

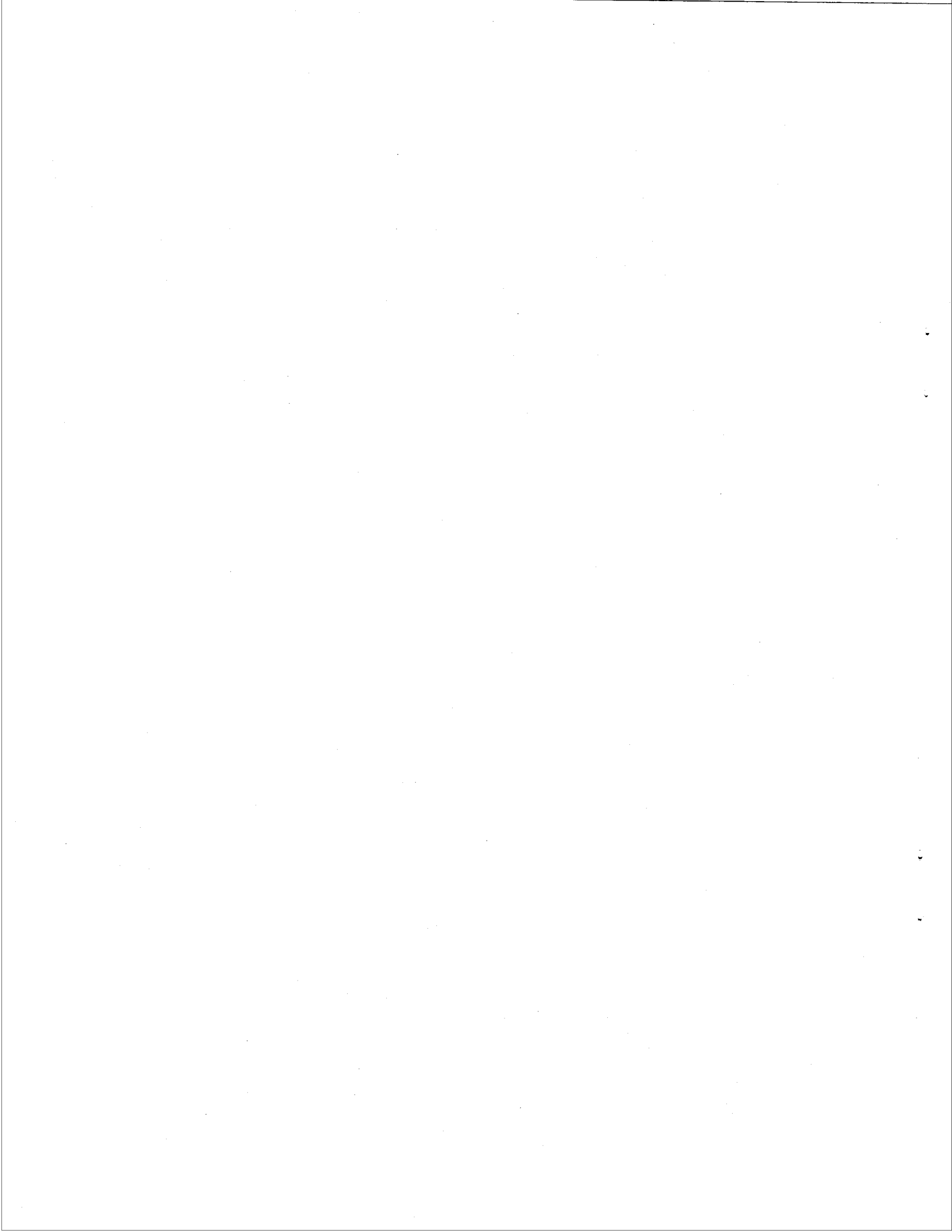


FUTURE VISION COMMISSION

**Settlement Patterns in the Portland
Region: A Historical Overview**

by

**Carl Abbott
January 1994**



**SETTLEMENT PATTERNS IN THE PORTLAND REGION:
A HISTORICAL OVERVIEW**

**Prepared for
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SETTLEMENT PATTERNS IN THE PORTLAND REGION: A HISTORICAL OVERVIEW

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SETTLEMENT PATTERNS IN THE PORTLAND REGION: A HISTORICAL OVERVIEW

INTRODUCTION

Cities exist because they serve two basic functions--to generate economic value and to sustain social and cultural values. In the most fundamental sense, the interaction of these two urban roles determines the growth of metropolitan areas and patterns of land use and settlement within those urban areas.

Cities are economic machines. The most successful cities are those that efficiently facilitate the processing of goods and the exchange of goods and services. In economic terminology, cities are locations where value is added by transforming products into new forms, by transferring goods to new customers, and by transmitting information among experts and users.

Major cities are also centers of wide-reaching social and cultural networks. They provide the locations for the institutions that hold societies together--churches, governments, secular organizations, communication media. They are the places where ideas are developed, shared, challenged, and refined.

At the center of great cities we find the institutions that represent the two functions--market and mosque, guild hall and cathedral, department store and city hall. In the contemporary city we plan for adequate industrial and commercial land, and we simultaneously strive for strong central districts that help to define and support our common identity as members of communities.

Within this framework of metropolitan functions, five factors have strongly affected American urban settlement patterns. The first section of this report briefly introduces these broad forces. The central section traces in detail the ways in which the factors have shaped settlement and land use in the Portland area over the last 150 years. The concluding section suggests new ways in which these five basic factors may operate in the coming decades and briefly analyzes possible new effects on the region's settlement patterns.

Figure 1 shows the organization of the report in graphic form, indicating the continuity among the subsections:

Figure 1

FACTORS INFLUENCING PORTLAND METROPOLITAN SETTLEMENT PATTERNS

Section 1:	Section 2:	Section 3:
CONDITIONING FORCES	PORTLAND METRO GROWTH	EMERGING TRENDS
Mastery over nature ----->	Natural environment ----->	Ecological awareness
Agglomeration economies ----->	Industrial/commercial land needs ----->	Global and information economies
Transportation technologies ----->	Passenger transportation/residential land needs ----->	Digital highways
Social valuation of distance ----->	Community values/cultural forces ----->	Social patterns/family structure
Growth as policy goal ----->	Public policies ----->	????

1. CONDITIONING FORCES

A) Mastery Over Nature

American society has historically assumed the right to reshape the natural environment to current economic needs. The impacts of this assumption have been especially apparent in the American West, where marginally habitable natural environments have required massive reallocations of water and other resources. Hydro-electric dams, irrigation systems, and huge diversions of water under the continental divide or around the Sierra Nevada mountains are examples of the active restructuring of the natural environment for human uses.

American city builders have also remade their local landscapes, taking seriously the injunction in Isaiah 40 that "every valley shall be lifted up, and every mountain and hill be made low; the uneven ground shall become level, and the rough places a plain." Much of downtown San Francisco, New York, and Boston (the "Back Bay" neighborhood) are built on filled land. Urban streams have been channelized and buried and fresh water imported over hundreds of miles. Hills have been leveled and reshaped to supply buildable land, most impressively in Seattle. City makers also compete with farmers for the same high quality land, for the characteristics that make land attractive for farming--easily tilled soils, good drainage, level or gently rolling topography--are equally attractive to homebuilders.

Compared to their neighbors in Seattle or San Francisco, Portlanders have been relatively careful in their impacts on the landscape. Nevertheless, any comparison of nineteenth-century and twentieth-century maps will show the extent to which Portland area residents have encroached on rivers and wetlands in their search for high value land, a process that reached its peak in the early decades of this century.

B) Agglomeration Economies

In the contest for metropolitan growth, a variety of factors allow ambitious cities to outdistance their rivals. One of the most important and basic factors is a site and location favorable to long-distance transportation. Less predictable but equally important have been the historical accidents by which individual entrepreneurs have made their home base in specific cities--Henry Ford in Detroit, George Eastman in Rochester, David Packard in Palo Alto. Bridging the gap between natural endowment and individual enterprise have been community efforts to provide the seedbed for economic development by investing in physical and social infrastructure. An example is the willingness of Seattle in the late 1950s and 1960s to invest in container cargo terminals, the University of Washington, the Century 21 exposition, and the massive Forward Thrust bond measure.

Once a city has gained an edge on local rivals, it is common for the rich to get richer. That is, cities with broadly developed economies attract additional activities. A large city has a labor force with diverse skills, a wide range of suppliers and professional experts, and local sources of capital, all of which make it fertile ground for new or growing businesses. Economist Wilbur Thompson has talked about a ratchet effect, arguing that once a city reaches a certain size it has a built-in momentum for further growth. A broad economic base attracts new industries, whose payrolls in turn support further broadening of the metropolitan economy in a repeating cycle.

Thompson's argument applies in particular to economically diversified cities such as metropolitan Portland. In the absence of a single dominant employer or industrial sector, it has been relatively insulated from downturns in the economic cycle. It has been well positioned for steady growth during upswings.

The principle of agglomeration also applies to patterns of land use within metropolitan areas. Activities tend to cluster with like activities. Proximity allows them to share suppliers, to interchange goods and information, to hire and fire from the same pool of trained workers, and to deal with lenders familiar with their business, and to attract a larger pool of customers.

The classic downtown of American cities is one such cluster. It evolved between 1870 and 1920 to meet the commercial needs of the growing metropolis with new institutions that served the new mass market--department stores, vaudeville theaters, steel-frame skyscrapers. Downtown activities in turn clustered into distinct subdistricts for finance, government, retailing, and entertainment, a pattern still visible in downtown Portland.

Manufacturers have also found benefits from proximity. An example is the New York City garment district in lower Manhattan, where thousands of small firms depended on the daily interchange of inputs and information. More recent examples are the petrochemical complex along the Houston ship canal and the electronics firms of Silicon Valley or Washington County. Although there is strength in numbers, there is also danger in concentration if an industrial sector enters an era of decline (as with the vast steel mill complex at the southern tip of Lake Michigan or Portland's nineteenth-century lumber mills).

In turn, industrial clustering has been the strongest determinant for the location of working class housing. Industrial workers, historically burdened by long hours and low wages, have usually tried to live close to their factories. The result in most cities has been the development of working class neighborhoods adjacent to industrial corridors and concentrations (for example, the neighborhoods around the

Chicago stockyards). This is a pattern that strongly affected Portland's riverfront districts from the 1850s through World War II.

C) Transportation Technologies

A third basic determinant of residential patterns has been changing technology of passenger transportation. Since the 1840s, American cities have evolved from "walking cities" to "streetcar cities" and then to "automobile metropolises." The successive new technologies have vastly expanded the size of urban areas and allowed the subdivision of neighborhoods by economic status and ethnicity.

The first American cities were pedestrian cities. From the 1600s to the 1840s, city-dwellers got from one place to another on foot. When Benjamin Franklin arrived in colonial Philadelphia to make his fortune in 1723, he didn't hop on a streetcar, hail a cab, or stop at the Hertz counter--he walked from the waterfront into town. So did everyone else, rich and poor alike.

Walking cities were small and compact out of necessity, limited to an approximate radius of 2 miles (making cities roughly an hour's brisk walk from one end to the other). With space at a premium, residents and activities jumbled together in what was sometimes a chaos of competing land uses. Streets were narrow, buildings crowded, environmental sanitation poor, and social classes in constant contact. On a much smaller scale than early New York or Philadelphia, Portland and Oregon City in the 1850s and 1860s fit the model of compact, pedestrian cities.

The first transportation improvement was the horsecar or horse-drawn street railway, which appeared in east coast cities in the 1850s and came to Portland in 1871. Horsecars doubled the effective radius of cities from 2 to 4 miles. Portland, for example, grew from 10th Street westward to 23rd Street during the horsecar era of the 1870s and 1880s. Unfortunately, horsecars were also unsanitary, slow, and inefficient. Nor were the first mechanically-powered alternatives, such as cable cars and miniature steam railroads, much better.

The answer was the electrically powered streetcar, an improvement universally adopted by American cities in the 1890s. Streetcars were faster, more comfortable, and carried more passengers. They again expanded the effective radius of urban development from to 6 or 8 miles, vastly increasing the land available for urban uses. The early twentieth century brought an explosion of "streetcar suburbs" as builders rushed to take advantage of the new transportation system by developing areas like east side Portland. The newly useable land allowed Americans to build single-family detached houses rather than row houses and to sort themselves out by social class and ethnic affiliation. The streetcar city of the early twentieth century was thus a socially divided city. Because streetcar lines converged on the offices and businesses

located in the city center, it was also a city that depended on and revolved around its downtown.

The newest stage in urban transportation technology arrived with the democratization of the automobile in the 1920s. Automobiles have again extended the effective radius of urban development to span, for example, the 40 plus miles from Forest Grove to Sandy or from Newberg to Battleground. They have allowed Americans to confirm their preference for free-standing houses on large lots and extended the pattern of social sorting. Passenger cars and trucks have also eroded the power of the single metropolitan core, enabling outlying centers to develop increasing economic autonomy as "outer cities" or "edge cities," a process apparent in the Portland region but much less advanced than in many metropolitan areas.

D) The Social Valuation of Space

In an important sense, changing transportation technologies have had their greatest effect by allowing the expression of community values or cultural choices that stand outside the realm of economics.

Since the days of Daniel Boone, Americans have liked elbow room for its own sake. Far more than continental Europeans, for example, they prefer single-family houses to attached housing or apartments. They prefer large yards to small yards and persuade jurisdictions with undeveloped land to require large minimum lot sizes. On the exurban fringe, the desire translates into five-acre farmettes and country roads densely lined with new houses on narrow, deep lots.

Americans use residential location to establish and substitute for social distance. In mobile and egalitarian America, few people have a social identity that is defined and limited by family origins. Nor are there many exclusive signs of social status. Modern merchandising (installment buying, credit cards, auto leasing) allows persons with modest incomes to drive fast cars, wear fashionable clothes, and vacation in the tropics. We often have no idea whether our middle class neighbor has fallen from riches or risen from rags in the style of a Horatio Alger story.

In this socially fluid environment, neighborhood can be a proxy for status. Most obviously, house and neighborhood are a symbolic package that helps to place people by socioeconomic position. Many Americans will pay substantially more for an identical house if it is in a "better" rather than a "poorer" neighborhood. They are buying a more prestigious address, not a superior form of shelter from wind and cold.

It is an elaboration of the same point to say that place is also a component of individual and group identity. Zip code marketers, with their identification of "Volvo-brie" neighborhoods and "minivan-pizza" neighborhoods are on to something.

Commitment to a particular place is often strong in low-income communities whose residents are heavily dependent on local services and institutions. It can be just as strong in upscale neighborhoods like Boston's Beacon Hill or the Portland area's Dunthorpe.

In addition, of course, Americans sort themselves by ethnic group and race. The Little Italies, Poletowns, and other European immigrant neighborhoods have historically been sources of group cohesion and strength. They gave a home base to political leaders, supported ethnic businesses, and housed churches, schools, newspapers, and other institutions that served that group.

Racial ghettos--whether nineteenth-century Chinatowns or black ghettos of the twentieth century--have differed in origins and impact. By definition, they are the result of restrictions imposed by the majority society, not a product of voluntary sorting. The result has been to impose special costs on their residents including the deterioration and crowding of housing, inferior public services, and sometimes the deliberate concentration of crime.

E) Growth as a Policy Goal

Americans have made the choice to design "open" cities. An "open city" welcomes all newcomers as long as they bring capital, skills, or a willingness to work. Unlike religious utopias or company towns, open communities reflect the imperatives of economic growth and democracy. Newcomers are welcome for the labor, capital, and ideas that they contribute to the common cause of city-building. Periodic anti-immigrant campaigns, usually triggered by economic downturns, stand out as exceptions rather than the rule. The other glaring exception to the premise of the open city, of course, has been the creation of racial ghettos with their limitations on individual opportunity.

Land use planning and other public policies have reflected this orientation to economic growth. Since the early nineteenth century, city governments have competed vigorously to attract new businesses with incentives such as cheap land and favorable tax treatment. They have battled for improved transportation connections, whether a new railroad or a through flight to Tokyo. By implication, growth-oriented cities expect population growth and the expansion of their settled area into the countryside.

The easiest design for open communities has been the gridiron street plan, infinitely extendable as the city grows. The grid orients us in metropolitan space and provides the framework for extending the subdivision frontier. In the phrase of planning historian John Hancock, the American grid is a "neutral support for pure speculative processes." Like other major U.S. cities, greater Portland has grown by

incremental extension of its initial grid, so that the metropolitan area now stretches within a grid that runs from at least 268th east to 242nd west (with major exceptions for terrain and subdivision design).

Within the land development grid, land speculation has been a powerful force in favor of outward growth. In a large city, land is generally less expensive toward or beyond the edge of development and more expensive in or toward the center. Investors with large amounts of capital can afford to speculate in centrally located land. Smaller real estate investors, in contrast, have tended to find that their opportunities on the fringe. American cities have historically gone through cycles of speculative over-platting of peripheral land in advance of the market, often leading to fragmented and inefficient development patterns. The very existence of the recorded lots and dedicated streets, however, has tended to attract development outward.

In addition, federal policy directly supported the policy goal of peripheral growth after World War II. The federal government underwrote many of the costs of new land development. The 1950s brought federal funding for highway construction and federal assistance for regional planning. General Revenue Sharing arrived in 1972. Revenue sharing was preeminently a suburban aid program, tilting federal assistance away from central cities to all full-service governments, whether a city of 2 million or a suburban town of two thousand. The 1970s also brought \$40 billion in federal grants for sewer construction, mostly in the newly developing areas on the metropolitan fringe.

Federal support of for homeownership through the mortgage insurance programs of the Veterans Administration and the Federal Housing Administration reinforced these effects. Responding to the tremendous pent-up demand for housing, the government from 1946 through 1950 along backed \$20 billion of VA and FHA loans, approximately 40 percent of all home mortgage debt. There were nearly 2 million housing starts in peak year of 1950. Mass produced communities and subdivisions were starters for couples in their late twenties or early thirties hurrying to make up for lost time on a tight budget. Indeed, the 1940s are the decade in which a majority of American households became homeowners (55 percent) rather than renters (45 percent), a trend that continued in the 1950s and 1960s. The process was also reinforced by the general adoption of self-amortizing mortgages and the deductibility of mortgage interest on federal income tax returns.

Taken in isolation, the encouragement of homeownership might have been neutral in locational effects. However, federal agencies "red-lined" thousands of older neighborhoods by refusing mortgage guarantees. By so doing, they artificially reduced the market for existing housing and expanded the market for new housing. The result, again, was strong federal encouragement of metropolitan population decentralization.

The commitment to continual economic growth has also included a broad willingness to accept what theorist Josef Schumpeter called the "creative destruction" of free market capitalism. New markets and products mean changing needs for urban land. The result has been continual rebuilding of American cities that proceeds simultaneously with their building. Although no land use is fixed or permanent, the pressures for reuse have been strongest in the most central or accessible parts of the metropolis, particularly the downtown core. The same block in downtown Portland, for example, has held in succession the first school building, the Portland Hotel, the Meier and Frank parking structure, and Pioneer Courthouse Square. Urban renewal has been a public policy intended to speed and rationalize this process of reuse. The current debate about the fate of I-5 on the east bank of the Willamette River is one more episode in this process of continual shaping and reshaping with the help of the public sector.

