



## SMART GROWTH AND ECONOMIC SUCCESS: STRATEGIES FOR LOCAL GOVERNMENTS

## Acknowledgments

This report was prepared by the U.S. Environmental Protection Agency's Office of Sustainable Communities with the assistance of Renaissance Planning Group under contract number EP-W-11-009/010/11. Bill Fulton (Smart Growth America); Jen Horton (National Association of Counties); Joe Minicozzi (Urban3); Terry Moore (ECONorthwest); Arthur C. Nelson (University of Utah); William Schroeer (Minneapolis Regional Chamber of Commerce); Sandra Connors (EPA Office of Policy); Robin Jenkins and Dennis Guignet (EPA National Center for Environmental Economics); and John Frece, Matt Dalbey, Megan Susman, and Susan Conbere (EPA Office of Sustainable Communities) provided editorial reviews.

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This paper is part of a series of documents on smart growth and economic success. Other papers in the series can be found at [www.epa.gov/smartgrowth/economic\\_success.htm](http://www.epa.gov/smartgrowth/economic_success.htm).

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## Executive Summary

Local governments provide a wide variety of facilities and services. As budgets tighten, city leaders often struggle with how to reduce the costs of needed facilities and services and/or increase revenues without overburdening residents. At the same time that many jurisdictions grapple with rising costs for services, however, they also face stagnant or even declining revenues due to struggling local economies and/or shrinking state and federal funds.

This paper reviews the latest evidence of the connection between smart growth approaches and the fiscal strength of local governments to help them make decisions about where and how to grow. Many local governments that have invested in their town centers and main streets to create compact, walkable, mixed-use communities have helped revitalize struggling areas and grow the local economy. Smart growth strategies like these can help local governments build on existing assets and maximize their return on investment while helping to protect the environment and human health.

A key smart growth strategy local governments can pursue to lower costs is supporting compact development in already developed places. Water, sewer, and road infrastructure cost less in compact development than in more dispersed development. In addition, ongoing expenses—including those for police, fire, and emergency services; street maintenance; and trash removal—are higher per capita when development is dispersed and infrastructure must serve people across a larger geographic area.

To increase revenue, many local governments think first of property taxes because they account for more than one-quarter of total revenues and are the largest locally generated revenue source. Smart growth development can help communities maximize property tax revenue without raising tax rates because higher property values are associated with:

- Compact development in established town and city centers.
- Transit connecting homes and jobs.
- Neighborhoods and streets that make walking and biking safe, convenient, and enjoyable.

Smart growth approaches can also help local governments increase sales tax revenues. Communities like Memphis, Tennessee, and Lancaster, California, have found that investing in making retail districts more walkable and bikable helps businesses and restaurants fill empty storefronts and increase sales.

With smart growth strategies, local governments are finding ways to address the problem of growing costs and shrinking revenues. These approaches can strengthen the local economy and improve quality of life while also achieving environmental and human health benefits.



## I. Introduction

Many local governments are struggling financially as municipal revenues have failed to keep pace with rising costs for labor and debt repayment.<sup>1</sup> These municipalities are searching for ways to improve their fiscal health while avoiding cuts to basic services and maintaining a high quality of life for residents. Some communities have found that they can improve their fiscal management with smart growth strategies, which build on existing assets and maximize the return on investment while helping to protect the environment and human health.

For example, the transformation of the downtown corridor in Lancaster, California, is an economic success story (Exhibit 1). Faced with years of decline, empty storefronts, rising crime, an unattractive environment for walking, and few reasons for people to visit, the city of Lancaster undertook a series of plans beginning in the early 2000s to revitalize the downtown district and make it the heart of the community as well as a regional commercial hub. As a centerpiece of these efforts, the local redevelopment agency invested \$41 million in a project that included a major retrofit of nine blocks of West Lancaster Boulevard through the heart of downtown, construction of a new



**Exhibit 1. The BLVD in Lancaster, California.** Streetscape renovations and other improvements helped to revitalize the downtown area, which improved its ability to generate revenue and increased property values downtown by nearly 10 percent, nearly three times the increase in any other area of the city.

