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# Making the Land Use, Transportation, Air Quality Connection (LUTRAQ)—Freeways or Communities: It's Your Choice



*Adapted from a speech by*  
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Staff Attorney/LUTRAQ Project Director

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“Making the Land Use, Transportation, Air Quality Connection” (LUTRAQ) began as a response to a proposed new suburban freeway in the Portland, Oregon metropolitan area. Initially, the freeway—known as the Western Bypass—was assumed to be a done deal. The political leaders of Washington County (where the freeway would be sited) were unanimous in their strong support for the facility, and realistic options for dealing with traffic congestion in the area were few.

That was 1988. In June 1997, Metro (the Portland area regional government) made the final vote to kill the project. How did this change come about? A certain amount of credit for the Bypass's demise goes to the LUTRAQ Project. LUTRAQ grew out of an understanding that one of the prime reasons for Washington County's congestion is an underlying land use pattern that provides its inhabitants with no choices in how to travel. Segregated land use patterns that isolate people from the places they need to go and development designs catering only to automobiles have given Washington County citizens no logical option but to use their cars for virtually every function in their lives.

With the help of Cambridge Systematics, Calthorpe Associates, Parsons Brinckerhoff Quade & Douglas, ECONorthwest, several advisory committees, and the citizens' group Sensible Transportation Options for People (STOP), 1000 Friends of Oregon constructed an alternative land use pattern for the future of Washington County, one that focuses moderate density, pedestrian designed neighborhoods along a regional transit network. *See Figures 1 & 2.*

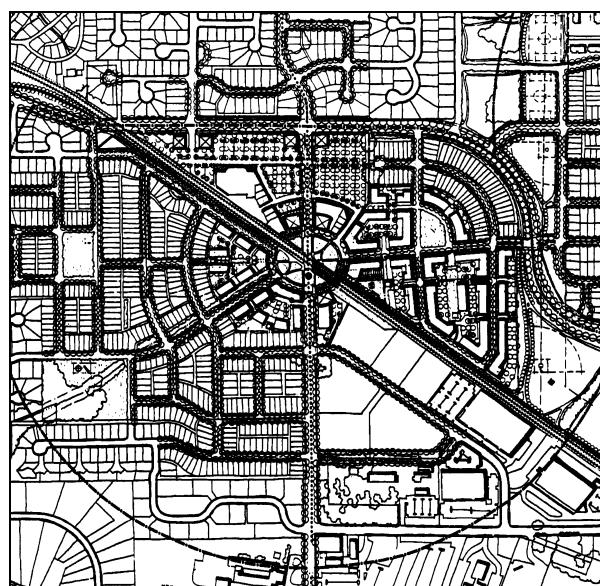
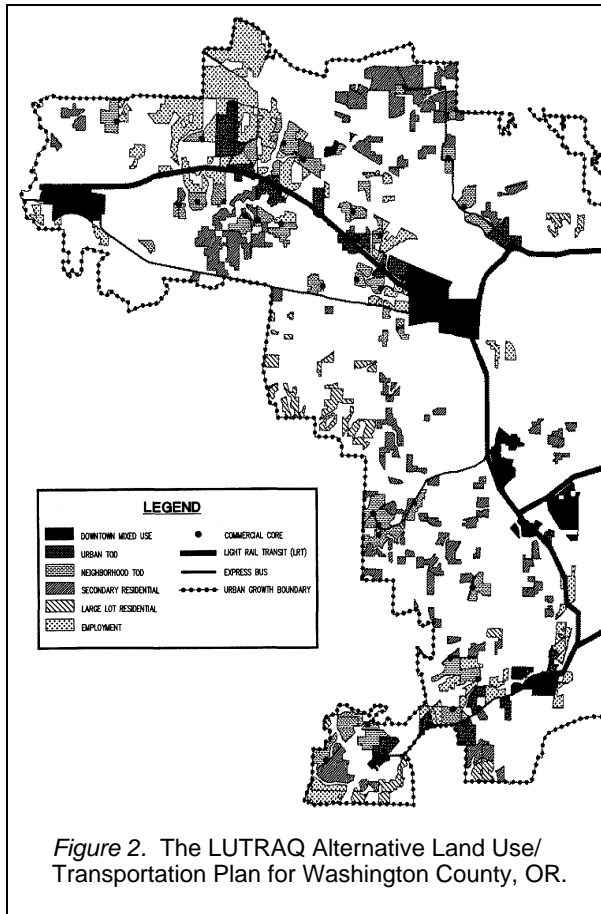


Figure 1. Illustrative Site Design for an Urban Transit-Oriented Development. Calthorpe Assoc.