The rebuilding process also impacts neighborhoods. The rebuilding is sometimes cataclysmic, as with the intrusion of industrial uses, rapid institutional expansion, or clearance of run-down housing. It can be more gradual, as with the replacement of single family housing with low-cost, low-value apartments. Neighborhood changes can sometimes reverse as the metropolitan housing market changes and changes again. An example is the conversion of large houses in Northwest Portland to multiple occupancy between 1930 and 1960 and their reconversion to single-household occupancy by the more recent generation. There is every reason to expect similar patterns of rebuilding and reuse in Clackamas and Washington counties as postwar commercial strips and subdivisions fail to meet the demands of twenty-first century markets. In recent decades, public policies have tried to encourage conservation of older neighborhoods and rehabilitation of older housing. To the degree that such efforts prevent neighborhood abandonment, they slow the expansion of the metropolitan fringe; to the degree that they result in reduced population densities, they may accelerate that expansion.

2. PORTLAND METROPOLITAN SETTLEMENT PATTERNS

The evolution of Portland area settlement patterns falls into four periods. The first period, which serves as a prologue to this section, is that of Native American settlement. The second period covers the first generations of British and American settlement from the establishment of Fort Vancouver in 1825 through the 1880s. The third period covers Portland's "urban explosion" between 1890 and 1930. The final period covers the decades of metropolitan-regional growth from 1930 to the present.

Within each of the major periods, the discussion is organized around the five factors identified in the previous section. As applied to metropolitan Portland, these factors are (1) the natural environment, (2) commercial and industrial land needs, (3) passenger transportation technologies, (4) community values, and (5) public policies. Figure 2 indicates the relative importance of these factors during each period. The natural environment, for example, was a major determinant in the early decades but faded in importance in the early twentieth century. Public policy, in contrast, has steadily increased in importance over the last century and a half, leading to current discussion of policies to shape twenty-first century development patterns.

Figure 2

Two Centuries of Portland Metropolitan Growth: Key Factors

	1825-1890	1891-1930	1930-present
Natural Environment	xx	-	x
Commercial/ Industrial Land Needs	xx	x	x
Passenger Transportation Technology	x	xx	xx
Cultural Forces and Community Values	x	x	xx
Public Policies	-	x	xx

- = minimal constraint

x = significant factor

xx = dominating factor

2.A: Native American Settlement Patterns

When British and American explorers and traders first reached the Pacific Northwest in the decades around 1800, substantial numbers of Native Americans lived along the shores of the lower Columbia River. The two most important locations were the Columbia estuary and the falls at Celilo. The rich bays and shorelines of the estuary supported a large population with access to ocean resources and coastal trade. Celilo Falls, 200 miles upriver, was another natural trading center. Chinook Indians from the coast could trade dried fish, cedar bark and other coastal products for the furs and hides that Paiute and Shoshonean tribes brought from the interior plateaus.

Between Celilo and the mouth of the Columbia, speakers of Chinook dialects dotted the river islands and entry points of small rivers and streams. Their "metropolis" was Sauvie Island and the adjacent Oregon shore. Lewis and Clark counted 2400 people on the island and 1800 along the south side of the Multnomah Channel. Six years later, British fur trader Robert Stuart reported a population of about 2000 on the island itself--a denser population than the island supports today. By piecing together the reports of different European travelers, we can locate about fifteen separate villages on Sauvie Island and immediately adjacent areas. Residents fished for salmon, sturgeon and smelt; hunted migratory birds and deer; gathered nuts and berries; and dug wappatoo roots along the rivers. "Wappato Island" was Lewis and Clark's name for Sauvie Island. Cedar logs provided materials for canoes, cooking utensils, and longhouses. Villages were built to last for years rather than decades, for the abundance of natural resources made it easy for a group to move from one spot to another within its general territory.

In contrast to their bustling settlements along the Columbia, Native Americans made only limited use of the lower Willamette River. Not until they reached the Clackamas River and the Willamette River falls did European explorers find more than scattered and often temporary settlements. Here, where the salmon stopped, the natural environment again made life relatively easy for the Cushook, Chahcowah, and Clackamas peoples. The falls were a point of contact between maritime tribes and hunting peoples of the Tualatin Valley. Twenty or so small villages of Tualatin Indians used the valley, traded with river people, and occasionally gathered near Gaston. They were a subgroup of the Kalapooias of the central Willamette Valley, all of whom had learned to improve their environment with periodic fires. Their purpose, they told naturalist David Douglas, was to clear the land for ease of gathering wild foods and to force deer into tree islands where they were easy to hunt.

In a very different way, a change in the natural environment destroyed the native Americans whom it had nurtured. Among the world's most isolated peoples, the Indians of the Northwest coast were easily susceptible to new diseases that arrived with Europeans. As has been true for millennia, a disease that has become common and relatively "tame" among one population can devastate a new population with no previous contact. In 1829, measles attacked the Sauvie Island villages. The next year the "Cold Sick" or "Intermitting Fever" appeared in Chinook and Kalapooia villages. It raged for the next three years along the Willamette and lower Columbia. It is likely that the disease was malaria brought from the tropical Pacific by traders, although influenza is another possibility. Whatever its true identity, the Cold Sick spread outward from an infection epicenter at Sauvie Island and Fort Vancouver. It killed half in some villages, 90 percent in others, leaving a few hundred Native Americans and a virtually unoccupied landscape for the English-speaking settlers who began to arrive over the Oregon Trail in the 1840s.

2.B: Settlement Patterns, 1825-1890

1) Natural environment

To understand initial American settlement patterns, it is important to remember that explorers and settlers approached the Portland area by water. The closest contemporary equivalent to the landscape that greeted them would be the less developed banks of the lower Columbia River. What visitors saw were low, sandy islands, separated by shallow channels from marshy bottomlands and backed by rising hills or bluffs. Along the shores were thick tangles of willows, maples, and alders. Most prominent for Portland were Swan Island, Ross Island, and Sauvie Island. Other wetlands had formed where streams emptied into the Willamette, as with the mouth of Sullivan's Gulch on the east side and Marquam Gulch on the west side.

Many of the wider bottomlands were covered with shallow sheets of water that were refreshed by winter rains and spring floods. Settlers who needed well-drained land for fields and orchards and remembered the devastation of floods in the Mississippi Valley shunned areas like Couch's Lake and Guild's Lake in northwest Portland. Smith and Bybee lakes in North Portland are remnants of a landscape that also covered much of the south shore of the Columbia with its maze of sloughs and lakes.

As they approached this marshy, sandy front door, the first Anglo-American settlers found little to praise. Philadelphia physician and naturalist John Townsend summed up a common reaction when he wrote about the future vicinity of Portland that "there is not sufficient extent unencumbered [by vegetation], or which could be fitted for the purposes of tillage, in a space of time short enough to be serviceable; others are at some seasons inundated, which is an insurmountable objection."

Early settlers placed a premium on three landscape features. One was relatively well-drained terraces that sloped gradually up from the rivers--a feature shared by early settlement points such as Oregon City, Portland, Linnton, St. Johns, and Vancouver. A second feature was streams with enough flow and fall to generate water power for sawmills and other basic factories. Tanners Creek, dropping out of the West Hills behind the Portland townsite, is one example; Johnson Creek is another. The third feature was the fertile and easily tilled prairies of the Tualatin Plains, which attracted many of the area's first farmers.

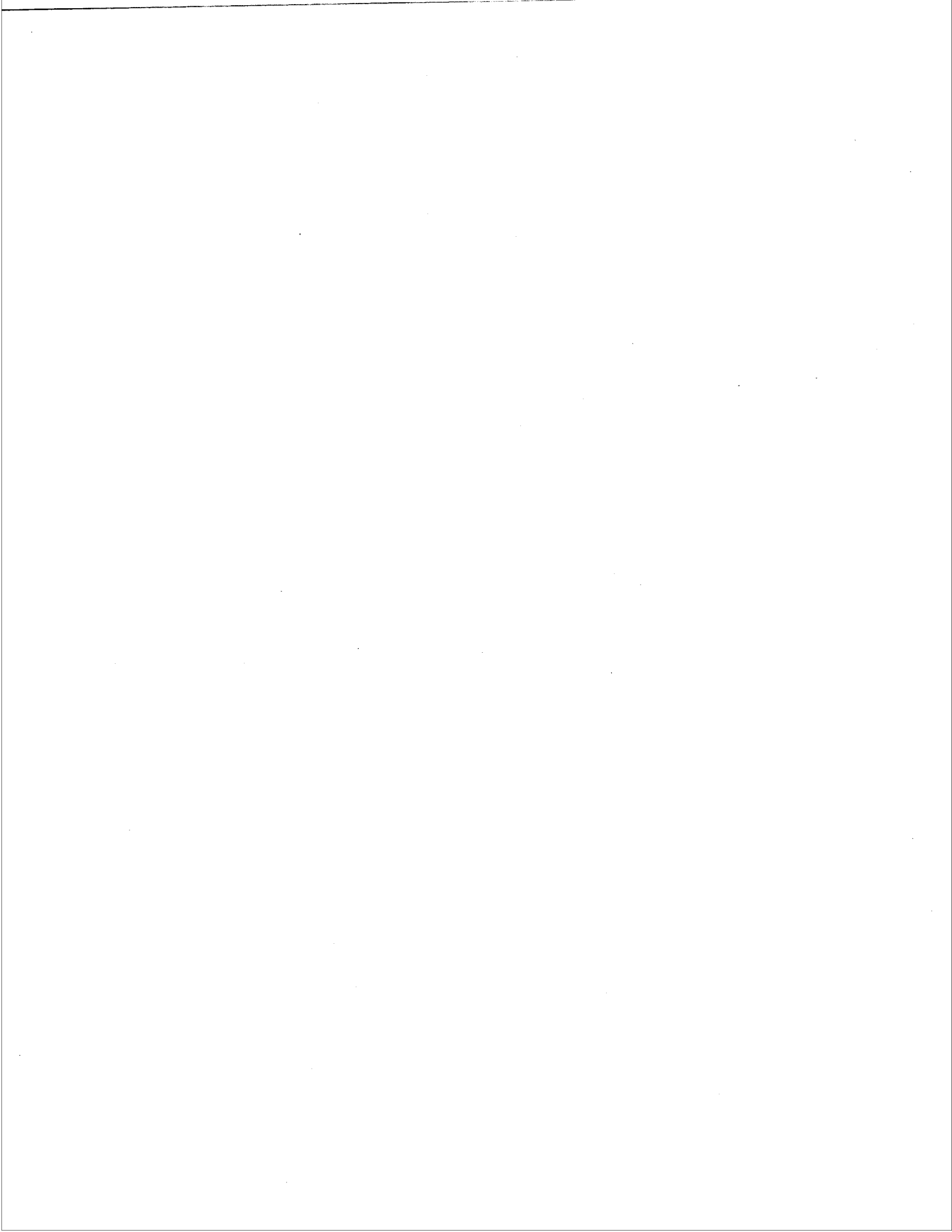
Given this early dependence on the natural landscape, it is not surprising that early Anglo-American settlers within the Portland metropolitan region made decisions that resembled those of Native Americans.

Early Settlement

First Federal Township Survey Maps of 1852

This is a compilation of the first detailed maps of the Portland region made in 1852. They were redrawn for the Region 2040 Project by Ruth Cougno and Emily Wied.



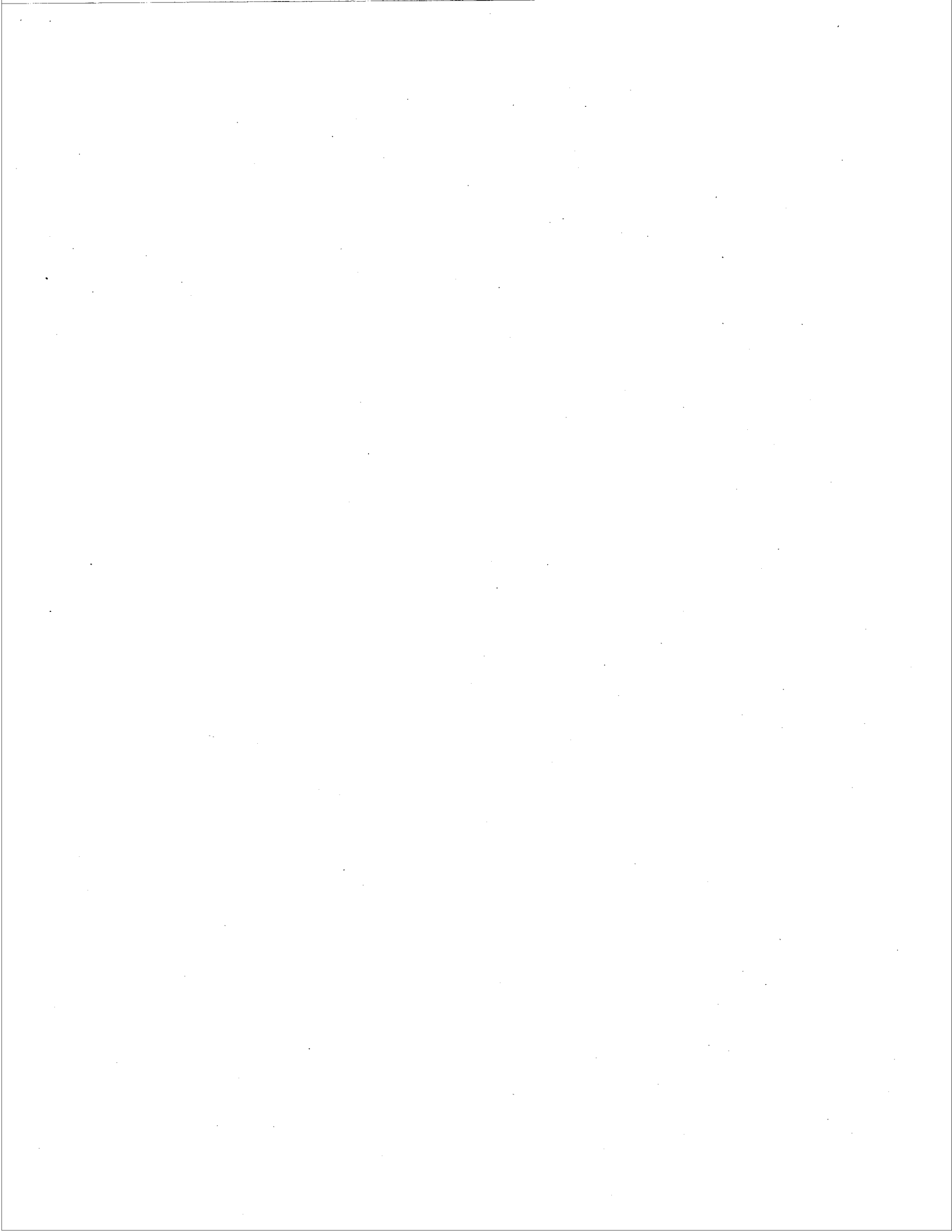


The Hudson's Bay Company moved its base of operations from Fort George (near Astoria) to Fort Vancouver in 1825. The new post soon bustled with activity under the management of John McLoughlin. The site offered convenient access to the four points of the compass--up the Columbia River to the network of interior trading posts and beaver streams, down the Columbia to the wider world, north along the Cowlitz River corridor to Puget Sound, south up the Willamette River. McLoughlin used Sauvie Island to pasture cattle to feed his trading post. By 1850, the southern end of the island would have a cluster of farmers raising livestock and potatoes.

Oregon City was a secondary center and gathering point. Beginning in 1840-41, John McLoughlin and Methodist missionaries contended for control of what seemed a natural location for a town. Located below the Willamette River falls, it was a necessary stopping point for small sailing ships and canoes. Above the falls were the rich Willamette Valley prairies, already settled at Champoeg by French-speaking employees of the Hudson's Bay Company. Oregon City was also midway between the Tualatin River from the west and the Clackamas River route to the east, along which a number of early pioneers settled. By the winter of 1842-43, the new town had thirty buildings and a gristmill. It was the first destination for the swelling American migration that brought 800 settlers to Oregon in 1843 and 1200 in 1844. Opening of the Barlow Road cutoff from The Dalles to Oregon City in 1845-46 seemed to confirm Oregon City's role as the major junction point south of the Columbia. Maps of early roads and farms clearly show its centrality as a communication center around 1850 (Map 1). With 933 residents, Oregon City was big enough to have a "suburb" in the form of Linn City (population 124).

The most important agricultural district in the circle around Oregon City was the Tualatin Plains, the northernmost of the Willamette Valley prairies. The plains lay west of Rock Creek in what is now the Hillsboro-Forest Grove-North Plains-Banks area. In the 1830s, Hudson's Bay Company employees from Fort Vancouver sometimes drove cattle over the muddy passes of the Tualatin Mountains (West Hills) to fatten on the rich summer grasses of the Tualatin Valley. In the 1840s, American wheat farmers pushed aside the British cattle. The newcomers saw no reason to hew farms out of dense forest. Instead, their ideal location was on the margin of the open grasslands, with easy access to timber and fresh springwater from low foothills. Early Washington County towns included Columbia (Hillsboro) and West Tualatin (Forest Grove) as the bulk of development was separated from the Willamette River by the Tualatin Mountains and their forested western slopes.

Within this early settlement system, the site of the future Portland was Oregon's first highway rest area. Native Americans and fur trappers had cleared part of a dry, sloping bank on the west side of the Willamette roughly halfway between Fort Vancouver and Oregon City. It was a good spot to cook a meal, spend a night,



or repair equipment. Jesse Applegate later remembered his visit to "the clearing:" "We landed on the west shore, and we went into camp on the high bank where there was little underbrush . . . No one lived there and the place had no name; there was nothing to show that the place had ever been visited except for a small log hut near the river, and a broken mast of a ship leaning against the high bank. There were chips hewn from timber, showing that probably a new mast had been made there . . . but there was no prophet to tell of the beautiful city that was to take the place of the gloomy forest."

Early the next year, when William Overton and Asa Lovejoy claimed the square mile that would become downtown Portland, they knew that they had a promising site. As two British spies described the new town in 1846, "the situation of Portland is superior to that of Linnton, and the back country of easier access. There are several settlements on the banks of the [Willamette] river below the falls, but the water, covering the low lands during the freshets render them valueless for cultivation, and but few situations can be found adapted for building on."

Lovejoy's shrewd choice contrasts with the unrealized proposal of Bostonian Hall J. Kelley. An armchair geographer and Oregon enthusiast, Kelley developed a grandiose scheme for a city at the immediate confluence of the Columbia and Willamette. With no direct experience of the topography, he proposed a settlement that would have been mired miserably in the sloughs and marshes of what we now call Kelley Point and Rivergate.

Although Portlanders would gradually assert mastery over their natural environment, the differences between wet and dry land continued to influence the detail of settlement through the nineteenth century. In east side neighborhoods like Buckman, for example, east-west ridge lines were developed for housing before the valleys in between; surviving clusters of Victorian houses reflect that early adaptation to topography. Along the marshy east side waterfront, Grand Avenue became the major commercial connection because it was the first north-south street that ran on firm land (portions of what is now S.E. Martin Luther King Boulevard had to be raised on pilings).

