



## The Impact of Oregon's Land Use Planning Program on Forest and Agricultural Land Retention

[Jeffrey Kline](#) and **Ralph J. Alig**, *U.S. Forest Service*

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### Summary

As urbanization has expanded into rural areas, the protection of rural lands has become an increasingly important goal of policy makers in recent years. Historically, rural lands such as forests and farmland, have been valued for their productive capability and their role in generating economic activity associated with the production and processing of forestry and agricultural commodities. More recently, public concern for rural lands has extended to include a desire for reduced congestion, environmental protection, and outdoor recreation that contribute to the quality of life of both rural and urban residents. However, rural lands often fall outside the jurisdiction of local town and city planning agencies and remain vulnerable to unregulated residential, commercial, and industrial development. As demands for competing uses of rural lands have grown, policy makers increasingly have turned to comprehensive statewide land use planning as a way to protect rural lands and provide for orderly urban growth. The effectiveness of these programs as a means for protecting rural lands has not been evaluated empirically.

We examine how effective statewide land use planning has been at slowing the rate of conversion of rural lands to urban uses in Oregon. An empirical model is developed that describes the rate at which rural land in western Oregon and western Washington has been converted to urban uses since 1961, as a function of socio-economic variables and land characteristics. Data are provided by USDA Forest Service's Forest Inventory and Analysis inventories and the U.S. Census. The estimated model coefficients can be used to estimate the area of rural land in western Oregon that would have been converted to urban land uses had statewide land use planning not been implemented. Preliminary results suggest that Oregon's land use planning program has reduced the amount of rural land converted to urban uses.

### Oregon's Land Use Planning Program

During the 1950s and 1960s, population growth in western Oregon raised concern for the loss of rural lands to development. Although existing legislation authorized local governments to manage urban growth,

rural land development outside of incorporated areas often was unplanned and unregulated (Gustafson et al. 1982). In response, Oregon's legislature enacted the Land Conservation and Development Act in 1973. The Act required all cities and counties to prepare comprehensive land use plans consistent with a list of statewide goals, and established the Land Conservation and Development Commission to oversee the program (Abbott et al. 1994).

Three goals of the program are: 1) the orderly and efficient transition from rural lands to urban land uses, 2) the protection of agricultural lands, and 3) the protection of forest lands (Abbott et al. 1994). To address these goals, each county is required to maintain urban growth boundaries restricting the expansion of urban land uses, and to zone land outside these boundaries as exclusive farm use, forest use, or exception areas (Pease 1994). Exception areas are unincorporated rural areas where low density residential, commercial, and industrial uses prevail, and where development is allowed, pending approval by local authorities (Einsweiler and Howe 1994). Development within exclusive farm use and forest use zones can be approved by local authorities, but must be reported to the Land Conservation and Development Commission (LCDC 1996a; LCDC 1996b). By 1986, comprehensive plans had been acknowledged by the Land Conservation and Development Commission for all counties, cities, and towns in the state (LCDC 1992).

During the same time period, statewide land use restrictions had not been imposed in neighboring Washington State. Although urban development had been eroding the rural land base for many years, statewide planning in Washington was only recently initiated with the passage of the Growth Management Act in 1990 (Baker 1992). With goals similar to Oregon's program -- protecting productive forest and agricultural land -- the act directs local governments to revise existing comprehensive plans, establish urban growth areas, and adopt development regulations to conserve natural resources. The absence of the new land use restrictions in Washington during the time period analyzed in this study enables cross-sectional and cross-temporal analysis of rural to urban land use conversions with and without statewide land use planning in effect.

## Conceptual Framework

During the past century, the United States has changed from a predominantly rural to an urban nation. For example, the percent of the nation's total population living in urban areas rose from 26% in 1870 to 74% in 1970. Increasing population and real personal income and improved transportation have increased the demand for land in urban uses (Barlowe 1978). As land rents associated with urban land uses rise above those associated with rural land uses, such as forest, crop, and livestock production, the opportunity costs associated with owning rural lands increase. Rural landowners become more likely to sell forests and farmland for development. From 1960 to 1990, the populations of western Oregon and western Washington increased by 64% and 85%, while median household income (adjusted to 1992 dollars) increased by 7% and 17% (U.S. Bureau of Census 1992). If Oregon's statewide land use planning program is effective as a means for protecting rural lands, we would expect that the rate at which rural lands have been converted to urban uses would have been less in Oregon once the program was implemented.

We expect population and income growth to be positively correlated with the conversion of rural land to urban uses. Current land use, as an indicator of the rural use-capacity of land, and returns to forestry and agricultural activities potentially can influence the decision of whether or not to sell land for development as urban land uses expand into rural areas. Rural lands earning higher rents are expected to be less likely to be converted to urban uses than lands earning lower rents. Landowner characteristics may indicate differences in land management and ownership goals and may contribute to land use decisions.

## Conclusions

Preliminary results suggest that Oregon's statewide land use planning program has reduced the probability that rural lands are converted to urban uses. Results also show that population growth and ownership by miscellaneous private individuals, other than the forest industry, miscellaneous corporate owners, and farmers, increase the probability that rural land is converted to urban uses. Land in cropland use is less likely to be converted to urban uses than is land in timberland and other forest or pasture and range uses. Land rents associated with rural land use activities, including forestry, crop, and livestock production, are found to have little impact on rural to urban land use conversions.

Results of the study are preliminary. We do not acknowledge potential differences in the comprehensive plans and rates of development allowed by different towns and counties. We also do not account for heterogeneous management behavior among rural landowners. A more thorough assessment of the effectiveness of statewide land use planning programs such as Oregon's could be accomplished by incorporating detailed spacial data describing the location of rural land within farm and forest zones, urban growth boundaries, and exception areas, to account for differences in the land use policies of individual towns and counties. Information regarding the specific management practices of private landowners also could be included to examine how land management behavior influences land use change. We hope to address all of these issues in the near future.

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