At market-supported densities, these transit-served communities could support 75% of the jobs and 65% of the households expected to move into Washington County through 2010; under existing plans only 16% of that development would be located along the transit network. When joined with a transportation demand management package of parking pricing and transit subsidies, this development pattern would decrease county-wide congestion levels by 10 percentage points more than construction of the Bypass (a 53.2% decrease in vehicle hours of delay over the "no-build" option, compared to the Bypass' 43% decrease). What's more, the LUTRAQ option would reduce congestion by reducing demand, not by adding capacity, as the Bypass would. Under the Bypass option,



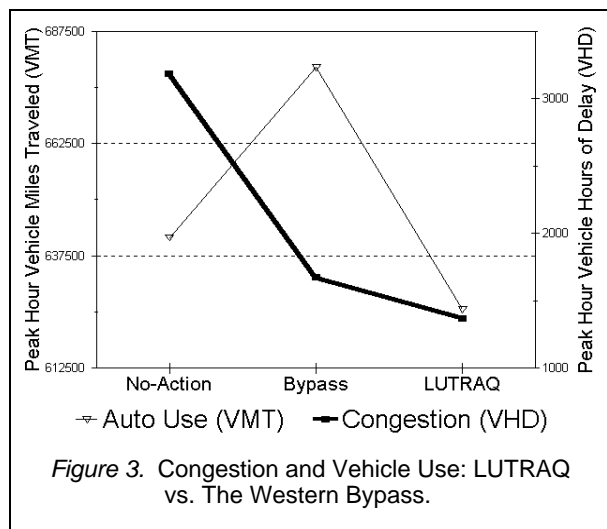
average daily vehicle miles traveled (VMT) would increase over the no-build by almost a million (5.6%); with LUTRAQ, however, VMT would decrease by 3.2%. See Figure 3. Under LUTRAQ, 33% of the work trips generated by "Transit Oriented Developments" (TODs) would be on transit or by foot or bicycle. See Figure 4.

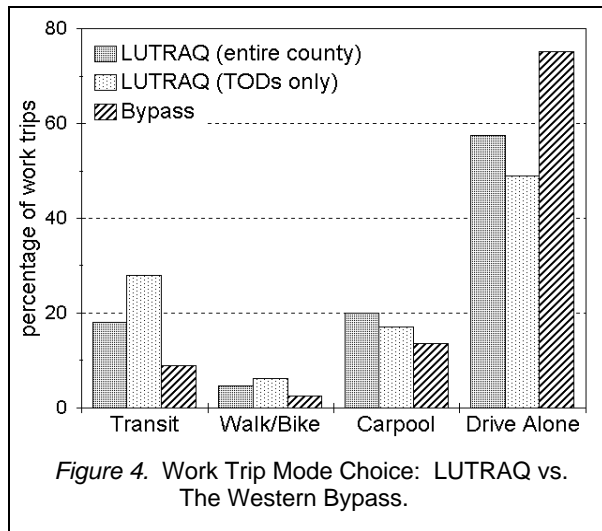
While these statistics are encouraging, good numbers have rarely been sufficient for determining the outcome of important public debates. When 1000 Friends first floated the idea of a land use alternative to the Bypass in 1989, many were incredulous—the notion of changing what appeared to be immutable development trends seemed impossible. It was almost as if sprawl development were part of natural law—one of the self-evident truths in the Declaration of Independence (the right to life, liberty, the pursuit of happiness, and to be stuck in traffic).

Over time, however, the fortunes of the LUTRAQ idea improved. Although the Oregon Department of Transportation (ODOT) was unwilling to develop a land use alternative on its own, it was willing to consider one developed by 1000 Friends. The resulting LUTRAQ alternative became one of five alternatives that ODOT studied in the Major Investment Study (MIS) on the Bypass. To our knowledge, this was the first time in the U.S. that a land use alternative has ever been included in an environmental document.

At roughly the same time that ODOT was studying the Bypass, Metro was studying land use and transportation issues for the entire Portland region through the year 2040. An initial outcome of the study was a conceptual land use/transportation plan known as the Region 2040 Growth Concept, which the Metro Council adopted in 1994. Like LUTRAQ, the Growth Concept concentrates future growth into centers and corridors served by transit.

In fact, LUTRAQ and the Growth Concept are so similar that in a study conducted in 1995, we found that 91% of the acres identified in the LUTRAQ alternative have LUTRAQ designations that are comparable to those in the Growth Concept. Hence, when the Metro Council adopted the Growth Concept, it was also adopting LUTRAQ, for all intents and purposes.