Although it now seems obvious, finally, the most imposing natural impediment to urban growth--the Willamette River itself--was not effectively mastered until the very end of this initial settlement period. The Willamette Iron Bridge Company completed the Morrison Bridge in 1887. A railroad bridge (Steel Bridge) followed in 1888 and opened for wagons and streetcars a year later. Private investors built a rickety, wooden Madison Street Bridge in 1891 and sold it to the city the next year. The city followed with a much more substantial Burnside Bridge in 1894. Taken together, the four spans and their successors set the stage for the west side city to become an east side metropolis in the early twentieth century.

2) Industrial/Commercial Land Needs

The tiny town that Asa Lovejoy and Francis Pettygrove began to develop in 1844 and 1845 grew as a creature of the regional transportation system.

As the California gold rush created a booming San Francisco market for Oregon wheat and lumber, Portland struggled to establish itself as the head of ocean-going navigation on the Willamette River. "Head of navigation," of course, was a moving target. It varied with the season, the length of the wharf, the type of ship, and the foolishness of its captain.

The first rivalry was with Milwaukie, founded in 1848. Milwaukie had the Western Star newspaper, which began publication two weeks before The Oregonian. It also had the Lot Whitcomb of Oregon, the first steamboat built in the territory. The steamer could make 14 miles per hour on its run to Astoria during its inaugural season of 1851, but trouble was in the wings. One boat after another began to scrape bottom or bend a propeller on the Ross Island sand bar. Captain John Couch, who had relocated his business interests from Oregon City to Portland, announced that the river at Ross Island normally had only four feet of water and claimed to have ridden clear across on horseback. Milwaukie was soon a stranded town, too risky as a destination for increasingly expensive steamers.

The battle between Portland and St. Helens was tougher. St. Helens built a road over the Cornelius Pass. Portland countered with the "Great Plank Road," the first "paved" route along the Sunset corridor. Then came the news--in February 1851--that the Pacific Mail Steamship Company of San Francisco was going to terminate its California-Oregon service at St. Helens. The company's worry was another sandbar, this time at Swan Island. The contest hung in the balance for two years until Pacific Mail found it was unable to make full cargoes at St. Helens and began to advertise direct service between San Francisco and Portland.

After gaining control of trade between the Willamette Valley and California, Portland entrepreneurs looked eastward. From the 1860s to the present, metropolitan growth has been tied to the resources of the Columbia River Valley. Central to the city's prosperity was the Oregon Steam Navigation Company, the Portland-owned company which controlled travel to eastern Oregon, Washington, and Idaho. Settlers east of the Cascades hated its monopoly and high freight charges, but Portlanders liked the jobs and money that it funneled to the city. Contemporaries called it Oregon's "millionaire-making machine."

On September 10, 1883, finally, Portland celebrated its connection to the nation's transcontinental railroad system via the Northern Pacific Railroad. The line had opened for business in the summer but the official golden spike was driven at

Deer Lodge, Montana on September 8. Two days later Portland welcomed a trainload of dignitaries including former president Ulysses S. Grant. The following year the city gained a second connection to the Union Pacific system.

Railroads and river steamers made the bustling port the entrepot for the vast Columbia Basin, bringing raw materials for transshipment or manufacture. The combination of rail and water transportation also created an industrial/working class corridor that formed the south-north axis of the city in the 1870s and 1880s.

Fulton (now the Terwilliger neighborhood) anchored the corridor on the west bank of the Willamette. North of Fulton's factories and worker housing were South Portland and then waterfront docks and warehouses that were interspersed with the cheap lodgings of Skid Road. The wharves and mills of the industrial waterfront resumed north of the growing rail yards (Figure 3). George Weidler operated the city's largest steam sawmill at the foot of Savier Street and industrial workers filled the small houses of Slabtown. Further downriver, the waterfront settlement of Linnton developed a cluster of wood products factories.

The east side of the river developed as part of the same industrial corridor. East Portland and Albina were the Hoboken and Jersey City of the Willamette-- industrial suburbs built around docks, mills, factories, and railroad yards. East Portland, set behind a marshy waterfront directly across the river from Portland, was platted in 1861 and incorporated in 1870. Its legal boundaries stretched from Southeast Holgate to Northeast Halsey. Its factory district started with the Inman-Poulson lumber mill just north of Ross Island and continued northward.

East Portland was the focus of Ben Holladay's short-lived business empire. Starting in 1868 with \$1.5 million from a California freighting business, he won control of the Portland-to-California railroad project, running his tracks down the east side of the Willamette to the distress of land owners on the west side of the river. He owned docks, warehouses, and ships and tried to use his railroad to make Holladay's Addition (the present Lloyd Center area) into the business center of Portland. The Depression of 1873 and hostile Portland business leaders ended Holladay's empire, but his colorful career is a sharp contrast to the sober majority of Portland's elite. It also provides historical context for the longstanding rivalry between Portland's east and west sides.

To the north was Albina, laid out in 1873 and incorporated in 1887. Because the transcontinental and California railroads first linked up in Albina, the eastside city assumed a central economic role as a railroad switching and repair center managed by the Northern Pacific Terminal Company and then the Union Pacific (after 1890). Up to a thousand rail cars rolled in and out of Portland on a busy day. William S. Ladd's Portland Flouring Mills towered seven stories above the Albina



Figure 3. Willamette River Waterfront in 1905

shoreline--the largest in the Northwest. F. H. Peavey of Minneapolis controlled the Pacific Coast Elevator, whose 1,000,000 bushel capacity was unrivaled this side of the Twin Cities. It could unload grain from eight rail cars and load it into two ships at the same time. Planing mills, lumber yards, sash-and-door factories, and other manufacturing plants filled in Albina's industrial roster. Boarding houses and small cottages climbed the bluff behind the factories. The surviving symbol of this first industrial era is the Union Pacific Smokestack, built in 1887 on "a foundation that would last for all time."

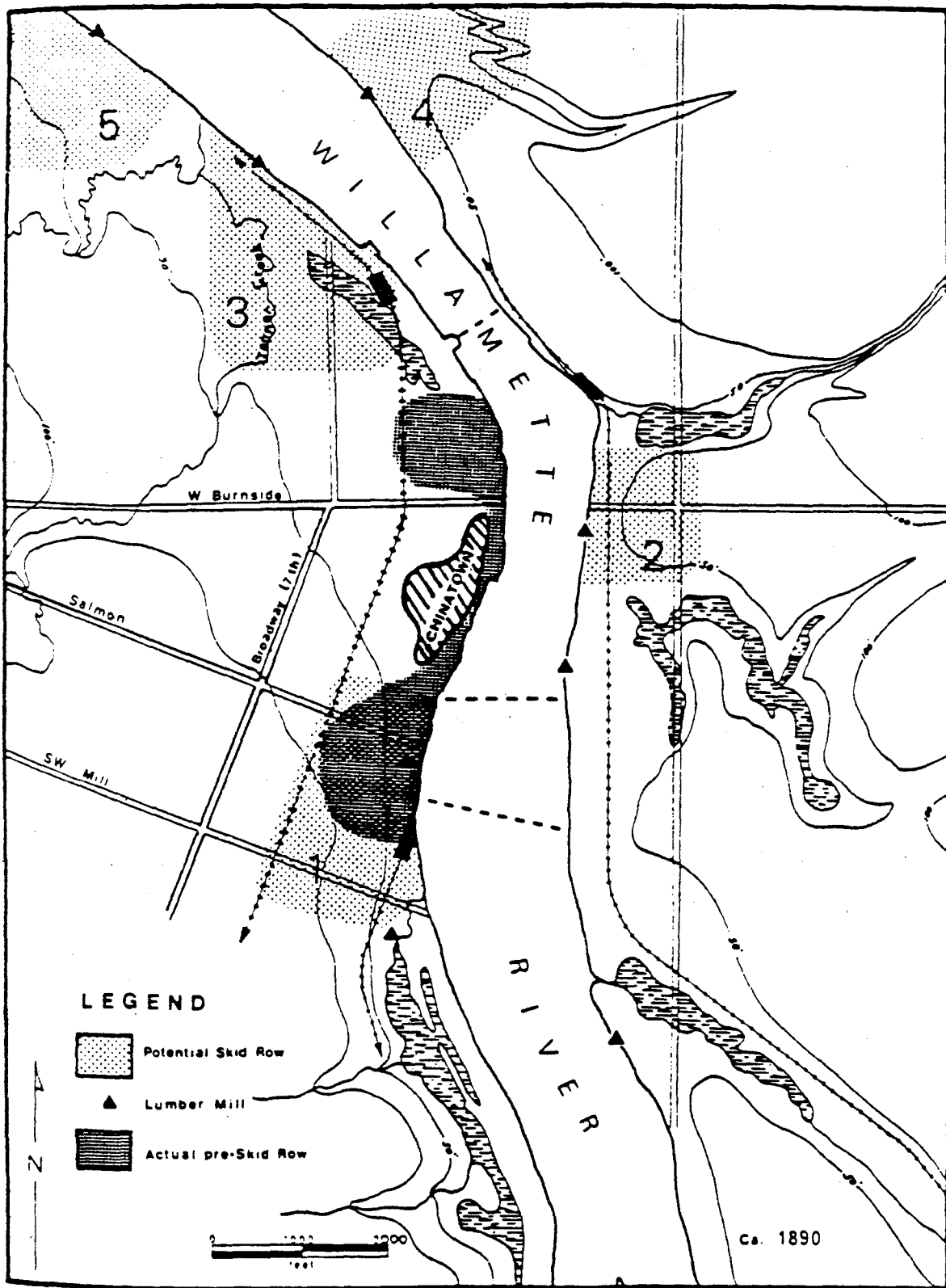
3) Passenger Transportation

Early Portland straggled along the river, shaped by the needs of river traffic and pedestrians. The first pictures show a town that stretched dozens of blocks north-south but only a few blocks westward into the woods. The walking city got its first public transportation in 1871 with a line of horse-drawn streetcars along First Street. Property owners along this main thoroughfare, especially between Davis and Salmon, built the city's first downtown by replacing frame buildings with 3-4 story masonry buildings fronted with elaborate cast iron facades.

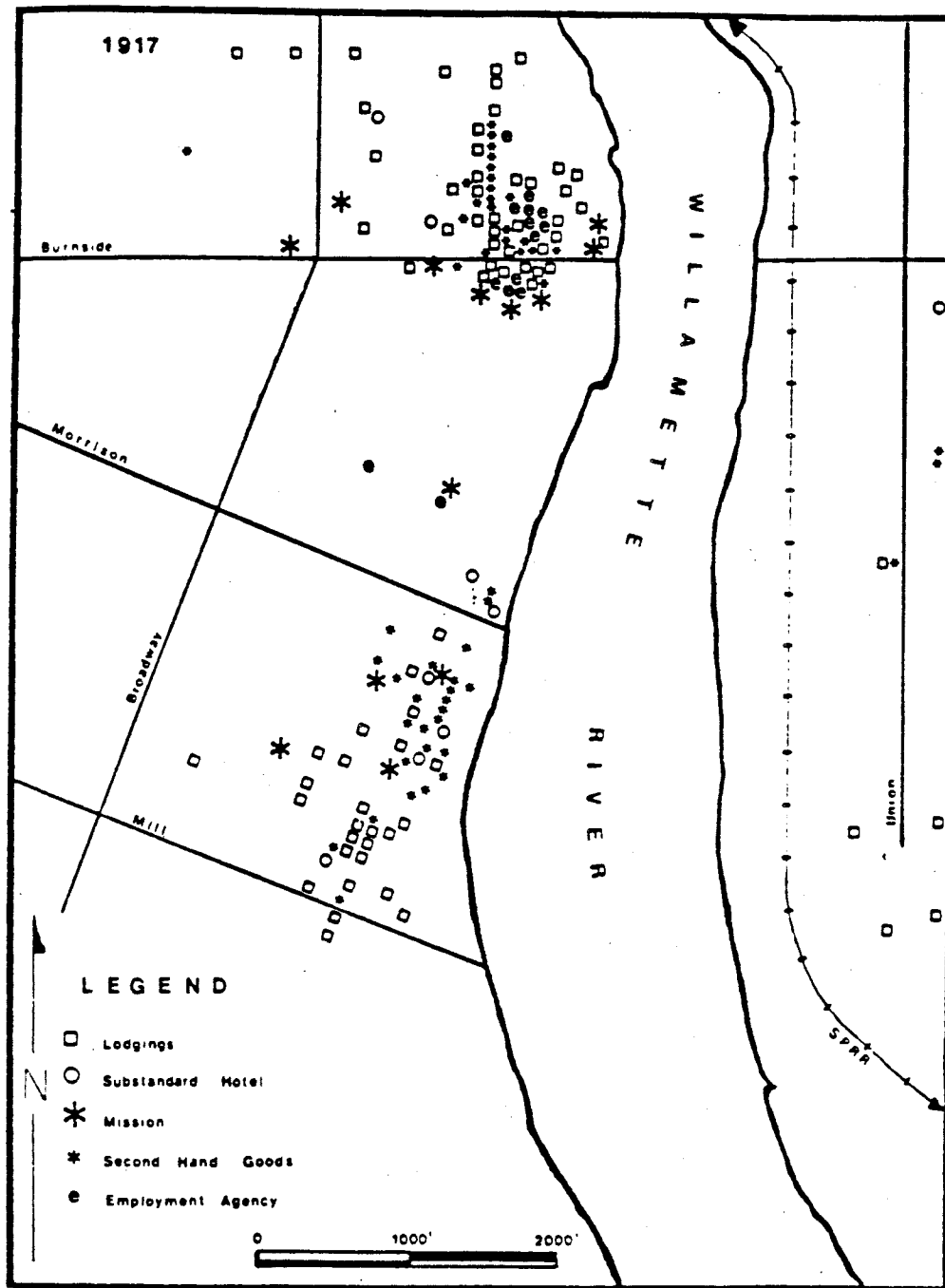
Waterfront workingmen's districts flanked downtown to the north and south. The Lownsdale and Burnside districts were connected by the First Street horsecars and within easy walks of waterfront industry and shipping (Maps 2, 3). With cheap accommodations, second hand stores, brothels, saloons, and employment agencies, the districts served a transient labor force of lumberjacks, farm workers, seamen, and railroad construction gangs who wintered over or passed through Portland. At their height in the early twentieth century, the districts may have housed as many as 10,000 men, giving the city proportionately one of the largest skid roads in the nation

4) Community Values

If workingmen hugged the waterfront, Portland's business and professional families looked toward higher lands. The first "good" neighborhoods were Northwest Third and Fourth and Southwest Broadway, whose distinguished residents such as Matthew Deady enjoyed the quiet view of Mount Hood from their front porches. In search of social distance, more affluent families continued to seek sites with the best combinations of good views, fresh breezes, and easy accessibility. One such area was the South Park Blocks. Across the river, comfortable and even affluent families could choose sites along the ridge that extended from Mock's Crest through the future location of the Alameda neighborhood and across Sandy Road--all in all "one of the most beautiful and sightly locations to be found in Oregon," according to the unfailingly upbeat West Shore magazine. Albina's successful businessmen built houses with price tags that stretched as high as \$35,000.



Map 2. Industrial and Skid Row Districts in the Nineteenth Century



Map 3. Skid Row Institutions

The most important of these uphill moves created the mansion rows of 18th, 19th, 20th, and 21st streets, followed a few decades later by airy subdivisions like Willamette Heights and Westover. In the early 1880s, tycoons began to create Portland's own "Nob Hill" in imitation of San Francisco (Figure 4). Horescar lines followed the new houses as far as 23rd and Burnside and made for an easy commute to riverside offices. Here's what Oregonian editor Harvey Scott had to say about the emerging elite neighborhood a century ago: "One is led rapidly on by the sight of grand and imposing residences in the distance, of costly structure and splendid ornamentation. Many of these are set upon whole blocks, beautifully supplied with trees, turf, and flowers, and supplied with tasteful drive-ways. . . . Some of the more palatial of these edifices occupy double blocks, the cross streets not being run through. Among those of the spacious and magnificent West End are houses costing about \$20,000 to \$50,000--some of them \$90,000 each---of three and four stories, and mainly in the Queen Anne style. It is upon the swell of the plateau that these fine houses begin to appear, and the views from their upper windows and turrets are extensive. For ten blocks back--16th to 26th streets--or even further, and from about N Street southward to Jefferson, the region is, by popular consent--and still more by prevailing prices--forever dedicated to dwellings of wealth and beauty.

The social opposite of Nob Hill was Chinatown, along the central waterfront, where physical segregation also established social distance. Swollen by refugees from anti-Chinese violence in Puget Sound in 1885-86, the city's Chinese population grew from 1700 in 1880 to 7800 at the turn of the century. Like the adjacent Lownsdale and Burnside districts, Chinatown was a nearly all-male society with a handful of merchants and thousands of workingmen. The district centered at Second and Alder and stretched from Ash to Salmon between the river and Third Street (Figure 5). Many Chinese-born workers commuted to seasonal jobs on farms, lumber camps, and Columbia River salmon packing plants. Their lives while in Portland involved activities that white society defined as vices, particularly gambling and the use of opium. The existence of Chinatown gave other Portlanders the thrill of confronting the "other" as visitors or police officers while remaining firmly in charge.

5) Community Policy

Local government was far less active in the nineteenth century than in the twentieth, leaving real estate decisions to the private market. However, the public sector was central to one part of the growth agenda. Disappointed in the results of the 1890 census, the Portland Chamber of Commerce began to push for consolidation of three adjacent cities. Eastsiders would enjoy the removal of bridge tolls and everyone could boast of higher population. Consolidation passed resoundingly in 1891, jumping Portland from 7 to 26 square miles. Two years later it grew another 50 percent with the annexation of Sellwood, much of the southwest hills, and areas east of 24th Avenue.

