

## **BEST LOCAL LAND USE PRACTICES BRIEF: TRANSPORTATION AND BALANCED GROWTH**

### **Introduction**

As part of its collaborative work with Ohio state agencies, the Ohio Balanced Growth Program co-sponsored research with the Ohio Department of Transportation that looked at the relationship of Balanced Growth land use policy and transportation outcomes. A collaborative project itself of the Maxine Goodman Levin College of Urban Affairs and the Washkewicz College of Engineering, along with engineering/planning consultant CDM Smith Inc., the research provided analysis of the link between local, regional and state decisionmaking and key transportation outcomes including efficiency, cost, and safety. It was conducted during 2013-2014, with findings published in early 2015. The full report and executive summary can be accessed [here](#). This brief is intended to communicate what local governments can learn about land use-transportation policy synergies from the results of this study.

### **Background**

Much has been written and observed about the decades-long pattern of outmigration from urban areas into suburban and exurban areas in the United States. Known as “sprawl”, this pattern is widespread, affecting metropolitan areas in both high-growth and low-growth regions of the country. The origin of the Ohio Balanced Growth Program lies in the documented relationship between land use patterns and their impact on water resources from Lake Erie to rivers and local streams and lakes. Watershed-protecting “Best Local Land Use Practices” such as storm water management, stream and floodplain protection, tree canopy cover, compact development, conservation development, and others have been shown to reduce the impact of human development on the quality and flooding characteristics of water resources from Lake Erie to local rivers, streams, lakes, ponds, and wetlands.

Many government entities are exploring ways to reduce their costs for both capital improvements and maintenance. Transportation costs in particular place a high level of stress on local and regional government budgets. For regional metropolitan transportation and infrastructure planning organizations such as NOACA, TMACOG, MORPC, and OKI, an obvious question is the role that the pattern of development plays in transportation outcomes involving cost, efficiency, effectiveness, and safety, as well as related social factors such as emissions and transportation access. Counties and local governments stand to benefit if their policies can reduce overall costs of transportation improvements and maintenance.

Furthermore, the quality and design of local development patterns and transportation systems have an influence on the “quality of place” that is being shown more and more to determine the success of local communities in attracting and keeping business and a strong workforce.

This study looked at these factors and others in its review of transportation literature and analysis of associated development patterns and policy across the country.

### **Land use and transportation benefits**

The report, titled “The Value of Balanced Growth for Transportation”, summarizes research that documents the connection between land use patterns and transportation benefits. In particular, land use patterns that reflect higher densities (compact development), and a “nodal” character with mixed development located around “activity centers”, have been shown to provide transportation benefits through more efficient, more effective, and more cost-effective transportation infrastructure. *Compact (higher density) development* and *focused (nodal) development* areas are strong candidates for the wider use of alternative modes of transportation, including bicycling, public transit and walking.

Transportation benefits that result include:

- Transportation Effectiveness: reduced construction, maintenance and operations costs
- Transportation Efficiency: increased transportation mode choice (public transit, bicycle and pedestrian, as well as auto); reduced travel times, delay and congestion; reduced peak travel demand and vehicle miles traveled per capita.
- Transportation-Related Social and Community Benefits: improved access to transportation for all, especially those who don’t drive; increased choice in transportation mode; increased safety; reduced air pollution; reduced transportation costs for citizens, businesses and governments; reduced fuel consumption; and increased property values, and economic development, in redevelopment areas.

Across the United States, states, regions and municipalities are implementing a wide range of policies and programs intended to encourage compact, nodal development patterns. The Ohio Balanced Growth Program is one such program. Voluntary and locally driven, it involves local collaborative watershed plans that designate priority areas for development and conservation investment. State and local policies and programs are then aligned with those locally-determined priorities through incentives in state programs, grants and loans. The goal is to encourage more infill and development in designated Priority Development Areas; and more conservation in designated Priority Conservation and Priority Agricultural areas.

### **Key findings of the study**

The study included a literature review of land use-transportation relationships; an inventory of state- and regional-level Balanced Growth-type programs; and a review of the influence of Balanced Growth-type policy on land use patterns in 26 selected metropolitan areas across the United States, including four Ohio regions.

A technical analysis of data from those 26 areas evaluated the relationship of land use patterns to transportation factors such as miles of roadway (representing construction and

maintenance cost), safety, transportation choice, vehicle miles traveled (ie. commute length), travel delay (a measure of congestion), and emissions (air quality).

**Local policy.** Figure 4.2.1, adopted from the final report, summarizes ways that state, regional, and local policy can influence land use patterns.