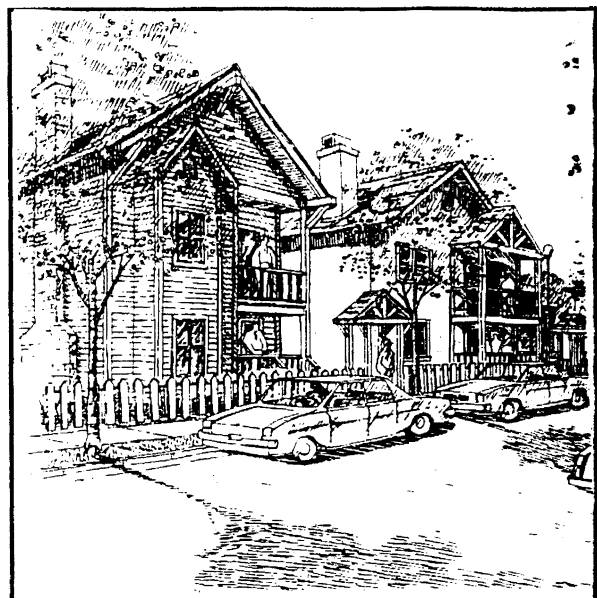
Meanwhile, political pressure was mounting against the Bypass. In a February 1994 speech, Governor Barbara Roberts stated: "[I]f there is an alternative that meets the transportation needs of Washington County and the region without building a bypass, state policy clearly requires us to pursue that other alternative." Moreover, the Bypass became a major campaign issue for candidates running for local, regional, and state elected office. The 1992 Portland City Council and mayoral election campaigns included the unusual spectacle of the major candidates attempting to prove that they were more opposed to the Bypass than their opponents. Probably the most interesting of the campaigns was the one run by Metro's former Council Chairman, who ran for Metro Executive Officer in 1994. Although in his former position, this candidate was one of the region's biggest Bypass supporters, he ran on an anti-Bypass platform.

The final unravelling of the Bypass proposal began in the spring of 1995 when ODOT released its MIS report, showing the LUTRAQ alternative to be equal or superior to the Bypass in virtually every category. This was followed in September 1995 with ODOT's official recommendation from the study process, calling for various smaller road improvements, but no Bypass.

What is the future for LUTRAQ? Stopping a freeway is one thing; implementing a new land use/transportation concept to begin reversing trends in

travel behavior is quite another. Thankfully, LUTRAQ's implementation is being helped along by many state and regional players in the Portland area. In addition to the Region 2040 project noted above, Oregon's Transportation Planning Rule is requiring local governments to revamp their land use plans to allow transit oriented developments along all transit lines, and to require pedestrian-friendly site designs for new commercial buildings. Another major initiative is the \$1 million station area planning process that Tri-Met (the region's transit agency) is facilitating. This effort has already resulted in the adoption of transit oriented development overlay districts by all the jurisdictions in the Bypass study area. Finally, the state Department of Environmental Quality has promulgating Employee Commute Options (ECO) regulations that require large employers to adopt plans designed to reduce single-person commute trips.

LUTRAQ has provided a rallying point for people not satisfied that a high quality of life necessarily includes acres of parking lots and miles of congested roads. Already we are seeing this constituency affecting policy and market trends. If this movement carries forward into the foreseeable future, LUTRAQ's role in helping to provide a catalyst for this change will be enough to claim victory.



Calthorpe Assoc.

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# LUTRAQ Resources

- Vol. 1: Modeling Practices** (1991). Identifies state-of-the-art integrated land-use and transportation modeling techniques, presents survey results on U.S. modeling practices, and evaluates the existing modeling system for the LUTRAQ study area.
- Vol. 2: Existing Conditions** (1991). Establishes daseline data on land-use, transportation, and demongraphic conditions in the study area and identifies vacant and underutilized land use could accommodate transit-oriented developments.
- Vol. 3: The LUTRAQ Alternative** (1992). Provides a full description of the LUTRAQ alternative land-use/transportation/ demand management plan. Written by Calthorpe Associates.
- Vol. 3A: Market Research** (1992). Includes study area market analysis that was used to establish density and mixed-use parameters in the LUTRAQ alternative.
- Vol. 4: Model Modifications** (1992). Provides detailed descriptions of compter model improvements relating to land-use mixing, pedestrian design, and the DRAM/EMPAL<sup>®</sup> land-use modeling system.
- Vol. 4A: The Pedestrian Environment** (1993). Presents findings of several analyses testing the strength of correlations between pedestrian design and travel behavior.
- Vol. 4B: Building Orientation** (1994). Analyzes connections between travel behavior and the site design of commercial structures.
- Vol. 5: Analysis of Alternatives** (1995). Presents data on the transportation and air quality impacts of the LUTRAQ alterna- tive compared to no-build and freeway options.
- Vol. 6: Implementation** (1995). Provides information on possible ways to implement the LUTRAQ alternative, including sections on design guidelines (by Calthorpe Associates), a model zoning ordinance, and economic incentives.
- Vol. 7: Making the Connections: A Summary of the LUTRAQ Project** (1997). Reviews the histroy and key findings of the LUTRAQ project and give examples of how other cities are addressing similar problems. (40 pages, full color)
- Vol. 8: Making the Connections: Technical Report** (1997). Reports on the state of knowledge about the relationship between transportation and urban form, and includes a step-by-step “cook book” on how to develop an integrated trans- portation and land-use plan. (75 pages)
- Creating Better Communities: The LUTRAQ Principles** (1996). Produced by Sensible Transportation Options for People, this report illustrates how LUTRAQ principles can be used to create better communities.
- Video: Creating Communities** (1995). A companian to the Creating Better Communities booklet, this video presents gen- eral background and findings from LUTRAQ and provides a visual context for the LUTRAQ principles at work.
- Site Design & Travel Behavior: A Bibliography** (1993). Provides anotated bibliographic information relating to site design and travel behavior.

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