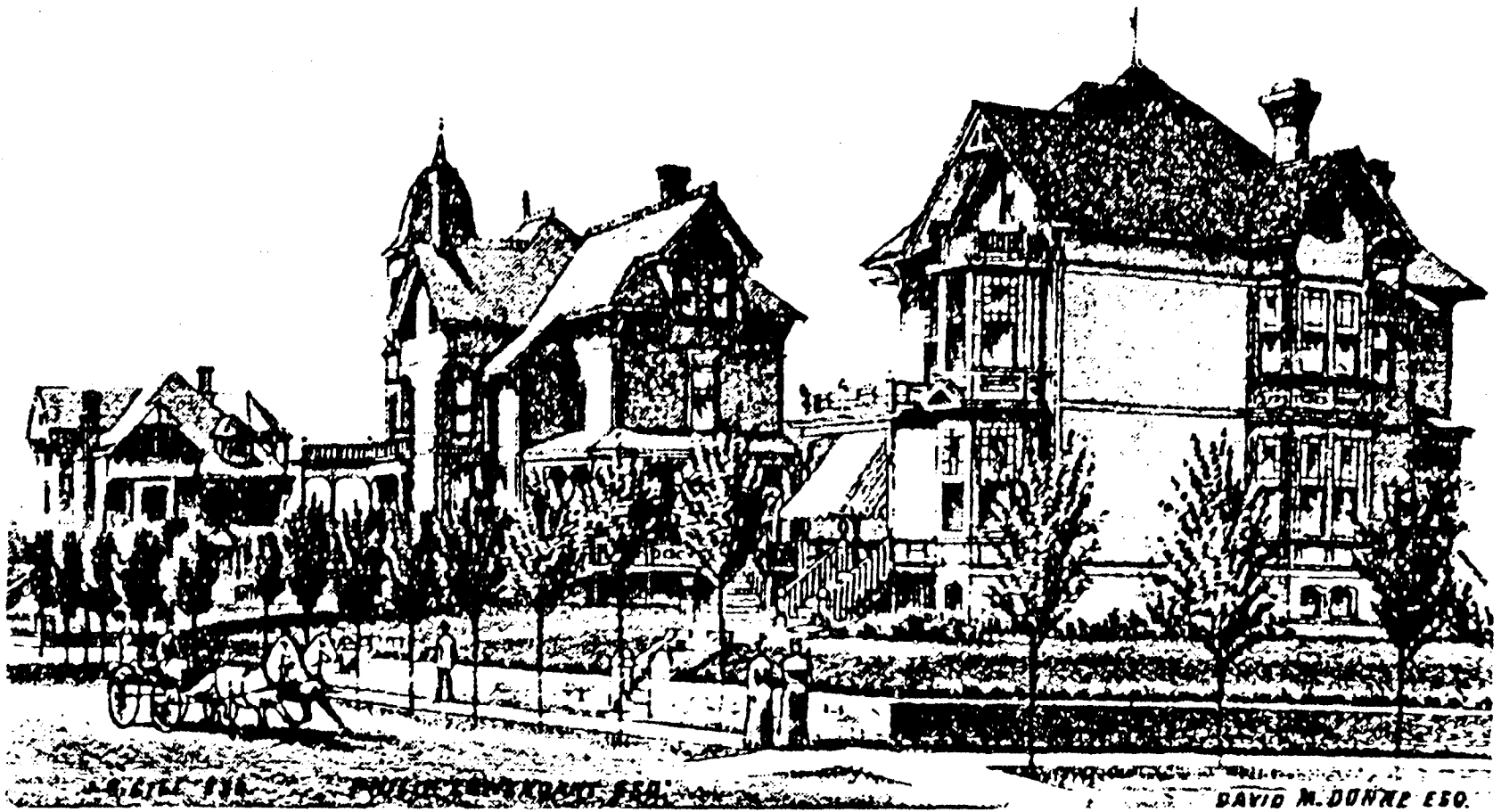


Figure 4. Nob Hill (Northwest Portland)



Figure 5. Chinatown in 1890

2.C: Settlement Patterns, 1890-1930

1) Natural Environment

The first generation of American settlers had paid careful attention to the limits set by the natural environment. Their successors in the late nineteenth and early twentieth centuries treated the same environment as something to be manipulated and adapted to urban uses.

In the city's early years, for example, growth had been helped by the proximity of fresh water from the West Hills. Its first water system had utilized Balch Creek in Northwest Portland, bringing what *The Oregonian* in 1868 called "an inexhaustible supply of as fine mountain water as any city in the world." Despite the newspaper, a second system was soon needed to tap the Willamette River opposite Milwaukie. In the 1880s, however, with the Portland Water Company strapped for cash and the Willamette increasingly suspect as drinking water, the legislature authorized the city to buy out the private company and bring pure water from the mountains. A committee that included Henry Failing, William Ladd, and Henry Corbett chose the Bull Run River on the slopes of Mount Hood and appropriated it for urban purposes. Bull Run water reached the Mount Tabor and Washington Park reservoirs in 1894 and flowed through Portland pipes on the first day of 1895. Although not as long-reaching as Los Angeles's Owens Valley aqueduct, the Bull Run system claimed a regional resource for the city.

Portlanders also manipulated the natural landscape by making new land. Dredge spoils and fill extended the Willamette River shoreline in areas like the mouth of Sullivan's gulch, turning wetlands into buildable real estate. Fill and drainage also evened the topography of Southeast Portland, pushing streams underground and opening new land for development. A careful observer can still find clues to the early drainage patterns from the distribution of older and newer buildings.

The process was even more extensive in Northwest Portland. The Northern Pacific filled Couch's Lake for rail yards. Organizers of the Lewis and Clark Exposition of 1905 kept the larger Guilds Lake clean by pumping in fresh river water while the fair was in progress. Soon thereafter began the long process of filling the lake for industrial land. Much of the soil on which the Guilds Lake industrial district is built was washed down from the West Hills. The Lewis-Wiley Company of Seattle, where hydraulic engineering was well practiced, constructed a system of high pressure hoses and flumes to carve the streets and lots of Westover Terrace out of the hills and sluice the suspended dirt into the shallow lake. By the mid-1910s the first houses speckled the bare hillside. Guilds Lake itself was a drying and settling mud flat by the 1930s, awaiting development during World War II.

Port of Portland dredges had already straightened the Willamette River at Swan Island. The Port shifted the channel from the east side of the island to the west and attached the island itself to the east bank, making another tract available for massive industrialization after 1940.

Railroad development triggered another alteration of the natural landscape by allowing logging to go big time in the higher sections of the metropolitan counties after 1900. The industry's expansion within the metropolitan region was part of the massive relocation of the American lumber business from the Great Lakes to the Pacific Northwest. Industrial logging dwarfed previous land clearance in Portland region. In Washington and Columbia counties, large-scale cutting followed railroads into the Coast Range and on to Tillamook Bay. Loggers and logging railroads also penetrated the lower slopes of the Cascades from the Clackamas and Columbia rivers. Towns like Estacada and Vernonia are essentially products of this early twentieth century timber boom. So were vanished towns like Bridal Veil and Palmer on the flank of Larch Mountain.

2) Industrial/Commercial Land Needs

The central industrial corridor grew northward during this second period of settlement and growth. In 1925, Multnomah County assessor Henry Reed estimated that 70 percent of the city's industry was located north of the Broadway Bridge.

Public agencies played an important role. The waterfront at the start of the new century was firmly in the hands of private wharf owners. Major docks were operated by the railroads, which were unenthusiastic about promoting maritime trade. Reformers set up the Commission of Public Docks in 1910 to break the private monopoly. The Commission's new public terminals began to draw the shipping business downstream (the first was Municipal Dock No. 1 in 1914). Manufacturing moved the same direction in search of large tracts of affordable land in Linnton and St. Johns, which were annexed to Portland in 1915 to enable the Docks Commission to improve the St. Johns municipal dock.

A new industrial district also appeared along the south shore of the Columbia River. The "North Bank" railroad (now part of the Burlington Northern system) completed its Columbia River line and bridge in 1907. Swift and Company took advantage of the new railroad by opening a huge packing plant where 1500 workers processed livestock from eastern Oregon and Washington. Another dozen large factories quickly followed. Swift also built the community of Kenton to house its employees. The neighborhood business district ran along Denver Avenue, with housing for managers on one side of the avenue and housing for workers on the other.

The same period brought a bigger, brighter, and presumably better downtown. Portland's first downtown of masonry buildings with cast-iron facades paralleled the river on First and Second and focused on the New Market Theater (1872), a combination of drive-through market and meeting hall. The twenty cast iron buildings that still survive (out of perhaps two hundred) now form the core of the Yamhill and Skidmore-Old Town historic districts. A new downtown began to form between Third and Broadway after the disastrous flood of 1894 reminded property owners of the merits of high land. New electrified trolley lines poured thousands of workers and shoppers into the city center, creating such congestion that the city's first traffic officer was stationed at Third and Washington in 1901. Between 1900 and 1930, the downtown core grew from 15 acres to 120 acres. The typical buildings were steel-frame skyscrapers of eight to twelve stories, surfaced with bright glazed tile. The contemporary downtown still uses these terra cotta buildings of the early twentieth century. Of particular note are the early department stores--especially Meier and Frank (built in three phases) and Olds and King (now The Galleria).

3) Passenger Transportation

It was the addition of rail transit to the new bridges that transformed farms and orchards east of the Willamette River into a set of new neighborhoods between 1889 and 1912. Electrically powered trolleys replaced horsecar lines in a burst of new investment in the 1890s. A series of mergers created the Portland Railway, Light and Power Company in 1906. Four years later, PRL&P was operating 161 miles of streetcar line, carrying 16 million passengers, and sending a thousand streetcars a day across the Willamette River bridges.

The streetcar era created what we now call "traditional neighborhoods"--large expanses of single family houses on individual lots with local services along major streets. One real estate boom stretched from 1887 to 1893. After severe economic depression in the mid-1890s, the Lewis and Clark Exposition ushered in a second and even more exciting boom from 1905 to 1912. With the impetus of the World's Fair and the development of agriculture and stock raising in the inland empire of the Columbia Basin, the population within the Portland city limits TRIPLED from 90,000 in 1900 to 264,000 in 1916. Population in the "new" east side neighborhoods passed west side population in 1906; it was more than twice the west side by 1916. Over the decade, east side population exploded from 55,000 to 178,000. To put that level of growth in perspective, Washington County would have to leap from 312,000 people in 1990 to 1,000,000 in 2000.

The streetcar neighborhoods of 1890-1915 developed in two broad growth corridors. One extended directly eastward from the established business core, following trolley lines that crossed the Morrison, Madison (Hawthorne), and Burnside bridges into what are now the Buckman, Sunnyside, Kerns, Mount Tabor, and

Richmond neighborhoods. The second corridor extended north from the points where the Steel Bridge and later the Broadway Bridge touched a long westward curve of the Willamette River. Growth was oriented to a railroad route to Woodlawn and the Columbia River crossing and to streetcar lines along Mississippi and Albina streets, Williams avenue, and what was then Union Avenue. Figure 6 shows the west side and waterfront orientation of Portland in 1889. Maps 4, 5, and 6 show the areas of developed east side land by 1910, the streetcar routes of 1912, and streetcar ridership in 1920.

The streetcar system was also responsible for "micro-level" patterns in land development. In Southeast Portland, the northern half of Ladd's Addition developed before the southern half because of proximity to the Hawthorne Street trolley line. In the 1990s, the contrast is still visible between the larger "old Portland" style houses north of Ladd's Circle and the 1920s bungalows to the south (Map 7). We can similarly compare the density of commercial structures that developed along streetcar arteries (Hawthorne, Belmont, Sandy, Union, Killingsworth) with the much more scattered development along non-trolley streets like Division. Major trolley streets experienced dramatic transformations in the first quarter of the century--from residential streets with retail clusters at major intersections to continuous strips of two-story and three-story commercial buildings (Figure 7).

Even more impressive were two secondary "downtowns" along Grand Avenue and Russell Street. They had developed to serve independent East Portland and Albina and flourished even after consolidation in 1891. Indeed, retailers W. P. Olds and Aaron Frank both noted that it took fifteen years after the merger for eastsiders to get into the habit of west side shopping.

The surviving core of the Russell Street Historic Design District represents early commercial development that served the workers and businesses of the early Albina waterfront as well as residents of what is now the Eliot neighborhood. According to data compiled by the Pacific Telephone and Telegraph Co., it was the third largest commercial district in the city in 1916. The Hill Building at the intersection of Russell and Williams defined the heart of the district from the 1890s into the 1960s. When the bulldozers arrived a couple decades ago, the Portland Development Commission's gesture was to relocate the building's cupola to Dawson Park as an architectural joke.

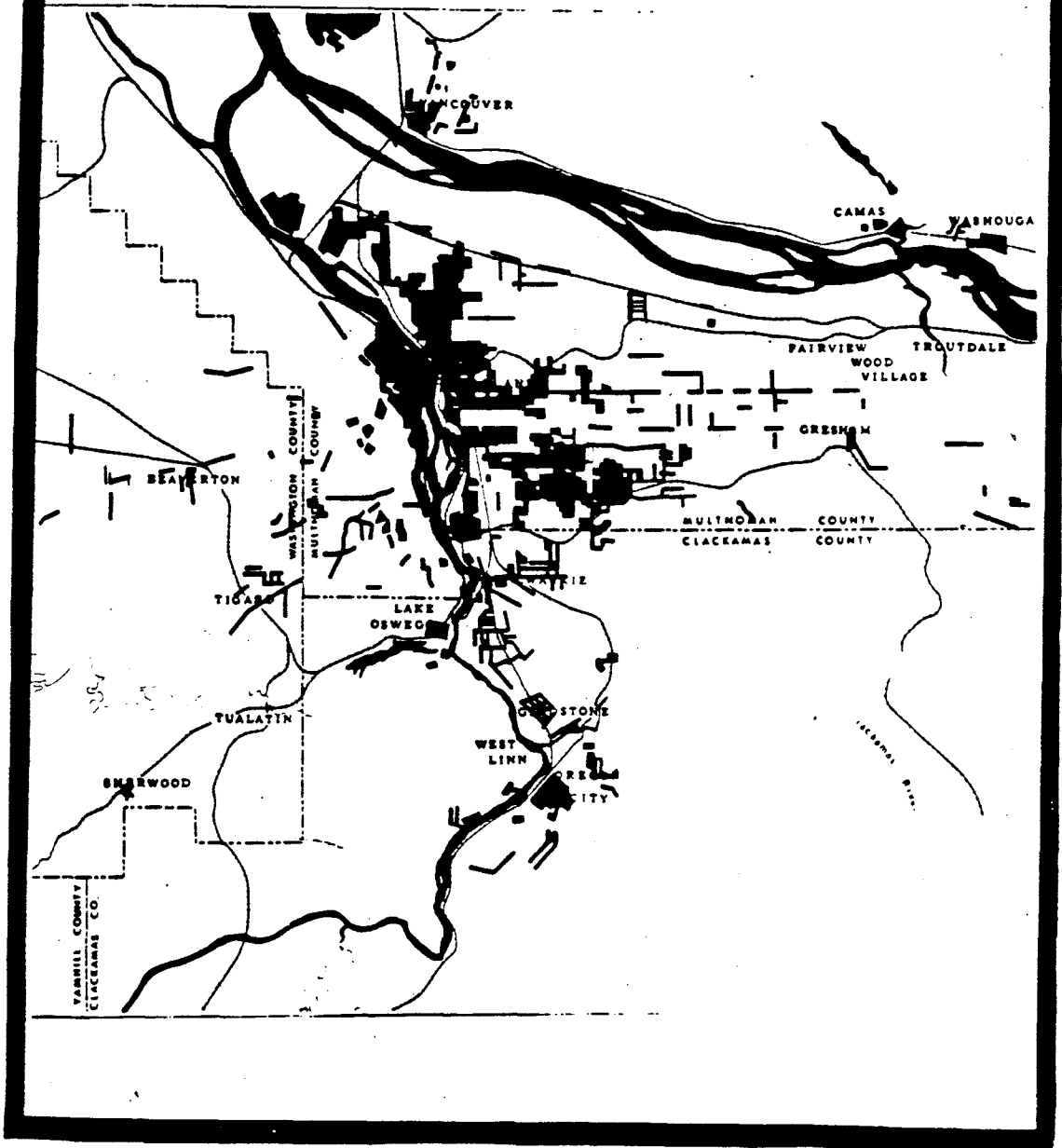
Southeast Grand Avenue was the second largest commercial district. Trolleys along Grand linked the southeast bridges and streetcar lines. Major commercial buildings and community institutions, including the influential East Side Commercial Club, spread outward from the intersection of Grand and Morrison. Residents of Southeast Portland could transact much of their business along Grand without



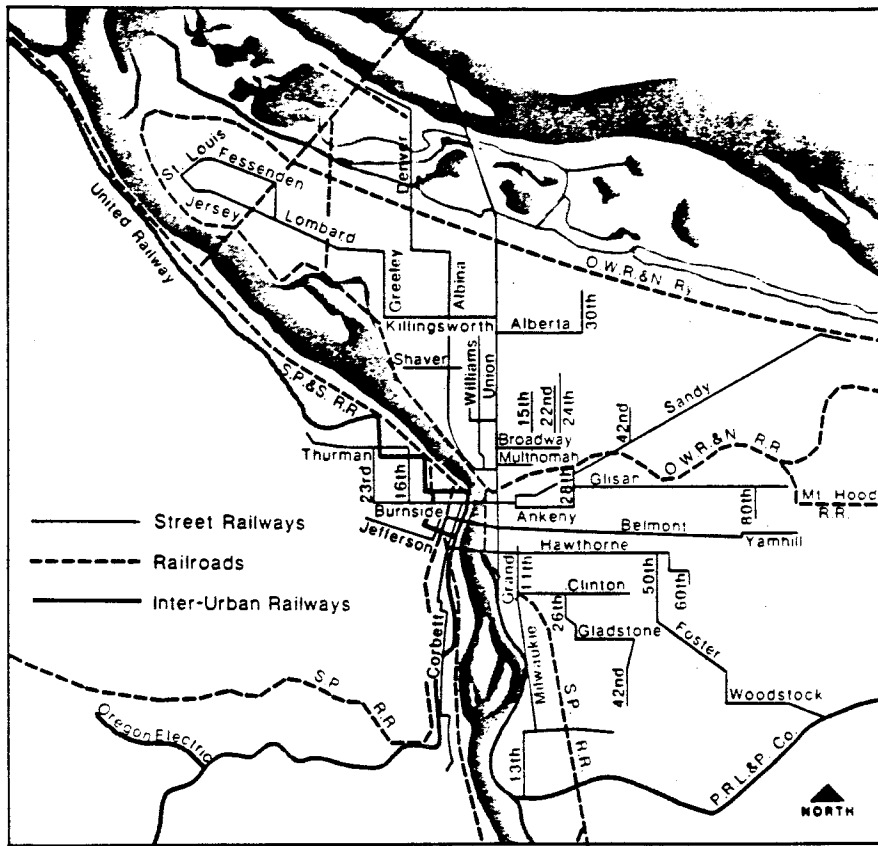
PORTLAND, OREGON, AND ITS SURROUNDINGS, 1889.

