



THE CHALLENGE OF GROWTH

Driven To Crisis

The high price of suburban sprawl

Metropolitan areas across the United States are facing problems fueled by decades of suburban sprawl and heavy dependence on the automobile: traffic congestion, long commutes, loss of natural resource land, vanishing open spaces, air and water pollution, neighborhood and inner city deterioration, and the rising cost of public services.

Demand for land and mobility continue to increase, driven by many factors, including population, household, and employment growth in metropolitan areas, rising income, and stable fuel prices. At the same time, governments are facing the fact that they can no longer provide the highways and other public services that new development requires at the quantity, quality, and price citizens now expect.

Congestion is worsening in most metropolitan areas. A recent study shows that between 1986 and 1990, total hours of delay increased in 39 of the 50 cities reported (Bureau of Transportation Statistics 1994). Solutions that add more highway capacity can be expected to provide only temporary relief. Few planners or engineers believe congestion can be reduced or even maintained at current levels. As the cost of highway expansions is rising, taxpayers' willingness to pay those costs is decreasing. Add to that the high cost of maintaining existing highways, and governments are hard pressed to finance new projects. The American Public Works Association (1996) reports that it would cost approximately \$290 billion to eliminate existing highway and bridge deficiencies in the United States.

In most metropolitan areas, the suburbs have absorbed the lion's share of growth. In 1950, nearly 70 percent of the population in metropolitan areas lived in central cities. By 1990, that situation had reversed, with more than 60 percent living in suburbs (Rusk 1993). Beyond the urban core, land has been less expensive, and new highway capacity to serve it has been relatively easy to add. As a result, developed land area and vehicle use has increased much faster than population growth (Federal Highway Administration 1993). This suburban growth pattern has kept single-family housing prices within the range of many households, but often at the price of longer commutes. Moreover, some evidence sug-

Percent Change in Population and Daily Vehicle Miles Traveled (VMT) for Selected Urbanized Areas, 1989-1994

| Urbanized Areas | Population | Daily VMT |
|--------------------|------------|-----------|
| New York | 2.3% | 4.6% |
| Los Angeles | 7.0% | 5.2% |
| Chicago | 5.5% | 22.2% |
| San Francisco | 7.1% | 3.9% |
| Dallas-Ft. Worth | 6.4% | 25.2% |
| Houston | 4.8% | 4.2% |
| Phoenix | 14.1% | 32.1% |
| Seattle | 13.8% | 11.4% |
| Denver | 3.4% | 30.3% |
| Portland-Vancouver | 11.6% | 19.2% |
| Sacramento | 15.8% | 11.6% |
| Las Vegas | 148.3% | 59.3% |
| Spokane | 7.6% | 29.0% |

Note: Urbanized areas comprise one or more central places and the adjacent urban fringe having a density of at least 1,000 persons per square mile. Areas defined as "urbanized" grow as surrounding land develops to this minimum density.

Source: Federal Highway Administration (1990, 1995)



National Journey to Work Comparisons, 1980 & 1990

| Percent of All Workers | 1980 | 1990 | Change |
|----------------------------|-------|-------|--------|
| Driving Alone | 64.4% | 73.2% | 13.7% |
| Carpooling | 19.7% | 13.4% | -32.0% |
| Public Transit | 6.4% | 5.3% | -17.2% |
| Other Modes | 1.6% | 1.3% | -18.8% |
| Walking or Working at Home | 9.5% | 6.9% | -27.4% |

Source: Volpe National Transportation Systems Center, as reported by Pisarski (1990)

Percentage Growth in Population and Population Density for Selected Metropolitan Areas, 1950-1990

| Urbanized Area | Growth in Population | Change in Density |
|----------------|----------------------|-------------------|
| New York | 30% | -45% |
| Los Angeles | 185% | 26% |
| Chicago | 38% | -38% |
| San Francisco | 80% | -41% |

Note: Density is in terms of persons per square mile. Urbanized areas comprise one or more central places and the adjacent urban fringe having a density of at least 1,000 persons per square mile. Areas defined as "urbanized" grow as surrounding land develops to this minimum density.

Source: U.S. Census Bureau, as reported in Cox (1996)

The costs of sprawl

Numerous studies have addressed the costs of sprawling versus compact development. While results are varied, many conclude that infrastructure costs are lower in high-density communities.

- A 1995 review of three major studies summarized the relative infrastructure costs of compact versus standard development patterns.

Relative Infrastructure Costs of Compact Development Relative to Standard Development Patterns

| Findings From Three Major Studies | | | | |
|-----------------------------------|-------------|------------|---------------|------------------------|
| Type of Facility | Duncan 1989 | Frank 1989 | Burchell 1992 | Synthesis ^a |
| Roads | 40% | 73% | 76% | 75% |
| Schools | 93% | 99% | 97% | 95% |
| Water & Sewer | 60% | 66% | 95% | 95% |
| Other | 102% | na | na | 100% |

^a Represents a synthesis or consensus from the three studies, as reported by Burchell and Listokin.