Compact development zoning, street design, parking requirements, stormwater management policy, floodplain policy, and transit-oriented development all can be effective in keeping local waters clean, preventing flooding, encouraging use of transit, and improving road and transportation system efficiency.

**Regional policy.** Metropolitan planning organizations, regional utility districts, counties, and other regional agencies influence land use patterns through regional transportation plans and water quality plans; land use, transportation and water resource plans, and collaboration with and between local governments. Regional governments' decisions about allocation of funds for projects can make the difference in what is implemented for transportation and infrastructure, and ultimately what is developed.

**Local and regional benefits.** These policies in turn can result in a wide range of benefits at the local, county, and regional levels:

- reduced overall government cost of constructing and maintaining transportation systems, flood control infrastructure, and storm water infrastructure
- reduced public and private costs through reduced flood and damage risk to property, reduced fuel costs, reduced insurance costs
- reduced public and private time costs in time expended in traffic congestion, repair and maintenance
- improved local tax revenues and private benefit through higher property values
- improved public health through improved air quality, reduced obesity through support of walking, improved pedestrian and driver safety
- higher quality of life through expanded access to transportation for seniors, children, those with disabilities, and all citizens

### **Type and Influence of Balanced Growth Policy**

In reviewing Balanced-Growth-Type policy across the country, which was defined as policy that supported compact, nodal development patterns, policy areas were grouped into three tiers (a fourth, Tier 0, was reserved for states/regions without Balanced-Growth-Type policy):

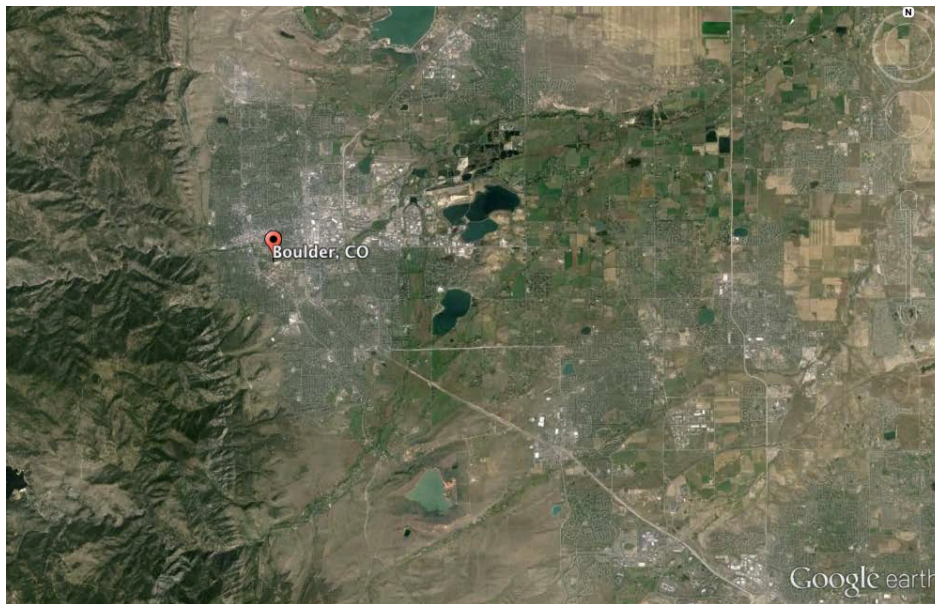
**Tier 1** – states/regions with *voluntary* BG-type policy that *encourages* both public and private investment decisions to align with Balanced-Growth-Type principles, through incentives, technical assistance, education, and resources; the Ohio Balanced Growth Program falls into this tier

**Tier 2** – states/regions with *mandatory or rigorous* BG-type policy that affects state/regional (as applicable) public investment. This includes a state policy plan that drives state and regional public commitments and investment.