Figure 6. Portland in 1889

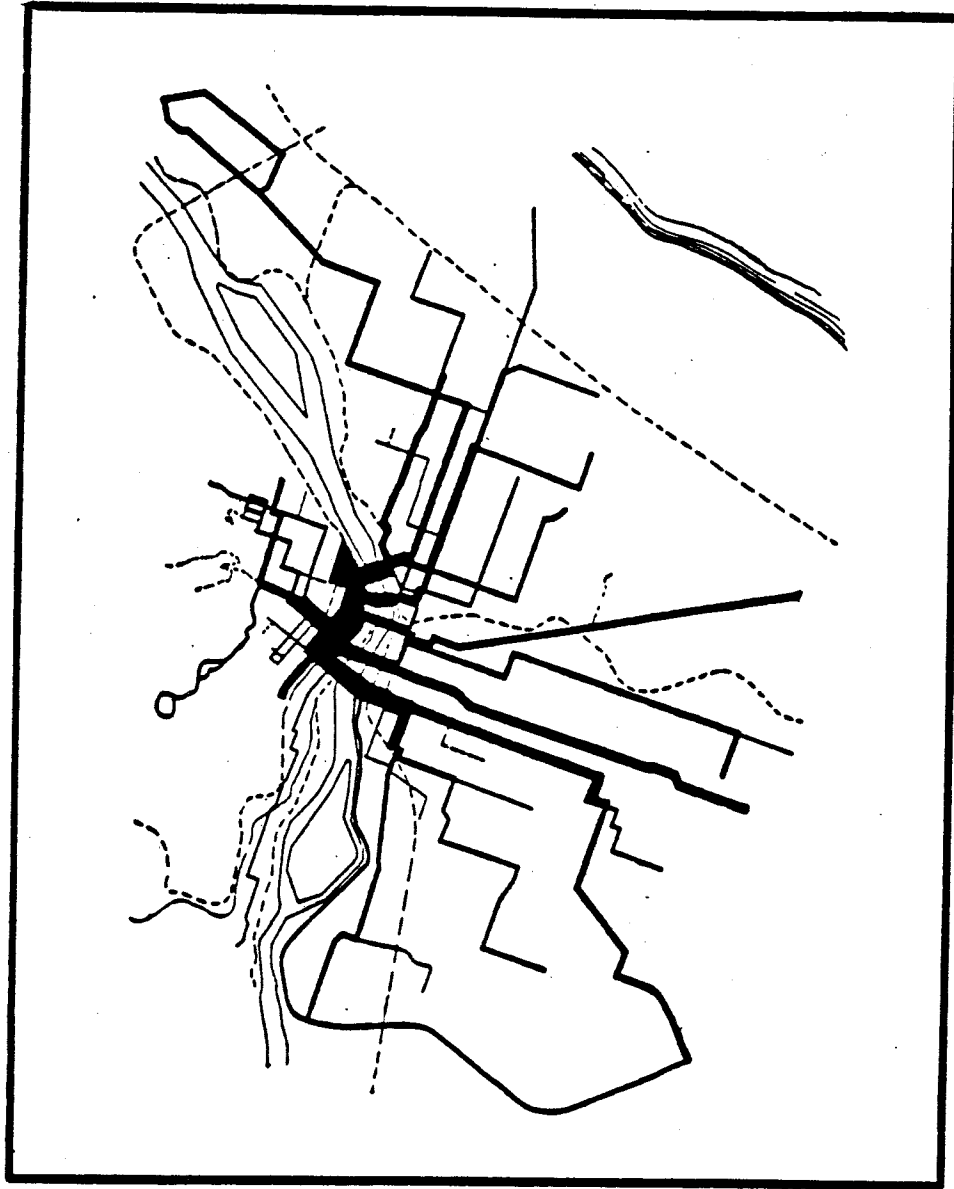
1910



Map 4. Developed Land in 1910



Map 5. Streetcar Lines in 1912



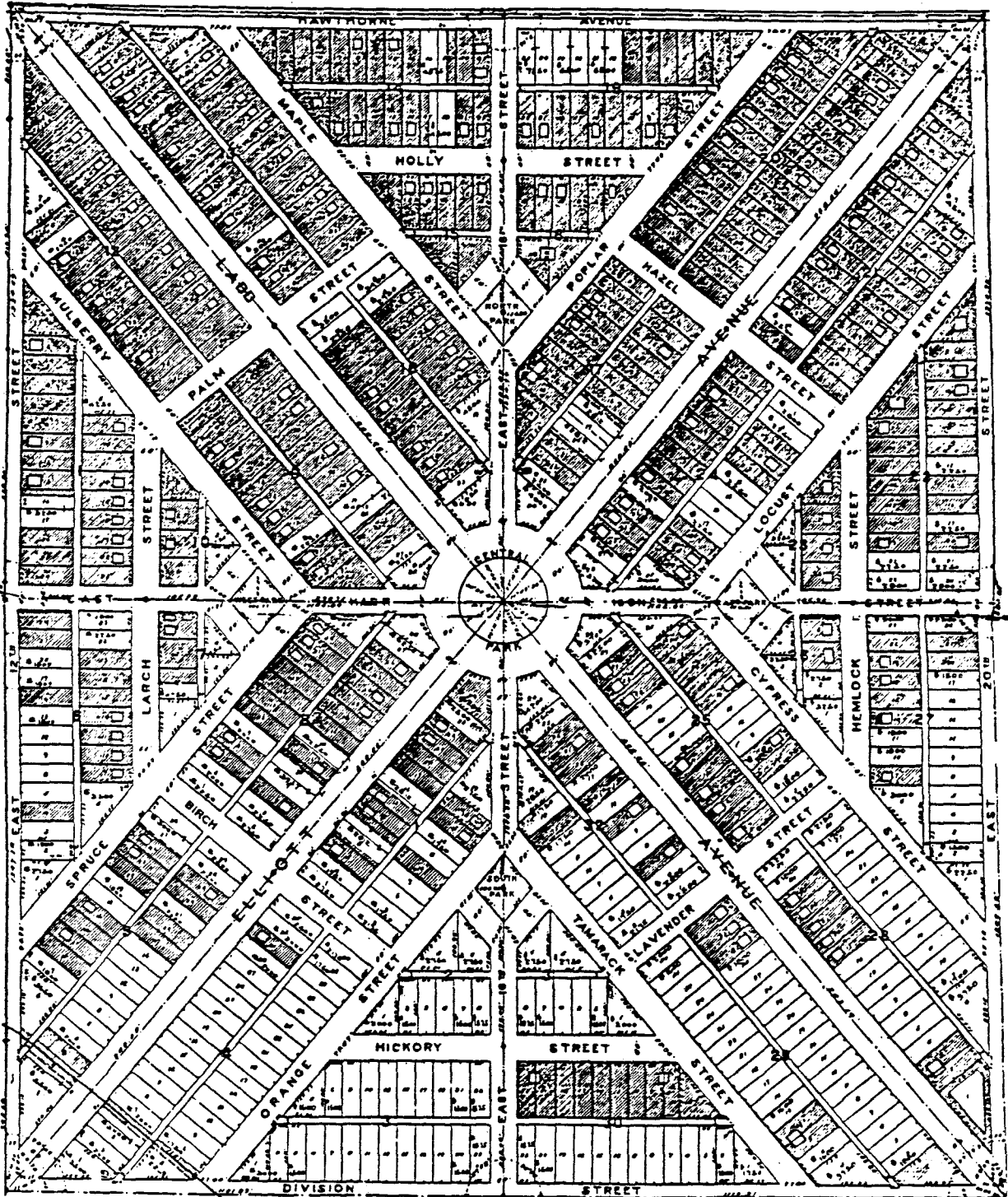
Map 6. Streetcar Ridership in 1920

LADD'S ADDITION

WIDE PARKINGS
ASPHALT STREETS

a residential section for cultured people

PORTLAND
OREGON



Prices include all bonded assessments paid

MAY 23, 1922

LADD ESTATE
COMPANY

OWNERS

OFFICE
246 STARK ST.
BROADWAY 5754

Map 7. Development of Ladd's Addition

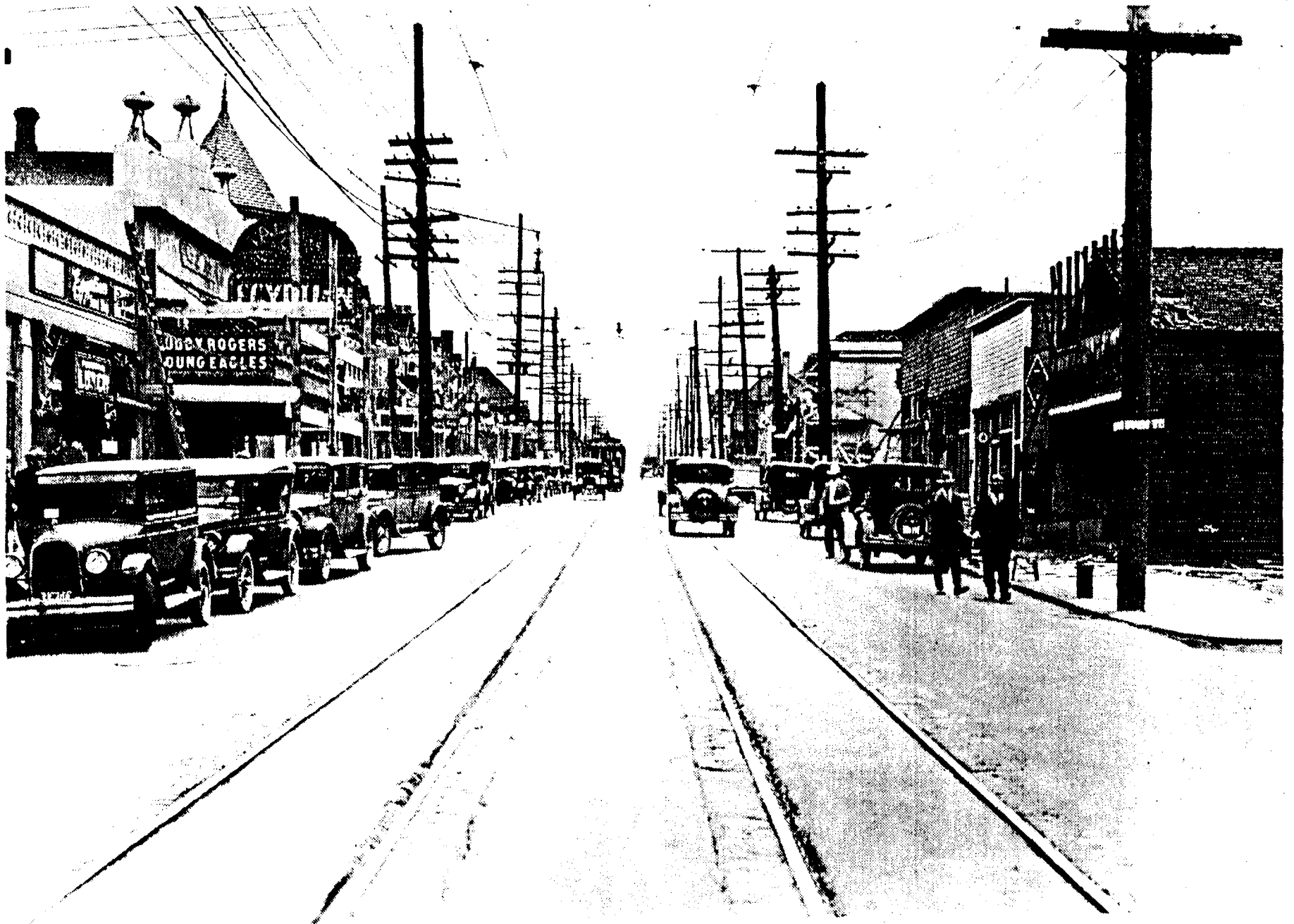


Figure 7. Union Avenue in the 1920s

needing to venture downtown. The Weatherly Building--the only east side skyscraper until the 1960s--symbolized the viability of the business district through the 1920s.

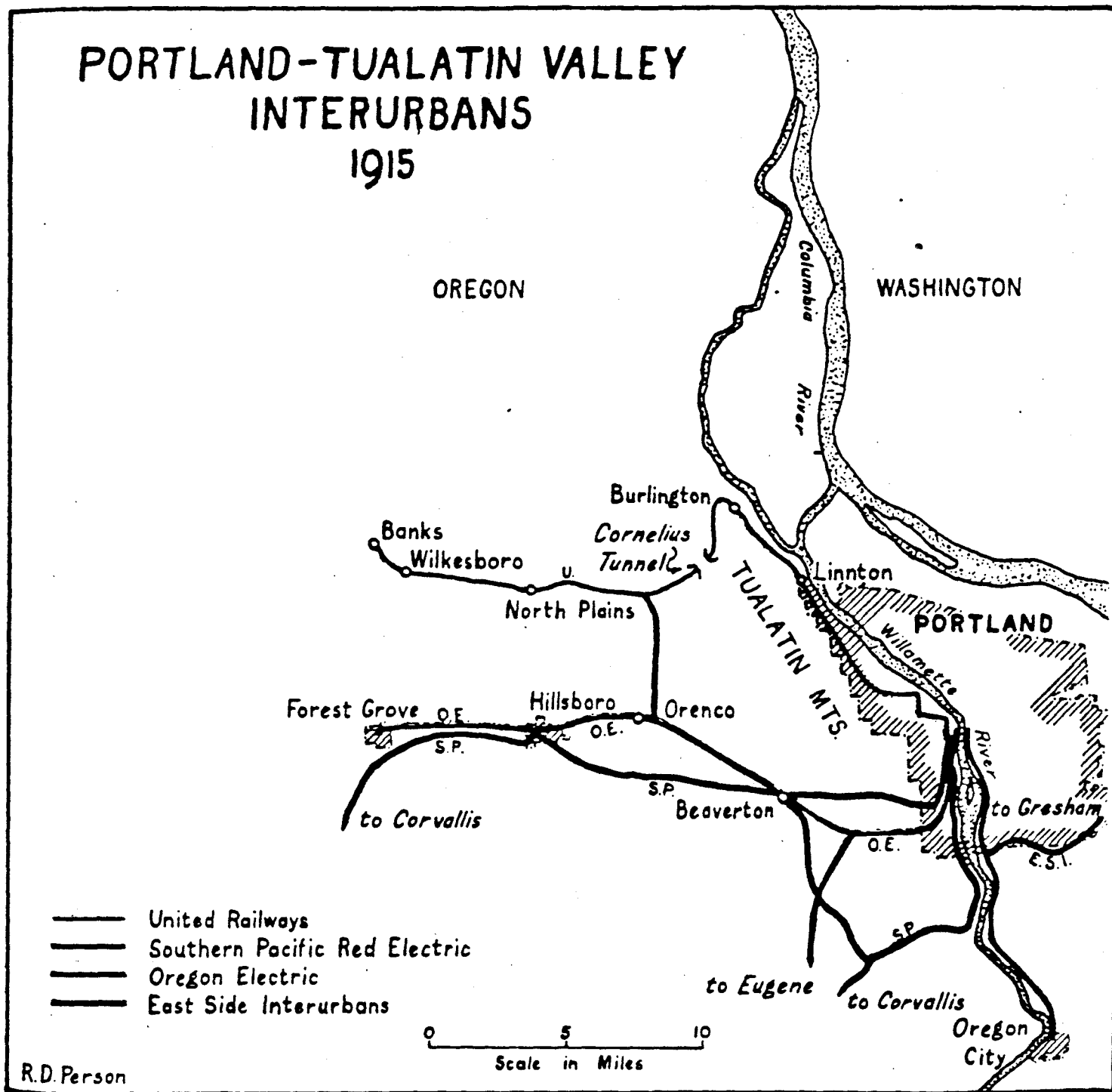
The areas between the two corridors developed most intensively in the 1920s. The city of Portland added 25,000 new houses during the decade, particularly in the West Hills, North Portland, Rose City Park, and the Powell-Woodstock area. After acrimonious local debates, much of this territory (Council Crest, Rose City, Eastmoreland, Woodstock) had agreed to annexation in 1906-11 to secure city water and better streetcar service. New high schools of 1920s--Franklin, Roosevelt, Grant--are visible monuments to the outward movement of population just as high schools built in the 1950s (Centennial, David Douglas, Sunset), 1960s (Putnam, Aloha), and 1970s (Lakeridge, Glencoe) are monuments to postwar suburbanization.

Beyond the range of the streetcar system--approximately five miles from Fifth and Morrison--early twentieth-century residents could ride electric interurban trains (Maps 8, 9). At the peak of the interurban system in 1915, the suburban division of Portland Railway, Light and Power served Troutdale, Gresham, Boring, Estacada, and Oregon City. Oregon Electric, a tiny cog in James J. Hill's great railroad empire, ran one line to Beaverton, Hillsboro, and Forest Grove and a second through Tualatin and Wilsonville to Salem. The Southern Pacific served Garden Home, Beaverton, and Hillsboro before swinging south to McMinnville and Corvallis.

The 5 million interurban riders in 1915 represent the first integration of Washington, Multnomah, and Clackamas counties into a single system of everyday interaction. The three counties had been tied through economic exchange since the 1850s. In the new century, the interurban trains added the possibility of easy personal trips for special occasions--shopping trips and theater excursions into the city balanced by weekend visits to rural parks and amusement centers like Canemah in Clackamas County. The region still awaited the age of the automobile for the third stage of expanded daily commuting.

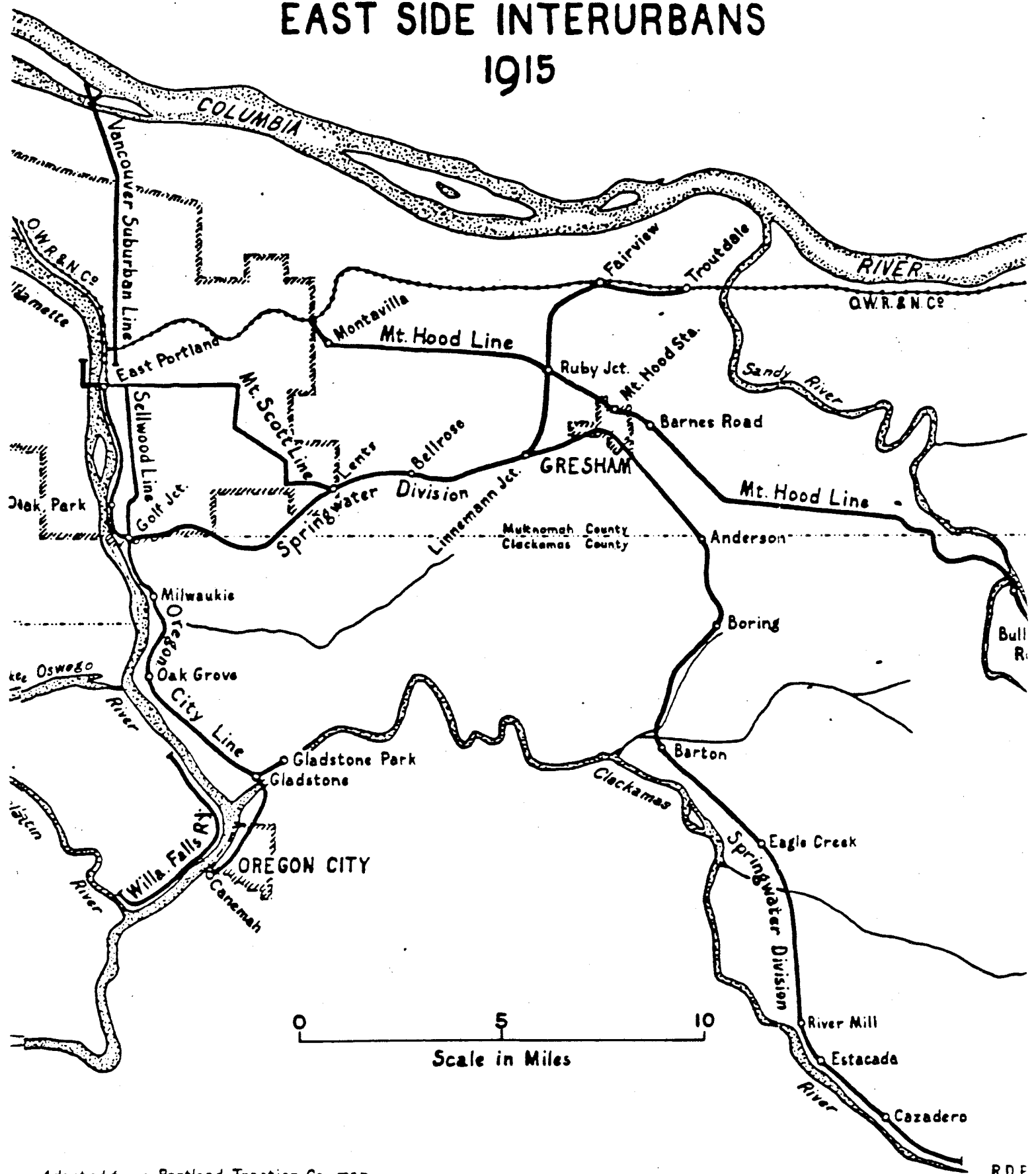
The most important towns along the interurban lines were the long-established county seats (Table 1). Oregon City remained the most prominent center between Portland and Salem. Hillsboro and McMinnville reflected the prosperity of Willamette Valley agriculture (as did comparably-sized Newberg). The booming development of St. Helens was a response to the expansion of the Coast Range timber industry. Across the Columbia, the rapid growth of Vancouver, Camas, and Washougal also responded to the wood products industry. Scattered around the five Oregon counties in the 1920s were a set of secondary towns with populations between 1000 and 2000, including Gresham, Milwaukie, Gladstone, West Linn, Oswego, Sheridan, Forest Grove, Beaverton, Vernonia, and Rainier.