Source: Burchell and Listokin (1995)

- The American Farmland Trust (1995) found that distributing the same amount of population growth between 1995 and 2040 over slightly less than one-half million acres, instead of slightly more than one million acres, would create cumulative savings for taxpayers of \$29 billion. The low-density growth pattern would produce a cumulative local government deficit of over \$1 billion.
- Another recent report (Bank of America et. al. 1995) found that the social, environmental, and economic costs of sprawl threaten to inhibit economic growth and degrade quality of life in California.

gests that the full costs of development in the suburbs are not paid by the people who choose to live and work there.

Citizens surveyed about growth consistently cite concern over congestion, air quality, sprawl (including loss of farmland, open space, and community), and change. They also report that they don't want growth to strip them of a sense of neighborhood and community, qualities they value. While citizens perceive the problems of metropolitan growth, they are skeptical that current policies and institutions can solve them (Deakin 1989, ECONorthwest 1994, Myers 1987). In short, many people believe that land development and traffic growth threaten their quality of life, and they question the ways in which that growth has been accommodated.

Seeking Solutions

Planning for livable communities

Planners and policymakers have long known that land development, transportation investment, and air quality are related, but for both technical and political reasons, simultaneously planning for all of them has rarely occurred. In the last five years, planners in metropolitan areas have increased their efforts to bring together different agencies, with different responsibilities, to develop integrated regional plans. The LUTRAQ project explored ways to achieve such integration.

The LUTRAQ project began with the assumption that good planning for metropolitan areas must integrate three key elements: land-use policy, transportation investments, and supportive market strategies.

- **Land-use policy.** Land-use planning is logically, and traditionally, at the core of a metropolitan area's efforts to create its future. While most traditional land-use plans set standards for new development, many of these standards actually work to facilitate, or even promote, sprawl. To avoid a sprawled future, land-use plans need to promote more compact development, reduce reliance on the automobile, and protect open spaces.
- **Transportation investments.** While many resources are currently allocated for highways, integrated planning must explore the benefits of investing in alternative modes of transportation (transit, bicycle, and pedestrian). Metropolitan areas are now encouraged to do this by the planning requirements and flexible funding of the Intermodal Surface Transportation Efficiency Act.

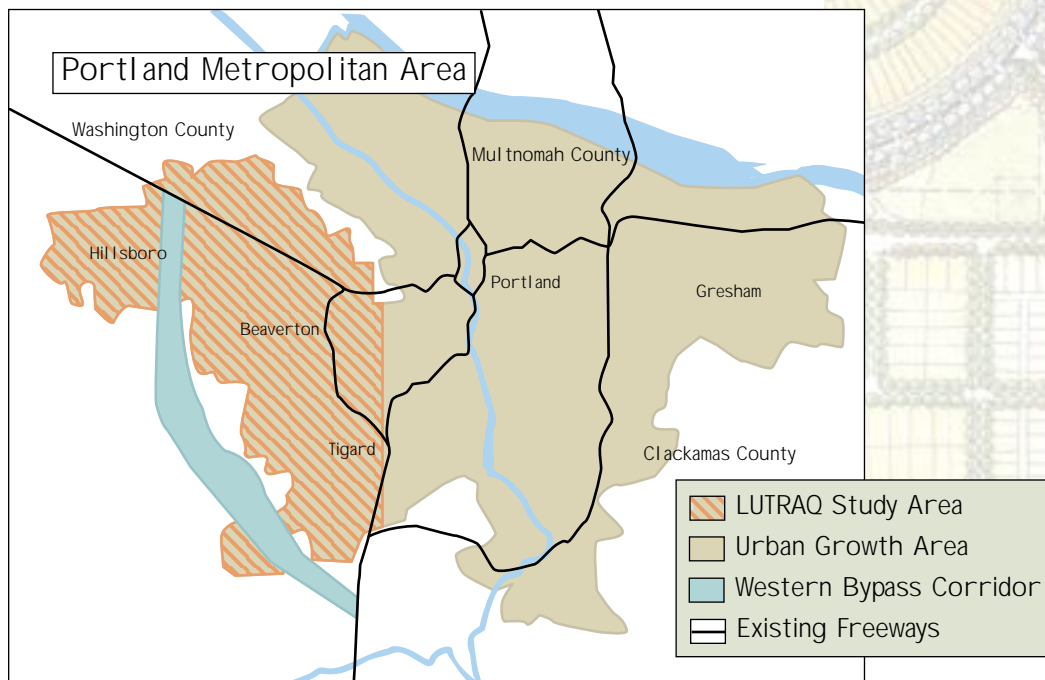
- Market strategies.** Many public policies affect the market climate in which growth and transportation choices occur, thereby influencing the type and location of land development and the mode and destination of trips. In integrated planning, market strategies need to be employed to support the land-use and transportation objectives noted above. These strategies could include one or more of the following: parking pricing, congestion pricing, carpooling and transit incentives, economic development incentives for targeted locations, infrastructure fees, and tax policies.

