streets—and high quality public spaces that encourage play, repose, education, and entertainment play a significant role in attracting ridership along surface rail and local bus corridors. There is an emerging trend to seamlessly integrate shared streets and well-used public spaces (as depicted in Portland, OR below) at the doorstep of surface-rail lines and downtown transit malls. This strategy encourages walking and transit use as a part of daily life by creating pedestrian friendly streets and well-integrated public spaces. Other key factors that activate lively and walkable streets include building setbacks and orientation toward the street, entrances, shorter block size (200–300 foot blocks are considered walkable), a transparent system of wayfinding, intersection density, placement of parking, and streetscape improvements that integrate stormwater design, lighting, and public seating.

10 Lawrence Frank and Company, Inc. (2005), *A Study of Land Use, Transportation, Air Quality, and Health* (LUTAQH) in King County, WA: Executive Summary,.

11 Frank, Lawrence, Brian Stone Jr., and William Bachman (2000), "Linking Land Use with Household Vehicle Emissions in the Central Puget Sound: Methodological Framework and Findings." *Transportation Research Part D* Vol. 5, pp 173-96.

Director's Park in Portland integrates curbless street design, stormwater features, park space, retail, and light rail into the urban fabric.

Image from Nelson\Nygaard

Nearly all transit trips begin and end by walking and biking.

Image from Nelson\Nygaard

FACILITATING ACCESS TO TRANSIT

Improving access to transit is an integral component of building livable communities. Almost all transit trips start and end with a walk or bicycle trip; thus, the importance of connecting pedestrians and bicyclists to transit cannot be overstated. No matter how frequent, comfortable, and well-planned transit service is, passenger experience and ridership will suffer if it is difficult, time-consuming, or uncomfortable to get to and from stops and stations. Safe and direct access to bus stops and station areas by pedestrians and cyclists is a key component to ensuring high quality service.[12] Land use diversity and density also plays a significant role in improving access to transit; people are more likely to use transit as neighborhoods become denser and the mix of uses diversifies.

12 Bicycle and pedestrian integration is discussed further in Section 7: Best Practices (Bicycle Access to Transit and Pedestrian Access to Transit).

Generally, streetcar and King County Metro local bus service offer higher levels of access by providing frequently spaced stops; the quality of access varies greatly depending on topography, investment in stop facilities, street connectivity, block size, crossing opportunities, and sidewalk quality. However, transit stops and stations can only be as effective as the streets and sidewalks that lead to them. Streetcars and local bus services with more frequent stops, must consider access along the entire length of the line as a critical component of the service, while Link light rail and Sounder commuter rail services typically have a greater investment in access to fewer stations and rely on feeder transit service. Future service planning and route re-organization should reconcile the competing goals of increased access to high frequency transit lines and elevated service quality, as shorter distances between stops hinders reliability and vehicle operating speeds.

PLANNING FOR TRANSIT COMMUNITIES

The City of Seattle has identified several goals for land use and urban design within rail station areas and high frequency transit corridors that complement reliable, high quality transit service. These goals were recently unveiled in a Seattle Planning Commission report entitled Seattle Transit Communities. This report offers policy and design guidance with regards to coordinating public and private investments within station areas and transit corridors. Mirroring the City's urban village strategy, each transit community identified in the report is circumscribed into different land use and urban design typologies respecting neighborhood identity and physical context within the broader network of urban villages. Transit community typologies include mixed use centers, mixed use

Vibrant, densely populated urban neighborhoods supplemented by urban open spaces and walkable streets are the hallmark of Seattle's transit communities. Occidental Park and Pioneer Square, pictured above, is a representative example of walkable urbanism.

Image from Flickr user Eric Fredericks

ELEMENTS OF LIVABILITY IN TRANSIT COMMUNITIES

Investing in neighborhood livability transforms neighborhoods with access to frequent and reliable transit into transit communities. Key elements of livability identified in the *Seattle Transit Communities* report include:

- Orienting land uses and density toward transit
- Enhanced bicycle and pedestrian access to transit
- Focus on green streets and open space
- Context-sensitive street design—providing facilities for pedestrians, cyclists, transit users, and motor vehicles
- Active street frontages featuring wide sidewalks, street furniture, landscaping and street trees, pedestrian-scaled lighting, and space for café seating
- Affordable housing and access to public services such as senior centers, schools, and public spaces