PORTLAND-TUALATIN VALLEY INTERURBANS 1915



Map 8. Interurban Lines: West Side

EAST SIDE INTERURBANS 1915



Adapted from Portland Traction Co. map

R.D.F.

Map 9. Interurban Lines: East Side

Table 1

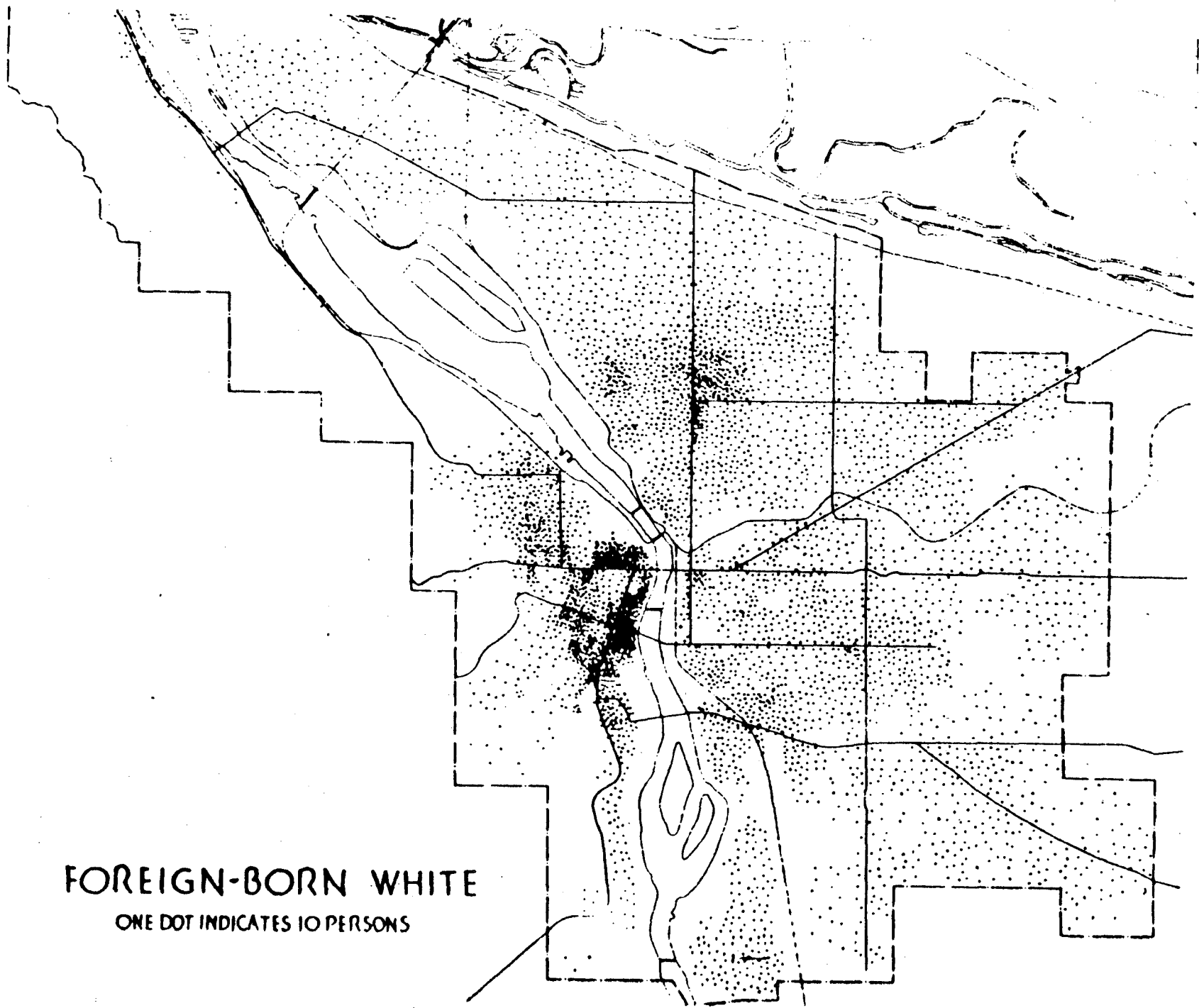
Population of County Seats: Portland Metropolitan Area

	1890	1910	1930
Vancouver	3,545	9,300	15,766
Oregon City	3,062	4,287	5,761
Hillsboro	[not reported]	2,016	3,039
McMinnville	1,386	1,651	2,917
St. Helens	220	742	3,994
Portland	46,385	207,214	301,815

Over the same span from 1890 to 1930, county population growth shows the relative stability of farming as an economic base compared with rapidly growing logging and with urban functions. Multnomah was the fastest growing county, with a phenomenal population growth of 352 percent. Next were Columbia County, with growth of 286 percent, Clark County with 244 percent, and Clackamas County, with growth of 203 percent. All three had substantial new logging and wood products industries. Slower growing were the farming counties of Washington (153 percent increase) and Yamhill (106 percent increase).

4) Community Values

The middle and upper middle class Portlanders of the new east side and West Hills neighborhoods carefully set themselves apart from immigrant neighborhoods closer to the industrial core. The crescent of lower land around the central business district and the inner tier of east side neighborhoods housed the overwhelming majority of Portland's racial minorities and its foreign-born, particularly in three clusters in Northwest, Southwest, and North-Northeast (Map 10). In the early years of the century, these were Portland's closest equivalent of the large ethnic communities of lower Manhattan or Chicago's west side. No single European ethnic group provided the majority of residents in any one neighborhood at the start of the century. However, Germans set the tone for Goose Hollow, Irish and then Slavic immigrants for Slabtown in Northwest Portland, Scandinavians, Finns, and Poles for North Portland, German-Russians in the Sabin district, and Italians for Brooklyn near the Southern Pacific rail yards.



FOREIGN-BORN WHITE
ONE DOT INDICATES 10 PERSONS

Map 10. Foreign Born Population in 1930

We can sense the vibrancy of these ethnic neighborhoods from the public buildings and churches that have survived the weight of time. St. Patrick's Church in Northwest Portland dates from 1891, serving working class Irish at the turn of the century and Croatians in the 1920s and 1930s. The expansion of the Kaiser health complex on North Interstate Avenue forced the moved of the old Finnish community hall. Nearby was St. Stanislaus Church with its congregation of Polish Catholics. Many Northeast Portland churches passed from one ethnic group to its successor. For one example, the Free Evangelical Brethren German Church (1904) became St. Nicholas Russian-Greek Orthodox in 1930 and then passed to an African-American congregation.

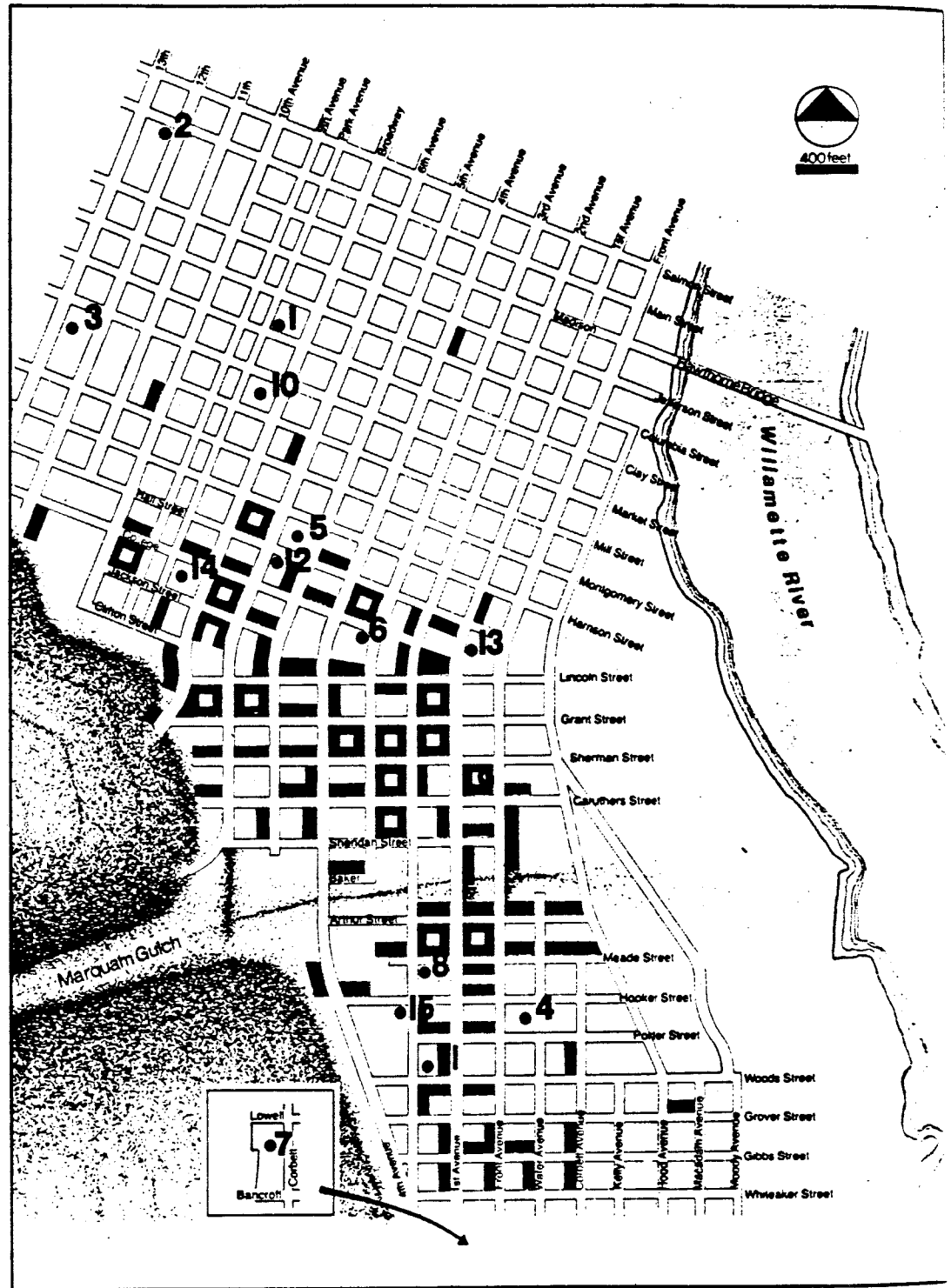
One of the best remembered immigrant neighborhoods is South Portland, a fraction of which survived urban renewal and freeway building as the small Lair Hill neighborhood just southeast of the Portland State University campus. From the 1890s to the 1940s, the area between the River and the South Park Blocks and southward from Clay Street was an immigrant community. Its two anchors were Failing School and Shattuck School, the gateways for success in the new world. The housing was a mixture of apartments and small "workingmen's cottages." Italian-Americans clustered particularly in the blocks near the river, where a visitor could find the Sons of Italy and the Christoforo Columbo Society, St. Michael's Church and Italian language movies. Jewish immigrants from Poland and Russia were especially concentrated a few blocks upslope between Fourth and Broadway and served by the social settlement workers at Neighborhood House (Map 11).

Early twentieth-century real estate developers did not fully trust the open market to maintain social distinctions among neighborhoods. They turned instead to restrictive covenants. Written into deeds, these covenants usually specified a minimum house value, limited non-residential uses, and excluded non-whites as renters or owners. Promoters for Alameda in 1910 claimed "magnificent views" of the city, river, and snow-covered mountains and described it as "a most perfect example of the ideal residence park." Every street would be supplied with hard pavements, cement walks, curbs, water pipes, gas mains, sewers, and street lights. Buyers of Alameda's choicest lots were required to invest at least \$3500 in their house. "All homes must be built twenty feet back from the property lines. No business houses were allowed except on certain lots at the extreme corner of the tract. Apartment houses, flats, hotels, and stables are taboo--likewise people of undesirable colors and kinds." The last phrase meant Asian-Americans and African-Americans. Eighty years later the racially restrictive covenants are gone--declared unenforceable by the U.S. Supreme Court in 1948--but the hotels, stables, and businesses are still banished from the green-canopied streets.

SOUTH PORTLAND

Jewish Population and Major Institutions in 1920

1. Ahavai Sholom
2. Beth Israel
3. B'nai B'rith Building
4. Failing School
5. High School of Commerce
6. Jewish Old Peoples Home
7. Jewish Shelter Home
8. Kesser Israel
9. Linath Hazedek
10. Lincoln High School
11. Neighborhood House
12. Neveh Zedek Talmud Torah
13. Shaarie Torah
14. Shattuck School
15. South Portland Library



■ Jewish Population (at least one family per side of block) ● Major Institutions

Map 11. South Portland as a Jewish Neighborhood

5) Public Policy

The first fifteen years of the twentieth century gave Portland the outlines of its city park system. A new Parks Commission under the leadership of Thomas Lamb Eliot secured a park plan from the famous landscape architecture firm of Olmsted and Sons. Several city parks were developed and landscaped in accordance with this plan under the direction of E. T. Mische. These are also the years in which Portland was going wild for roses, both in city parks and in private gardens; the Portland Rose Society and the Rose Festival are turn-of-the-century phenomena. A typical product of this era was Peninsula Park in North Portland, with its sunken rose garden and bandstand. In the 1910s it was also Portland businessmen and Multnomah County politicians who turned the dream of a scenic highway along the Columbia River into a reality and began to define an urban "claim" on the scenic resources of the surrounding mountains that would culminate in 1986 with the Columbia River Gorge National Scenic Area.

During the decade of booming growth that followed the Lewis and Clark Fair, Portland businessmen commissioned Chicago architect and planner Edward Bennett to prepare a comprehensive plan for the development of the city. Bennett proposed a grand and cosmopolitan city that imitated Paris, Vienna, and Budapest. He suggested great diagonal boulevards cutting across the city; three civic centers to concentrate governmental, cultural, and transportation activities; and uniform styles of downtown building.

Bennett projected a tenfold increase in Portland's population to a total of 2 million. Failing to allow for the decentralizing effects of automobiles, he expected that population to be accommodated within an area roughly equivalent to the present city of Portland. Although he did not directly address questions of housing, it is likely that he expected most of the new Portlanders to live in row houses and apartments at the same density as Chicago's near north side or Boston's Back Bay. The city's voters approved the plan in an extraordinary referendum in 1912 but soon forgot its grand schemes when a recession undercut the real estate market.

Bennett's grand ideas were followed by more practical land use controls. Portland's business leadership first proposed land use zoning in 1919-20 as response to uncontrolled wartime growth. Voters narrowly defeated the plan, with most middle class districts in favor but working class districts opposed (because of the fear that zoning would prevent realizing economic return from close-in property). A second try succeeded in 1924, dividing the city into four zones. One was limited to single-family houses; a second allowed apartments; a third allowed businesses; and a fourth industrial zone allowed virtually any activity.

The distribution of the single-family and apartment zones clearly reflected prevailing attitudes about neighborhood "quality." The apartment zones covered the inner west side, inner Northeast, and selected neighborhoods in inner Southeast. The effects are obvious today in the mix of housing types in neighborhoods such as Buckman, Sunnyside, Northwest, Kerns, and the southwestern quadrant of Irvington.

2.D: Settlement Patterns from 1930 to the Present

A) Natural Environment

Portland area residents had a chilling reminder of the power of natural environment with the Vanport flood of 1948. The wartime community of Vanport had been the country's single biggest emergency housing project during World War II. Funded by the federal government and built by Kaiser, Vanport rose in 1942-43 on the Columbia River floodplain where Delta Park is now located. It eventually had 10,000 apartments housing nearly 50,000 residents. After 1945, Vanport housed veterans and, increasingly, African-Americans. A flood on Memorial Day, 1948, destroyed Vanport and forced several thousand African-Americans to crowd into Albina. From the point of view of land use planning, Vanport is an ironic counterpoint to the Lewis and Clark Fair--another vast waterfront project that has vanished with scarcely a trace.

Another reminder of the residual power of the natural environment came in 1968-69. Vigorous real estate development in Washington County overburdened limited sewer systems and installed far too many septic tanks for public health. The state of Oregon imposed an eighteen-month moratorium on new housing in large portions of the county, bringing the boom to a sudden halt. It was an expensive reminder of the need to pay attention to the carrying capacity of the natural environment.

The natural environment has also reappeared as a cultural constraint as well as a physical limitation on Portland area settlement patterns. One of the essential goals of Oregon Senate Bill 100 (1973), which established the Land Conservation and Development Commission to oversee a system of statewide planning goals, was to preserve farm and forest land. The fundamental intent of the program is to protect productive farm and forest lands from metropolitan sprawl; the secondary goal is to promote compact, equitable, and efficient patterns of urban growth. The key tool is the definition of urban growth boundaries around cities and towns. UGBs presumably contain adequate land for approximately twenty years of urban development and are subject to periodic reevaluation and extension. They create separate markets for urbanizable and protected land. When adequately enforced, they tend to promote compact development.

2) Industrial/Commercial Land Needs

In the middle decades of the twentieth century, track-based manufacturing and warehousing facilities gave way to truck-based buildings and locations. The rail-oriented warehouses and loft buildings of 1900-1920 in the so-called Pearl district or the Central Eastside contrast with an auto-oriented facility like the new factory that

Jantzen built on Northeast Sandy Boulevard at the end of the 1920s. The descendants of Jantzen are the dozens of industrial parks in Washington County and along I-205 and the new facilities of auto-dependent employers such as Intel and Tektronix.

The renewal of Portland as an international port in the 1970s and 1980s, after relative decline in the 1960s, continued land use trends first identified in the 1910s. Modern ports are great consumers of land, especially for container yards and automobile processing. To find that land, port functions have moved steadily downstream and onto the Columbia River--to Terminal 4, Terminal 6 and Rivergate, the Port of Vancouver, and perhaps in the future to Hayden Island. The relocation of the airport from its prewar location on Swan Island to the Columbia South Shore is a parallel example of modern transportation's land-hunger.

The flip side of these changes has been the abandonment of older industrial facilities located inland from the Steel Bridge. Some of the structures have been recycled for uses that range from retailing to offices to artists' studios and apartments. Many others have disappeared entirely in favor of supermarkets or upmarket housing. It is this context of deindustrialization that makes the survival of a viable Central Eastside Industrial District particularly remarkable.