Metropolitan areas face complex land-use, transportation, and environmental-quality problems that cannot be solved with simple measures. Change can occur, however, by addressing the issues from new perspectives and by weaving together a number of mutually supportive strategies.

Portland At The Crossroads

Trouble in paradise

Expanses of forest and fertile farmland, rushing rivers, and striking mountains surround the Portland metropolitan area. Nestled in the northwestern corner of Oregon, the region encompasses portions of three Oregon counties with a combined population of 1.2 million people. By the year 2040, the population is expected to increase by 760,000.

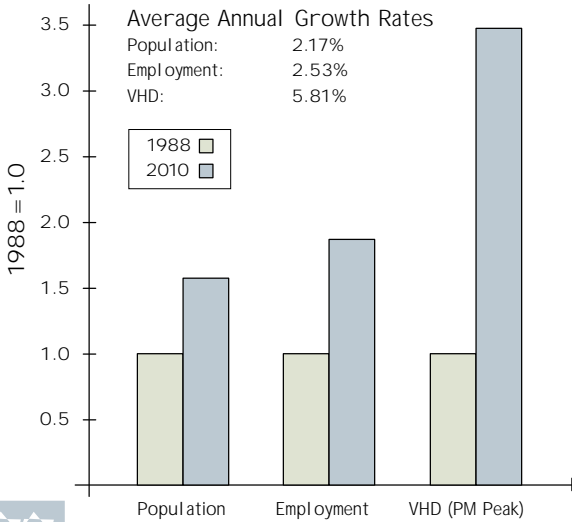


Land use and population growth

- Chicago metro area population grew by 4 percent between 1970 and 1990, but the region's land area grew by 35 percent (Northeastern Illinois Planning Commission 1995).
- Seattle metro area population grew by 38 percent between 1970 and 1990. During the same period, the region's land area increased by 87 percent and vehicle miles traveled ballooned by 136 percent (Arrington 1996).
- Kansas City's urban and suburban population expanded by 29 percent from 1960 to 1990, while total land area grew 110 percent (Kansas City Star 1995).



Population, Employment & Vehicle Hours of Delay - LUTRAQ Study Area (1988 & 2010)



Source: Oregon Department Of Transportation (1995)



This farmland, which lies in the path of the proposed Western Bypass, is as productive as it is beautiful; in 1995 Washington County farms produced more than \$183 million in sales, putting the county fifth among Oregon's 36 counties.

Leading the region in growth is Washington County with an urban area of approximately 100 square miles in the western part of the metropolitan area. By 2010, the county will be home to 150,000 new residents and 100,000 new jobs.

Washington County has developed according to a typical auto-oriented, low-density, single-use development pattern. Only 3 percent of work trips are by transit, compared with 7 percent for the region as a whole. The county's segregated land-use patterns separate people's homes from the places they need to go; most people must use their cars to get to every destination.

Rapid growth, dispersed development patterns, and almost exclusive reliance on the automobile have combined to create heavy traffic and congestion. According to forecasts, traffic on main highways is expected to grow at twice the rate of population over the next 20 years. With traffic worsening, the initial political response was "build a new freeway."

Challenging assumptions

In 1988, the Oregon Department of Transportation (ODOT) and the political leadership of Washington County were close to agreement on building a new freeway, the Western Bypass. In response, 1000 Friends of Oregon initiated the LUTRAQ project.

By challenging conventional assumptions, the LUTRAQ project charted new territory in land-use and transportation planning. LUTRAQ did not accept the assumptions that providing mobility to a growing population required highways on an ever larger scale, that alternative modes would never provide significant relief from the need for auto trips, or that the number and length of trips could not be reduced by changes in land-use and other policies. Instead, LUTRAQ presented new assumptions that were tested by careful analysis of market and demographic trends. The result was the LUTRAQ alternative, a different plan for land use and transportation that was added to ODOT's environmental impact statement process for the Western Bypass and, ultimately, adopted as part of the region's vision for the future.

A vision of choice

The LUTRAQ alternative envisions suburban neighborhoods where adults and children can choose how they travel to and from life's destinations. It suggests new residential and commercial patterns that emphasize connected streets, sidewalks, convenient and comfortable access to transit, mixed uses, human-scale design, and open space.

To transform that vision into a reality, LUTRAQ proposed three principles for public action:

- Land-use plans should direct higher intensity development to locations well-served by transit and should ensure that development is designed for pedestrians, bicyclists, and transit riders, as well as auto drivers.
- The transportation system should serve and reinforce the nature of that development.
- Market strategies should further support that development by correcting some of the current distortions in the pricing of the transportation system and other public facilities.



Retail commercial development can be designed in a number of ways. Options include auto-dependent designs that lack human scale and connections to homes, schools, and other key destinations and pedestrian-friendly designs that invite walking and bicycle travel.