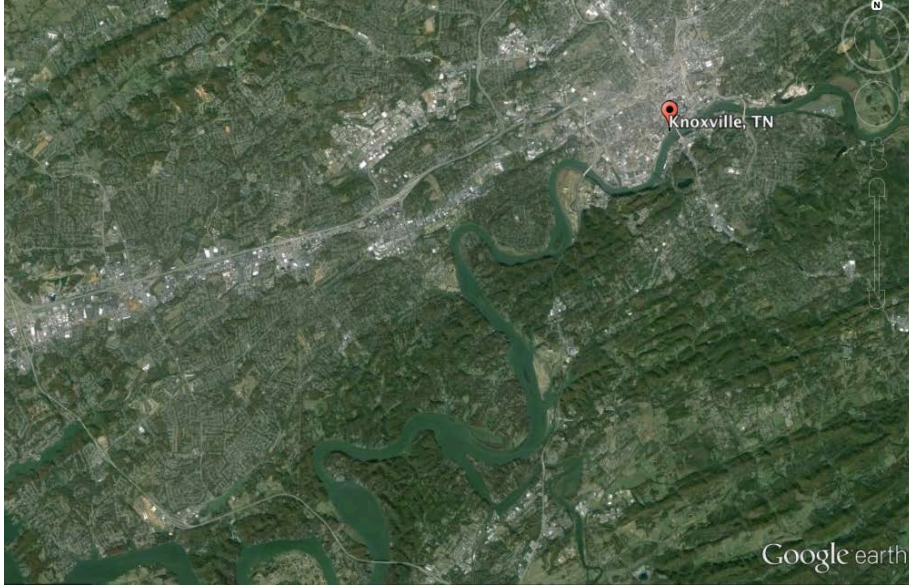
**Tier 3** – states/regions with *mandatory or rigorous* BG-type policy that requires all levels of government align with compact, nodal development patterns, affecting both public and private investment. These policies include urban growth boundaries or rigorous open space dedication and acquisition policies that effectively create a boundary for development.

The study found that Tier 3 policies were the only policies that measurably affected overall growth patterns – and these were most effective when implemented over a long period of time. This is shown in the comparison of the City of Boulder, Colorado, a Tier 3 city which has implemented land acquisition strategies through a collaboration of eight local governments, agencies and nonprofits since 1899 (see photo); with Knoxville, Tennessee (Tier 2) and the City of Colorado Springs, Colorado (Tier 1). It was also noted that significant geographic features, such as lake and ocean coastlines and mountains, also had a major influence on land use patterns.

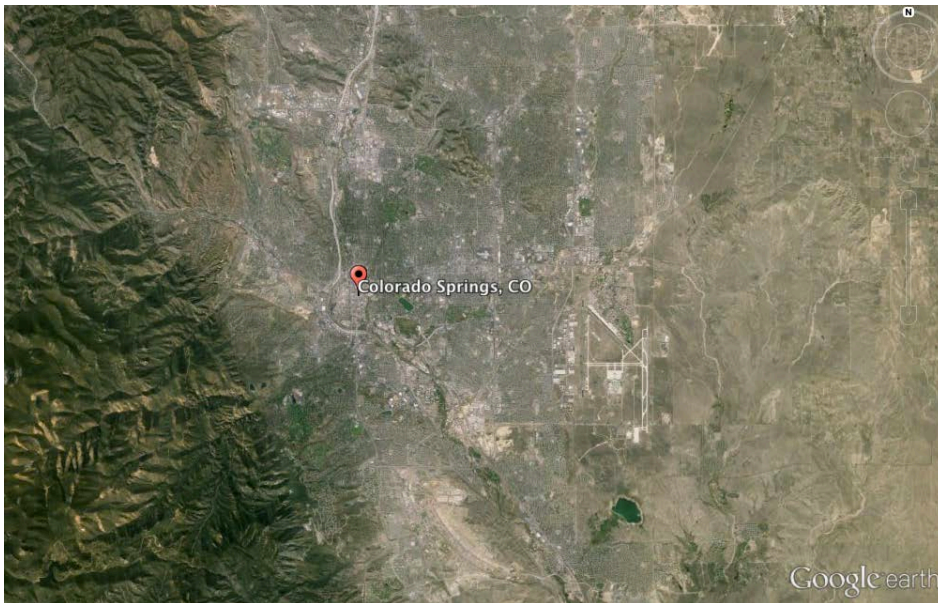
We note that the Balanced Growth Program has only been in place since 2009, and many of the other state/regional programs are similarly recent. It is possible that further study in future years, after all programs have been in place for a longer period of time, may find more clear distinctions between the different Tier policy approaches.