Industrial development in Washington County has created a modern equivalent of nineteenth-century neighborhoods like Albina or Kenton, where workers clustered close to new jobs. Nearly 61 percent of Washington County residents worked within the county in 1990 rather than commuting to the central city or to other outlying job centers (for Clackamas County the comparable figure is only 46 percent). There is also an ethnic/immigrant dimension to the industrialized Sunset Corridor. Washington County--particularly in the Beaverton area--houses a modern version of nineteenth-century immigrant communities. The county's Asian-origin population shot upward from 5000 to 14,000 during the 1980s, many of them attracted by Silicon Forest jobs. Inner Washington County now has important concentrations of Korean, Vietnamese, and other Asian-American business and institutions.

3) Passenger Transportation

Between 1915 and 1930, the automobile changed from an expensive piece of recreational equipment to a middle class necessity. Auto registration in Multnomah County grew from 10,000 in 1916 to 36,000 in 1920 and 90,000 in 1930, when there was one car for every 3.8 residents. In affluent neighborhoods, two-thirds of the households owned cars. Motorists had to learn a new set of social rules (not to triple park downtown, not to turn onto a busy thoroughfare without slowing down). The city government had to adopt traffic regulations, widen streets such as West Burnside,

and install new devices like the first parking meters and early two-bulb traffic signals with warning bells.

The impacts of the automobile spread inward from the periphery. Interurban passenger ridership began to fall at the time of World War I as farmers and farm towns switched to Model-Ts. Streetcar use began to fall sharply ten years later, in 1927-28, despite efforts to upgrade service. The Ross Island Bridge in 1927 was first to be built without streetcar tracks. The Sellwood and St. Johns bridges from the start were auto-oriented facilities that served substantial cross-town traffic with no interest in downtown (Figure 8). Only gasoline and tire rationing during World War II would interrupt the decline of streetcar ridership.

The shifts in preferred transportation modes began to change shopping habits. Fred Meyer and Sears were the first major retailers to establish "suburban" stores outside the downtown core before World War II. "First generation" shopping centers opened in the new suburbs in the 1950s, followed by the unusually sited Lloyd Center. When Mayor Terry Schrunk and Governor Mark Hatfield watched 700 homing pigeons explode into the morning drizzle at the center's dedication on August 1, 1960, the city of Portland could boast (briefly) of the nation's largest urban shopping mall, aimed at 600,000 customers within a 20 minute drive. Jantzen Beach followed in 1972, Washington Square in 1974, Vancouver Mall in 1977, and Clackamas Town Center in 1981, completing the circle of superregional malls with their powerful attraction to related commercial and office development.

Retail geography was responding to changes in the character of residential neighborhoods. As late as the 1910s, upscale developments were designed with the idea that residents would use both streetcars and personal automobiles. An advertising flyer for Alameda, for example, featured pictures of a private automobile and the 24th Avenue trolley line climbing up Regents Drive. A Laurelhurst brochure made sure that prospective buyers noted the Glisan Street trolley as well as the tiny automobiles pictured on the streets.

By the start of the 1930s, in contrast, the triumph of the automobile was assured. At the top of the social scale, elite families began to abandon Nob Hill for new houses in the West Hills or Dunthorpe that were accessible only by automobile. Middle class households began to transform the interurban railroad corridors of 1900-1920 into the suburban auto corridors of the last fifty years. As Portlanders have sought more elbow room, they have again demonstrated the effects of transportation options on urban growth. Although the metropolitan area does not have a full circumferential highway like the Washington DC "beltway" or the London "orbital,"



Figure 8. Opening of St. Johns Bridge

the developmental effects of outlying freeways are apparent along 217 in Washington County and I-205 in Clackamas County.

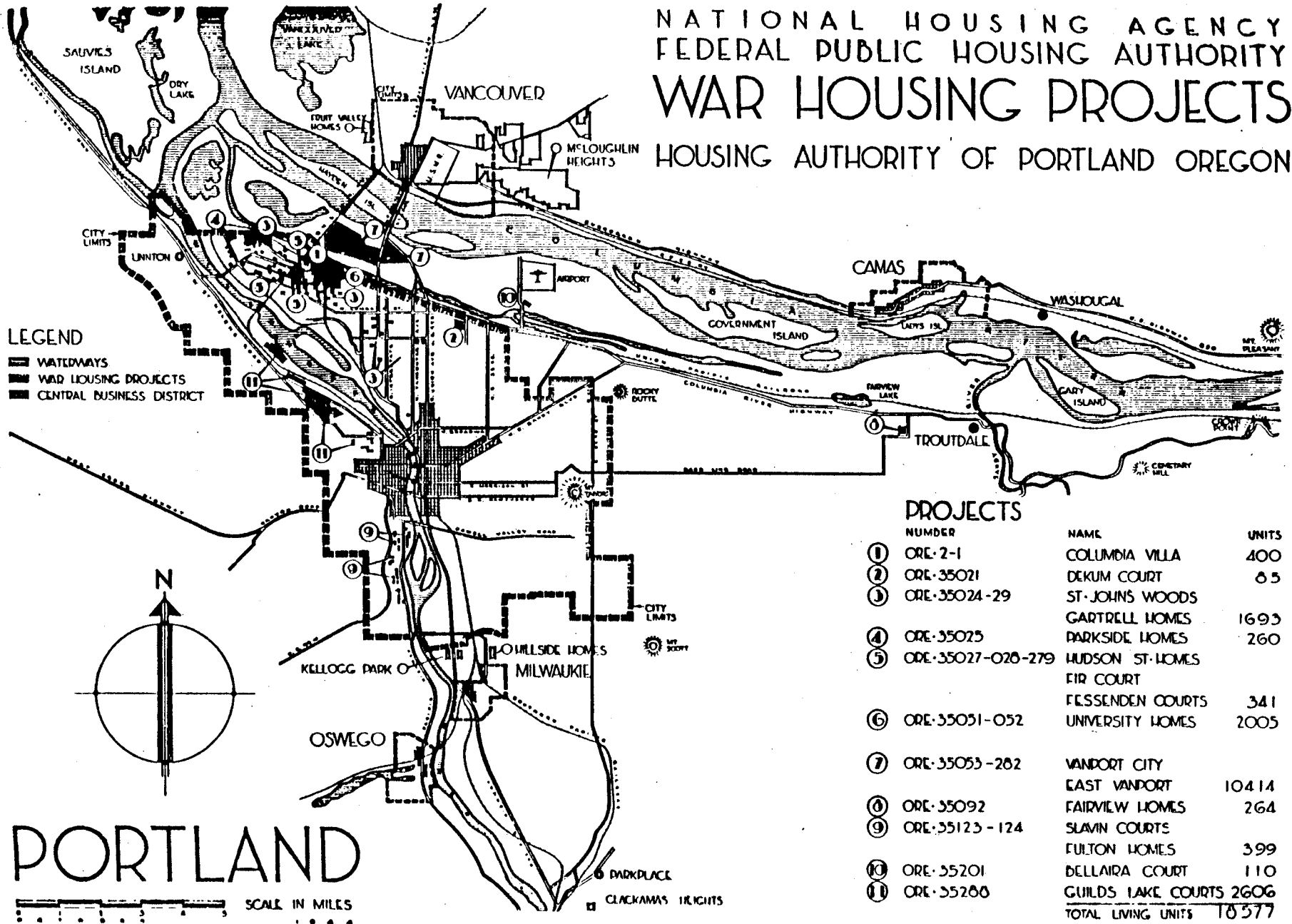
During the boom years of World War II, emergency housing concentrated in North Portland and Vancouver near the shipyards with their 130,000 workers (Map 12). Immediately after the war, the prime target for suburban growth was eastern Portland and Multnomah County, served by the area's first freeway which crept slowly westward from Troutdale. Between 1940 and 1950, the North Portland, Northeast Portland, and Multnomah County neighborhoods that overlook the Columbia River counted 50,000 new residents. The city and county neighborhoods from Mount Tabor east to 148th Street gained another 30,000. Builders in the 1950s continued to follow the wedge of high, buildable land that pointed toward Gresham between the Columbia floodplain and Johnson Creek. Eastern Multnomah County added another 50,000 residents during the fifties. Its share of metro area population climbed from 10 percent in 1940 to 18 percent in 1960 (Maps 13, 14)

These new communities matched the popular image of the bedroom suburb. They sent 64 percent of their workers on the daily commute to the city of Portland in 1960 and 55 percent in 1970. The proportion of residents who had moved into East County directly from the central city was twice that for the other metropolitan area counties. The signs that marked the city limits of Portland in the early 1960s defined a political but not a social boundary. Since 1980, of course, many of these same neighborhoods have been annexed to Portland.

The Sunset Highway (1960) and I-5 (1963) shifted the subdivision frontier from east side to west side by giving high-speed, high-capacity auto routes over the West Hills; route 217 connected the two highways in 1965. Building permit totals show a rising development tide in Washington County during the 1960s. Both Washington and Clackamas counties began to outpace Multnomah County. The Multnomah County share of metropolitan population actually dropped between 1960 and 1980 while Washington County's share leapt from 11 percent to 19 percent and the Clackamas County share rose from 14 percent to 20 percent. The new neighborhoods between Portland and Gresham had been built in the 1940s and 1950s for Americans just rediscovering affluence. The suburban streets and houses of Washington County were built during the high tide of prosperity in the 1960s and early 1970. The average Washington County house was bigger, newer, and better equipped than its counterpart in Multnomah County in 1970 and worth 30 percent more.

The 1970s and 1980s reinforced the predominance of the west side for new housing and office development, despite the fact that completion of I-205 and the Glenn Jackson Bridge (1984) improved the relative accessibility of central Clackamas County and eastern Clark County. Population data (Table 2) show that

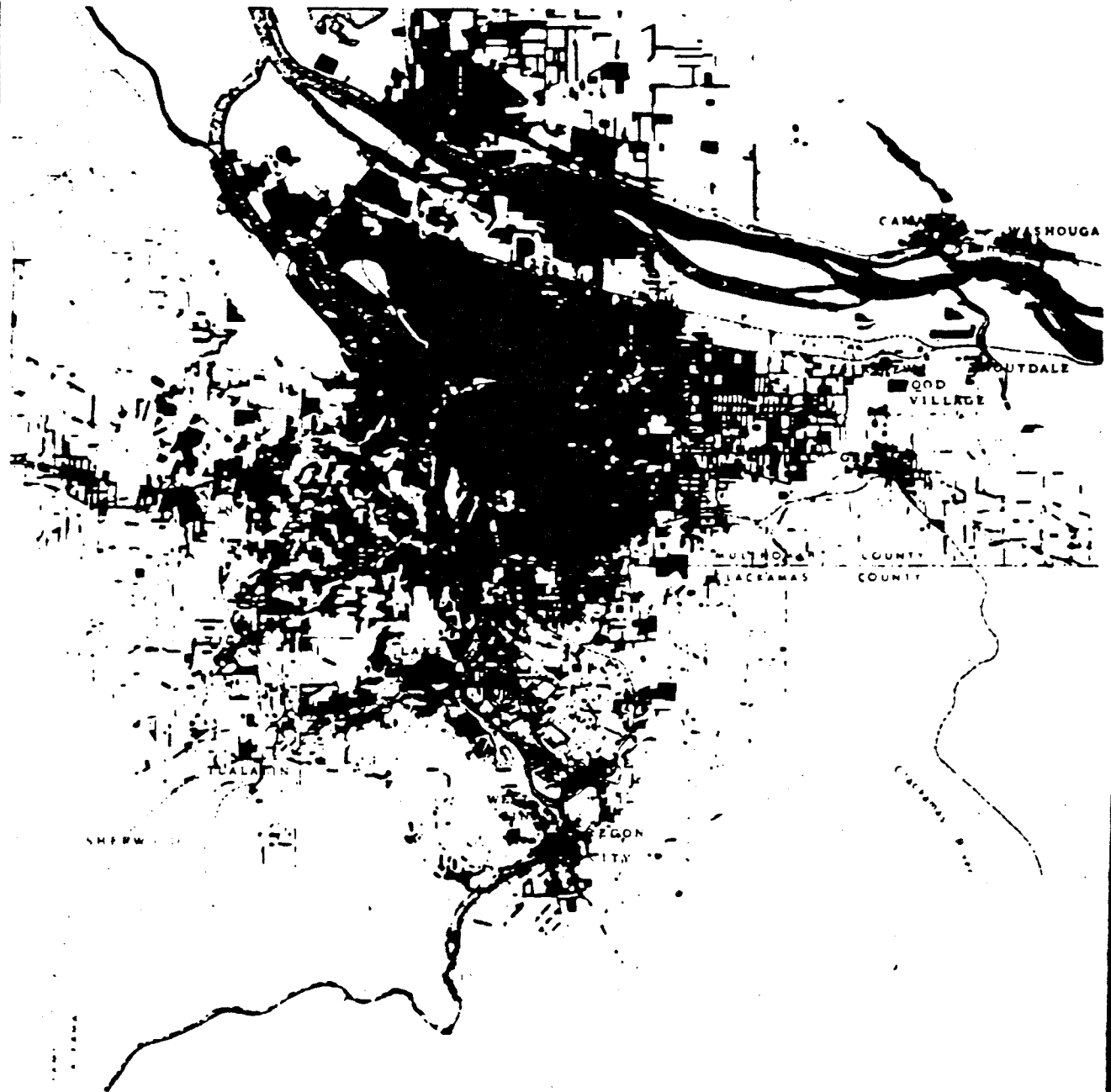
NATIONAL HOUSING AGENCY
 FEDERAL PUBLIC HOUSING AUTHORITY
WAR HOUSING PROJECTS
 HOUSING AUTHORITY OF PORTLAND OREGON



51

PORTLAND
 SCALE IN MILES

1960



Map 14. Developed Land in 1960

Washington County outpaced all of its metropolitan neighborhoods in both decades, although Clark County was a close second. Although it trailed the other counties, Multnomah County's continued population growth is also remarkable for a "central city" county in a U.S. metro area.

Table 2

County Growth Rates, 1970-90

	1970-80	1980-90
Clackamas	44 %	16 %
Clark	50 %	24 %
Columbia	24 %	5 %
Multnomah	1 %	4 %
Washington	62 %	27 %
Yamhill	37 %	19 %

In spite of its impressive growth, Washington County has not yet emerged as an "edge city" that is declared its independence of the city of Portland. The central city remains the location for vital business, professional, and medical services and offers accessible land for expansion of manufacturing and wholesale distribution within the city limits. The metropolitan transportation system is and will continue to be centrally focused on Portland. At the same time, Washington County does not yet contain any key metropolitan public facilities--sports complex, convention center, airport, port, comprehensive university, flagship museum, major recreational attraction. It is not likely to have such facilities in the foreseeable future.

We can roughly gauge the effect of outward growth on typical neighborhood character by looking at census figures on the "urbanized area" within the Portland metropolitan area. The data in Table 3 summarize three phases in postwar residential growth. Between 1950 and 1970--the first two decades of unimpeded automobile suburbanization--the area of urbanized land exploded while the average population density fell by a third. From 1970 to 1980, the subdivision frontier continued its rapid expansion but the decline in average density slowed markedly. For the following decade, perhaps reflecting the impacts of the new Urban Growth

Boundary adopted in 1980, the area of developed land increased much more slowly and the downward trend in average residential density actually reversed.

Table 3

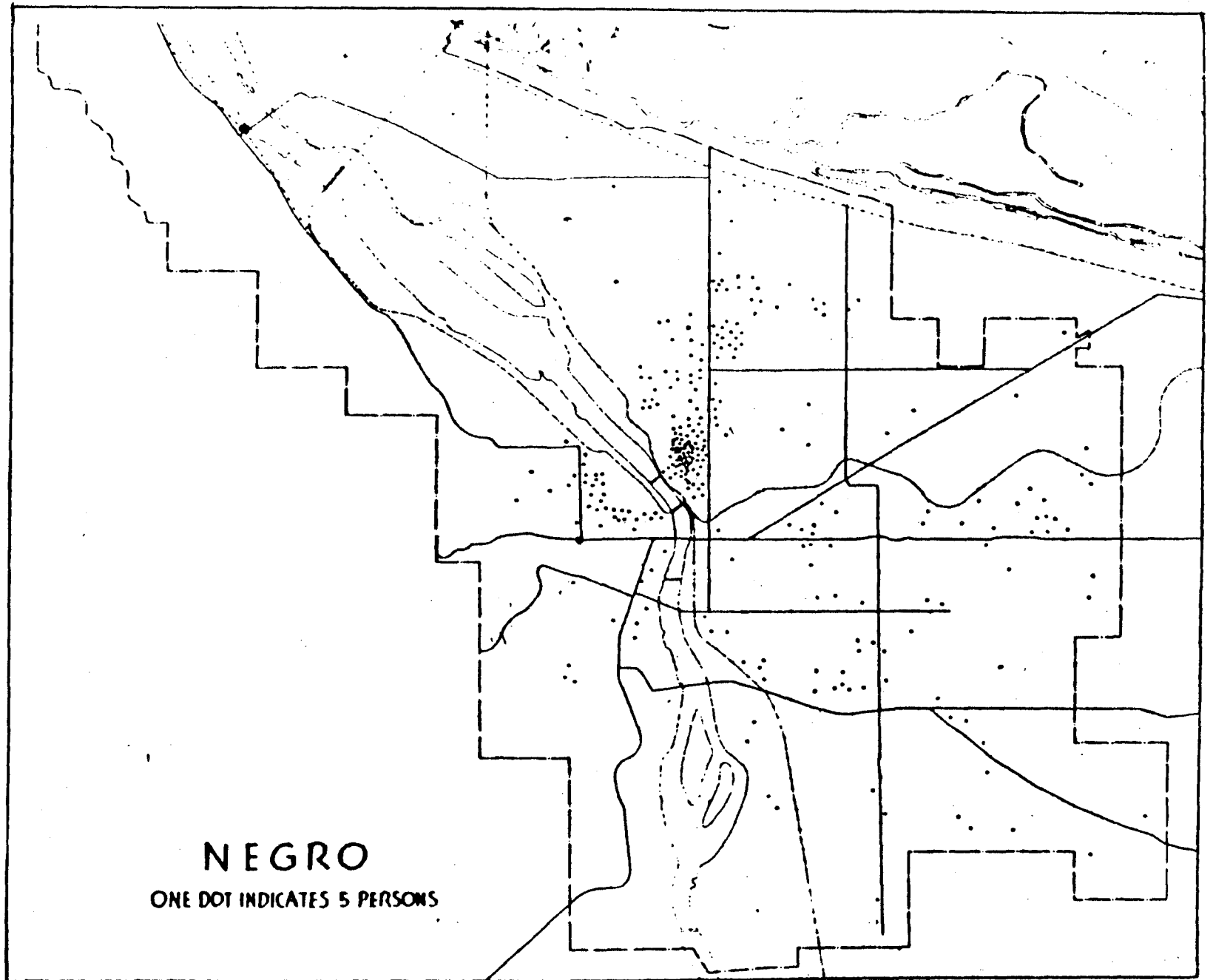
Portland-Vancouver Urbanized Area

	Area in Square Miles	Population per Square Mile
1950	114	4517
1960	191	3405
1970	267	3092
1980	349	2940
1990	388	3021

4) Community Values

World War II brought two sudden changes to Portland's ethnic groups in the Portland area. In 1942 the U. S. government exiled the city's 2000 Japanese-Americans to relocation camps in the interior West. Between 1942 and 1945, shipyard jobs increased the city's African-American population from 2,000 to 15,000. In the first case, the relocation emptied out the Japanese district north of Burnside. In the second case, the Portland area struggled to fit African-Americans into neighborhoods and social institutions that most residents wanted to reserve for whites.