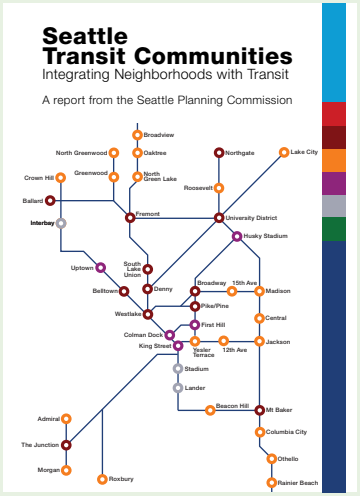


Image from Seattle Planning Commission

neighborhoods, special use districts, and industrial job centers. Typologies offer varying levels of residential and employment focus, respecting each community's existing character. Each transit community typology provides land use strategies and policy tools that will facilitate implementation. Sample strategies include elimination of parking minimums, establishment of minimum density requirements and small lot ordinances, and breaking up large block faces with mid-block crossings.

In general, transit community land uses are mixed and directly connect high-quality transit to a variety of housing types and neighborhood-serving businesses such as restaurants, grocery stores, and health care services. Density is concentrated at transit and employment hubs in order to maximize ridership potential. Streets are well-connected and pedestrian-scaled, offering an engaging walking environment with active street frontages. Public space is an important community asset allowing for "breathing room" in dense areas. Affordable housing for low- and moderate-income housing is a critical component of any transit-oriented community. Many high-density neighborhoods with excellent access to transit pay a high premuim for housing because demand outweighs supply. Increasing density along with supportive policies like inclusionary zoning and the Workforce Housing Incentive Program will ensure affordable housing is built and maintained.[13] As with the urban village strategy, the effort to organize transit community investments according to a nodal typology ignores the potential for corridor development. An additional typology supporting local bus corridor growth could include "Main Street" communities.

13 Nikolic, Sara, Dan Bertolet, Peter Dane, David Cutler, Don Vehige, Tim Trohimovich, Bill LaBorde (2009), *Transit-Oriented Communities: A Blueprint for Washington State*. A report for Futurewise.

FOCUS ON UPZONING: SOUTH LAKE UNION AND NORTHGATE

In order to satisfy growth targets set by Seattle's Comprehensive Plan, the City has initiated upzoning efforts in two designated Urban Centers—South Lake Union and Northgate—in order to increase population and employment capacity. The following describes general objectives of rezoning in these two growing neighborhoods.

South Lake Union

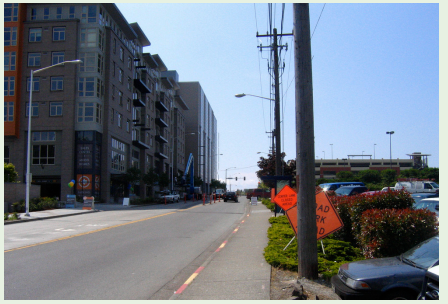
When South Lake Union was designated an Urban Center in 2004, the City established 20-year growth targets of 16,000 jobs and 8,000 dwelling units for the area. South Lake Union will be rezoned in order to provide additional housing and employment capacity to accommodate future population growth and increase height and density to support transit use. Depending on the alternative chosen, building heights would range between 65 and 400 feet with residential and commercial floor area ratios (FAR) between 4.5 and 5. Developers may also be able to increase height and density of buildings (up to a FAR of 7) through an incentive zoning program in exchange for providing public benefits such as affordable housing and open space.

Growth in South Lake Union

Image from Flickr user Oran Viriyincy

Northgate

A key objective of upzoning the Northgate neighborhood is to enhance the area's urban form through pedestrian orientation, highly diverse and intensified land use, and increased height limits. Another key objective is to focus future growth and leverage development opportunities along the Northgate Way corridor, especially around Northgate Mall, Hubbard Homestead Park, and Northgate Civic Center on 5th Avenue NE. Increased zoning capacity stemming from rezoning will help the area meet or exceed its projected housing and employment growth targets (20,000 total households and 27,000 total jobs). Rezoning could increase net residential growth (on top of current zoned capacity) by 1,000 to 1,800 housing units and stimulate between 500,000 and 700,000 square feet of additional commercial floor area. Northgate could absorb 2,200 to 4,000 new residents and 2,100 to 2,700 new jobs. Building heights would increase from 40 to 85 feet to 40 to 160 feet. This growth will be concentrated north and east of the Northgate Mall and immediately west of the I-5 off-/on-ramps. As in the South Lake Union upzone effort, voluntary density bonuses could be traded for public benefits.



Residential density in Northgate will increase significantly

Image from Flicker user Chas Redmond