Boulder, Colorado (Tier 3)

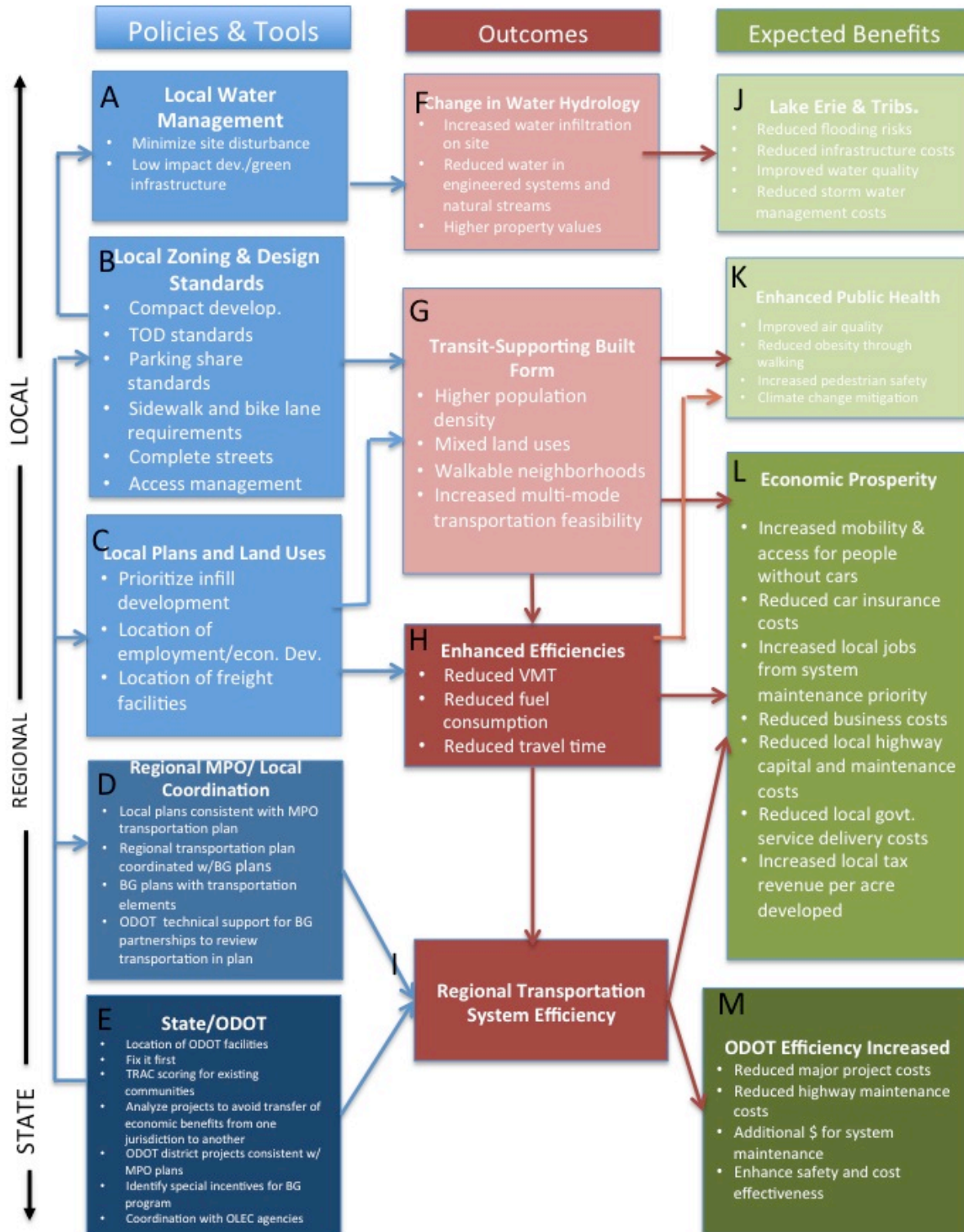


Knoxville, Tennessee (Tier 2)



Colorado Springs, Colorado (Tier 1)

Figure 4.2.1 Policies, Outcomes & Benefits from PDAs



## **Lessons for Local and Regional Governments**

The results of this study support local, county and regional governments, and agency efforts to:

- adopt or encourage planning and zoning practices that support compact, nodal development patterns
- allocate funds and plan projects that use compact, nodal development patterns
- allow higher densities and other measures that reduce the amount of road and infrastructure needed to serve the population
- adopt water-resource-protecting measures such as storm water management, higher standards for flood damage reduction, tree canopy cover, stream and wetland setbacks, conservation development, source water (groundwater) protection, open space protection, and parking standards
- collaborate with other governments and agencies in allocating land uses, and planning transportation, infrastructure, and open space systems
- align local, county, and regional policy, plans, and implementation
- expand transportation alternatives including pedestrian and bicycle accommodations, and public transit

### **References:**

Date, K., Kellogg, W., Jenkins, J. et al, 2014. The Value of Balanced Growth for Transportation, Columbus, Ohio: Ohio Department of Transportation, accessible at: <http://www.dot.state.oh.us/Divisions/Planning/SPR/Research/reportsandplans/Pages/PlanningReports.aspx>