The real estate industry had already set the community framework for racial relations. Before World War I, most of Portland's 1000 blacks lived between Burnside, Glisan, Fifth, and Twelfth, in easy access to hotel and railroad jobs. In the 1930s, Realty Board training materials for new salespeople explicitly defined Albina as the appropriate neighborhood for African-Americans. Brokers could lose their license if they violated the canon of racial segregation by selling houses in all-white neighborhoods to minorities. By 1940, more than half of Portland's 2000 African-Americans lived in Albina, with others scattered through other old neighborhoods (Map 15). Over the next generation, the center of the black community moved more than a mile north from Williams and Broadway in 1940 to King and Skidmore by the



Map 15. African American Population in 1930

1980s. The process started with land clearance for the Coliseum in the 1950s and continued with the construction of Interstate 5 in the 1960s and the Emanuel Hospital redevelopment in the 1970s in the historic heart of Albina.

Portland in the 1990s has no ghetto that approaches the nearly total racial isolation of South Side Chicago or Bedford-Stuyvesant. The degree of racial concentration in the core community has changed little since 1970. In 1990, the two most segregated census tracts (located south of Killingsworth Avenue and west of Martin Luther King Jr. Boulevard) were 69 percent and 70 percent African-American; only four other tracts were more than 50 percent African-American. These six tracts with an African-American majority all lie along NE King. Taken together, their 10,500 African-Americans are only 27 percent of all African-Americans in the metropolitan area. In short, nearly three-fourths of African-Americans in the Portland area are a minority within their own neighborhoods as well as within the metro areas as a whole.

Only in the last twenty years has the suburban housing market opened to African-American families. A gradual suburbanization that was evident in the 1970s continued at the same slow pace in the 1980s. The number of new black residents in Clackamas County in the 1980s--approximately 400--was the same as the number for the previous decade. The same was true for Washington County, where the increments were 900 for the 1970s and 1000 for the 1980s. Data on housing values and homeownership indicate that these suburban African-Americans are part of a successful middle class who share the same social status as their white neighbors.

Inclusive data on all four major minority groups of African-Americans, Asian-Americans, Native Americans, and Hispanics show that metropolitan Portland is one of the "whitest" communities in the nation. Among the 38 metro areas with populations greater than 1 million in 1990, only Minneapolis-St. Paul had a smaller proportion of minority residents.

Nevertheless, minority population in the Portland area grew rapidly during the 1980s--by 45 percent in Multnomah County (to 15 percent of the total); by 88 percent in Clackamas County (to 5 percent of the total); and by 131 percent in Washington County (to 10 percent of the total). The latter two counties are clearly catching up with Multnomah County as centers of racial diversity. Washington County in 1990 had the same level of diversity as Multnomah County in 1980, while Clackamas County in 1990 had the same level of diversity as Washington County a decade before. If 1980-90 growth rates for minority and majority populations continue into the future, Washington County will pass Multnomah County in ethnic and racial diversity in the year 2007.

African-Americans in North-Northeast Portland are the area's largest and most visible minority concentration. However, three other concentrations also merit notice. Asian-Americans make up more than 5 percent of the population of Southeast Portland and of inner Washington County. Hispanics make up more than 5 percent of the population of outer Washington County.

Patterns of minority residence are embedded within the persisting social and economic contrast between the east and west sides of the Willamette River. Popular wisdom, of course, knows the difference. Some Portlanders who have grown up on the west side find it difficult to imagine crossing the river for anything short of a Blazers game or a flight out of town. The east side to such eyes is flat, dull, and dangerous, enlivened only by bowling alleys and RV dealers. Eastsiders are more than willing to return the prejudice, knowing the west side as the natural habitat of stockbrokers, snobs, and status seekers. The attitudes are not unlike the mutual disregard of North Side Chicago yuppies and South Side Chicago steel workers.

In fact, the Willamette River has been a persistent social divide for the entire postwar era. We can compare east side and west side census tracts on accepted indicators of social and economic status such as years of education, income, and professional-managerial employment. West side census tracts have been consistently higher, with a gap that has grown since 1950. The differences among the three largest peripheral counties as of 1990 are shown in Table 4. There is a consistent gradation from higher status and west-side Washington County to middle status Clackamas County and to lower status Clark County.

Table 4
Social and Economic Indicators, 1990

	Washington County	Clackamas County	Clark County
Percent with B.A. or equivalent	30%	24%	17%
Percent of workers with executive, administrative, managerial, or professional jobs	32%	28%	24%
Household income (median)	\$35,554	\$35,419	\$31,800

5) Public Policies

Explicit public policy has had far more influence on settlement patterns since 1950 than in previous generations.

One example is the extension of land use planning outside the city of Portland. The Oregon legislature authorized county planning commissions in 1947, empowering them to enact subdivision ordinances but requiring a vote of affected residents before the implementation of zoning. East Multnomah County accepted zoning in the mid-1950s, followed about five years later by Clackamas County and ten years later by Washington County.

Many outlying areas in the 1950s and 1960s tempered their cautious acceptance of county zoning by using special water, sewer, and fire districts to meet their public service needs. Special districts tended to respond to private market rather than shaping land uses actively.

The last twenty years have brought a "thickening" of the regulatory environment for land development. Portland, Gresham, Beaverton, and other municipalities have engaged in active annexation campaigns. As a result, incorporated municipalities accounted for 69 percent of residents in the three core counties of Multnomah, Washington, and Clackamas in 1990, up from 59 percent in 1970. Senate Bill 100, with its requirement that every city and county prepare and implement a comprehensive plan in accordance with statewide goals, assured that all land in the Oregon portion of the metropolitan region would be subject to a roughly comparable degree of regulation. Washington's recent and somewhat weaker growth management act has begun to move Clark County in the same direction.

In addition, Oregon in the 1980s elaborated the effects of the Urban Growth Boundary by adding further planning regulations that will tend to promote dense and compact settlement. Goal 10 and its implementing rules require that every jurisdiction zone for substantial multi-family or attached single-family housing (zoning, of course, does not assure actual construction of the planned housing mix). The regulations were enforced by a series of court cases dealing with smaller Portland-area municipalities in the early 1980s. As a result, the pattern of exclusionary large-lot zoning found in many American cities is expressly forbidden in Oregon. Portland-area cities and counties are also required to plan for minimum average densities rather than maximum densities. The LCDC Transportation Rule, adopted in 1991, mandates planning for a 20 percent reduction in vehicle miles traveled. The obvious avenues for compliance are the promotion of alternative transportation modes (rail, bus, bicycle, foot) and of compact development with a mixture of activities in relative proximity.

The public sector has also attempted to reshape the older sections of the central city. The urban renewal program of the 1950s and 1960s cleared "blighted" land and slums to allow rebuilding of new housing, offices, and public facilities. South Portland was a primary target. The new Portland Development Commission classified the district as a slum, removed 2300 people, closed businesses, and disrupted community institutions. It cleared the land for the apartments and office towers of Portland Center. Coupled with land clearance for construction of the Stadium Freeway and the expansion of Portland State University, urban renewal hastened the end of a community that was already in transition.

In contrast to the land clearance of the 1950s and 1960s, the central themes of downtown planning for the last twenty years have been public and private reinvestment and the creation of public spaces. The planning process itself involved a Downtown Plan in the early 1970s and a Central City Plan in the late 1980s. The result of plans and redevelopment decisions has been a widely admired urban core that has retained its economic functions while reintroducing housing and public activities. With completion of the MAX line, it is also a downtown that realizes the ambitions of Ben Holladay by spanning both sides of the Willamette

A "neighborhood revolution" that occurred between 1967 and 1975 has been a second influence in reshaping Portland's older cityscape. Nearly every older neighborhood began to argue vigorously for revitalization in the later 1960s. Neighborhood associations themselves were not new, but the positive character of their agendas was a significant departure. The Model Cities program made positive contributions to community liveability and self-determination in North-Northeast Portland. Southeast Uplift assisted inner Southeast neighborhoods, several of which also helped to fight off the potentially devastating Mount Hood Freeway (whose five-mile length would have destroyed 1700 homes). Inner Northwest and Southwest neighborhoods successfully resisted massive land conversions for institutional use and--at least temporarily--conserved affordable close-in housing. The recycling and reuse of these early twentieth-century immigrant and streetcar neighborhoods is one of the remarkable stories of Portland's recent settlement history.

3. EMERGING TRENDS IN METROPOLITAN SETTLEMENT PATTERNS

This section examines several trends that may affect Portland area settlement decisions in the next century. It briefly describes each trend and links it to the factors that dominated nineteenth and twentieth century development. The trends are then evaluated for possible effects on overall metropolitan growth and for centralizing or decentralizing effects within metropolitan areas, with specific attention to the recent experience of the Portland area.

A) Ecological Consciousness

In the late twentieth century, the natural environment affects settlement patterns in the United States more strongly through cultural values and choices than through direct physical limitations. We can and do continue to adapt the natural environment to human purposes. Compared with the nineteenth century, however, we do so with much greater forethought and care. We also make choices to avoid environmental impacts that would have seemed perfectly acceptable to Americans of 1850 or 1890.

The last two decades have brought a new popular awareness and concern in the United States about energy conservation, recycling of materials and facilities, open space, and conservation of natural systems. Topics such as "carrying capacity," "bioregionalism," and "sustainable development" are now commonplace in urban planning and development. According to environmental scholar Samuel Hays, environmental activism has been especially strong in western metropolitan areas such as Seattle, Denver-Boulder, San Francisco, and Portland.

This expanded environmental concern is embodied in public policies developed over the last two decades. Examples from the federal level are coastal zone management programs, wetlands protection, and endangered species protection.

At the state level, the concern is built into several goals within the LCDC system and into the Columbia River Gorge National Scenic Area. It is seen at a regional scale in the "Metropolitan Greenspaces" program, park and trail development, and renewed interest in drainage basin planning and water quality.

An environmental consciousness clearly argues against metropolitan sprawl and low density urbanization on the fringe of settlement. Instead, it might favor clustered peripheral development, following the classic planning model of greenbelts and garden cities. This has been a strongly articulated regional planning alternative in Vancouver, B.C., in Seattle, and in Metro's 2040 regional planning process.

A community might also seek the same goals through increased core use and density. This tendency is likely to be stronger in Portland than in many cities because of the existing strength of core areas. Downtown and close-in living are relatively attractive. The city already has a higher proportion of affluent and majority race residents within a three-mile circle of its central business district than most cities. Since affluent households are the highest per capita consumers of land, the ability to hold and attract these households for high-density districts can be an important factor in meeting environmental goals.

B) Changes in Economic Base

Economies of scale and agglomeration continue to provide a basic framework for understanding metropolitan economic development. Downtown districts in American cities prospered in the 1980s through the agglomeration of business and financial services. Specific industries--such as electronics--continue to thrive best in metropolitan clusters.

However, the closing decades of the twentieth century have introduced basic structural changes in the national economy. Some cities will find themselves better positioned than others to take advantage of these changes. Those that benefit most substantially will find, in turn, that the growth of their economic base has given them further competitive advantages vis-a-vis regional rivals.

Perhaps the most important on-going change in the American economy is the reconnection of the United States to the world. In the previous century, American growth was deeply dependent on foreign markets, foreign investment, and immigration from Europe. The 1920s and 1930s, in contrast, the nation turned in on itself with both political and economic isolationism. This tendency again began to reverse itself in the 1960s with changes in immigration law, reciprocal trade agreements, and the arrival of the 747 jet. The United States has redeveloped a global economy. Immigration now makes a larger contribution to American growth than at any time since the 1910s. Foreign trade now amounts to more than 15 percent of the gross domestic product. Foreign markets for American services such as tourism and education make major contributions to American prosperity. Much of this reinternationalization has involved the development of strong social and economic connections to Latin American and the Pacific Rim to supplement historic ties to Europe.

To date, the global trend has had limited effect on the Portland area economy. Although Portland and Vancouver constitute an important international port, the metropolitan area traditionally has been more strongly oriented toward its regional hinterland than overseas. Seattle, San Francisco, Los Angeles, San Diego, and Honolulu have all developed more vigorously as international centers since the 1960s.

Greater Portland's international involvement is closer to that of interior cities like Phoenix and Sacramento than to its coastal rivals.

Because of its need for highly centralized and specialized facilities and expertise, any globally-based growth that comes to Oregon will tend to promote growth of metropolitan Portland rather than isolated communities such as Astoria. Within the metropolitan area, participation in the global economy reinforces the importance of the airport and of maritime trade. The strongest developmental impacts are likely to be felt in northern Multnomah County and southern Clark County along the shores of the Columbia River and adjacent to I-205.

Globalization also means renewed diversity of population groups. In the 1980s, Asian population grew by 110 percent, Hispanic by 88 percent, and Native American by 42 percent in the three core counties. The effects of the increases will be most striking in Washington County, whose foreign-born population nearly doubled in the 1980s and now surpasses Multnomah County in proportional terms (Table 5).

Table 5

Percentage of Population Foreign Born

	1980	1990
Clark County	3.4 %	3.6 %
Clackamas County	3.7 %	4.1 %
Multnomah County	6.2 %	7.1 %
Washington County	5.5 %	7.3 %
Yamhill County		4.6 %

Overlapping the expansion of the global economy is the emergence of an information-based or "transactional" economy. The information economy stretches back to the organizational revolution of the later nineteenth and early twentieth centuries. Growth of big business and big government coincided with the development of the telegraph, telephone, railroad, and typewriter, which allowed the managers to work in office locations physically separated from their factories. The size of organizations and the specialization of information-consuming activities have continued to increase with electronic data storage and communication.

"Transactional cities" are the sorting points for trade in information and ideas. As junction points in economic networks, they concentrate economic and political decision makers and the occupations that center on the generation, processing, distribution, and recombination of information.

The relative commitment of specific U.S. cities to transactional functions can be judged by looking at several indicators: (a) white collar employment; (b) employment in finance, insurance, real estate, and corporate administration; (c) major corporate headquarters; and (d) federal administrative offices. Available data allow us to assign approximate point totals for each factor at the beginning of the 1960s and measure change to the late 1980s. Cities gained points by percentage employment increases greater than the average for all U.S. metropolitan areas, by increased shares of major corporate headquarters, or by substantial absolute increases in federal role (Table 6). The data indicate that metropolitan Portland compares relatively poorly to other far western metropolitan areas as a transactional center. In particular, Seattle, Los Angeles, and San Francisco have effectively captured information network functions in the same way that they have captured international economic roles, leaving other western cities in a second tier.

Table 6

Information Economy in Far Western Metropolitan Areas

	Relative Score: 1960s	Relative Score: 1980s
San Francisco	8	10
Los Angeles	5	8
Seattle	4	6
Salt Lake City	4	4
San Diego	3	4
Sacramento	3	4
Phoenix	2	5
Honolulu	2	4
Portland	2	3

Although the comparison indicates that the information economy has relatively limited importance as a factor behind the overall growth of metropolitan Portland, it may still have significant impacts on development patterns within the metropolitan area. In considering these impacts, it is important to distinguish between routine information (such as credit card processing) and tailored information (such as advertising or business consulting).

The growth of routine information activities has been decentralizing. The back office work of banks, insurance companies, and similar data processing is the mass production industry of the information age. It can be detached from headquarters locations and located essentially anywhere--whether suburban rings or Sioux Falls, South Dakota. Routine data activities are attracted to peripheral locations for low rents, for available parking, and mostly importantly for an underemployed labor pool of literate and numerate women. Much of the boom in suburban office employment over the past two decades has involved exactly these sorts of workers and activities.

Tailored information, in contrast, has a strongly centralizing effect. Face-to-face contact and agglomeration economies that allow immediate access to a full range of business and professional services take on enormous importance in the transfer and analysis of unique business information. The effects reach their extreme in the financial districts of London, New York, Tokyo, Singapore, and other "global cities" or "world cities," but nearly every important city had a downtown office boom in the 1980s.

In the Portland area, both central core and suburban office markets are strong. Downtown jobs rose by 68 percent from 1970 to 1992, to more than 105,000 within the inner freeway loop. Core area growth is even higher if the Lloyd district is included. At the same time, overall metro area employment is up by 90 percent. The dual nature of information employment should continue to support both central and peripheral job growth and the housing demand associated with such jobs.

C) Communication Technology

Thousands of experts think that something is happening to the way in which we interact with each other. Personal contact, say many writers, is likely to give way to electronic contact. Dozens of new terms are available to capture the essence of this new electronic world. We talk about traveling information highways or digital highways. We want to pioneer the electronic frontier, learn in the global classroom, dip our toes into the cyberstream, and nourish our brain from the electronic cafeteria. We anticipate living in on-line communities or virtual communities or on "the Net." We anticipate a future as citizens of the telecosm, cyberbia, or the fibersphere.

The new technologies raise two questions for metropolitan settlement patterns. One is the extent to which digital highways will directly substitute for physical movement. The other is the ways in which telecommunications may rearrange patterns of movement and settlement.

When we reach beyond the jargon to respond seriously to these questions, it is important to differentiate between social and economic uses.

The social use of telecommunication is to create virtual communities--sets of people with common interests who communicate by computer network rather than mail or face-to-face meetings. Such on-line communities are an amplification of the communities of interest that have always emerged in urban areas as like-minded or like-interested people have found each other. This sort of networking might slightly retard the overall rate of metropolitan growth, by allowing a person whose life revolves around a particular obscure interest to pursue that interest without moving to the big city. It has no implications for settlement within metropolitan areas, for its effect is to remove location as an important variable for interaction with one's community of interest. However, it is likely to have an incremental effect on reducing the total number of trips generated by a given population. In the long run, such digital interaction may allow households to do without that extra automobile (the second, third, or fourth car, depending on household composition).

In the economic realm, the use of digital highways has obvious decentralizing possibilities in the form of "telecommuting." For the professional elite, telecommuting holds the possibility of interacting with clients around the globe while living in the beautiful outback. A number of writers propose a seductive image of a noncity in which millions of telecommuters plug their electronic gear into the grid and live in blissful isolation among the pines, hopping occasionally into their 4x4 to enjoy the local services provided by laid-back entrepreneurs in hundreds of updated villages. In fact, the type of worker who can meet this model is limited to successful free-lance specialists (such as journalists, artists, or consultants) who have the security to pick and choose their clients and control their own schedules.

For the far larger number of routine information workers, in contrast, telecommuting holds the possibility of a new "putting out system." In England at the start of the industrial revolution, much textile production was "put out" to individual households rather than centralized in factories. Materials were delivered weekly or monthly, the previous week's or month's work picked up, and the weavers paid by the piece. In a similar way, large information industries can deliver bundles of work to suburban homes for processing in front of the home computer. Since much of this work has already moved from core city to suburbs, it is likely that further decentralizing effect will be real but limited.

It is also important to note that as yet there is little evidence of a major trend toward home-based work and telecommuting. In the Portland metropolitan area in 1970, 3.0 percent of employed persons said they worked at home. In 1980, the figure had fallen to 2.2 percent. In 1990, it had risen again to 3.8 percent, a very moderate change over twenty years.

It is equally important to remember that economic use of the digital highway can also promote centralization by facilitating control of multiple enterprises from a