Photo source: EPA.

park and museum, renovation of 110,000 square feet of commercial space, and 800 new and rehabilitated residences.<sup>2,3</sup> Making downtown an attractive place to visit and shop has yielded a substantial return on the investment: an estimated \$280.7 million in economic impact and \$13.6 million in state and local revenue—all as of 2013, just three years after the project was completed.<sup>4</sup> In addition,

<sup>1</sup> Willon, Phil, Catherine Saillant, and Abby Sewell. "Rising Costs Push California Cities to the Brink." *The Los Angeles Times*. July 12, 2012. <http://articles.latimes.com/2012/jul/12/local/la-me-san-bernardino-bankruptcy-20120712>.

<sup>2</sup> U.S. Environmental Protection Agency. 2012 *National Award for Smart Growth Achievement*. 2012. [http://www.epa.gov/smartgrowth/awards/sg\\_awards\\_publication\\_2012.htm](http://www.epa.gov/smartgrowth/awards/sg_awards_publication_2012.htm).

<sup>3</sup> Konar, Greg. "Lancaster Showcases 'Living Street.'" *San Diego Planning Journal*. May 19, 2012. <http://sdapa.org/go/lancaster-showcases-model-living-street>.

<sup>4</sup> Source: Personal communication with Chenin Dow, Management Analyst, City of Lancaster, California, on January 14, 2014. Estimates were derived from the California Redevelopment Association's IMPLAN Jobs Calculator considering projects completed in anticipation of the redevelopment project and those completed since late 2009. IMPLAN is a standard predictive input-output model used for regional analysis. Such models are informative for studying short-run changes in economic activity within a single region; however, they are static, omit prices, and assume input supplies are inexhaustible. Consequently, they tend to overestimate economic impacts. For more on input-output models see EPA. *Handbook on Benefits, Costs, and Impacts of Land Cleanup and Reuse*. 2011. pp. 90-92. <http://yosemite.epa.gov/ee/epa/eed.nsf/webpages/LandHandbook.html>.

## Introduction

between 2011 and 2012, downtown property tax assessments increased almost 10 percent while the city's overall valuation declined 1.25 percent.<sup>5</sup> The BLVD, as it is now known, has become an economic hub and major revenue generator for the city. According to mayor R. Rex Parris, "the area has not only gained economic strength; with regular events such as farmer's markets, concerts, and holiday celebrations, it has metamorphosed into the heartbeat of our city, a central hub of activity and community."<sup>6</sup>

Lancaster's downtown redevelopment initiatives are part of a set of policies and strategies that support fiscal health by encouraging revenue-generating projects downtown and discouraging development that is more expensive to serve. This approach began in 1993 with an impact fee on new development projects. The fee increased with distance from the city's core based on modeling of the actual costs to provide city services to particular developments. In its 1997 general plan update, the city changed its policies to further direct compact development to a core area and permit growth beyond that area only at rural densities.<sup>7</sup> Lancaster's current general plan (adopted in 2009) calls for more infill development, coordinated capital financing strategies, and development patterns that deliver infrastructure and services cost-effectively. The plan also devotes considerable attention to policies and actions that could encourage industrial and commercial development that would strengthen the city's budget.<sup>8</sup>

The policies Lancaster is pursuing track closely with the 10 widely recognized principles of smart growth development (see Exhibit 2), which can help communities offer choices in transportation and housing, create attractive and walkable environments, support vibrant mixed-use central business districts, and foster healthy neighborhoods with amenities located within walking distance. Communities often use smart growth approaches to protect environmental resources—for example, reducing greenhouse gas emissions and other air pollution from vehicles by encouraging walking, bicycling, or transit use; building more compactly to protect ecologically sensitive and agricultural land;

### Exhibit 2: Smart Growth Principles

In 1996, the Smart Growth Network, made up of organizations representing diverse interests including real estate, environmental, development, affordable housing, government, and others, developed 10 smart growth principles based on experiences of communities around the country:

- Mix land uses.
- Take advantage of compact building design.
- Create a range of housing opportunities and choices.
- Create walkable neighborhoods.
- Foster distinctive, attractive communities with a strong sense of place.
- Preserve open space, farmland, natural beauty, and critical environmental areas.
- Strengthen and direct development towards existing communities.
- Provide a variety of transportation choices.
- Make development decisions predictable, fair, and cost effective.
- Encourage community and stakeholder collaboration in development decisions.

Source: Smart Growth Network. "Why Smart Growth?" <http://www.smartgrowth.org/why.php>. Accessed September 28, 2012.

<sup>5</sup> Source: Personal communication with Chenin Dow, Management Analyst, City of Lancaster, California, on Jan. 14, 2014. Estimates were based on the 2012 County of Los Angeles Assessed Valuation figures.

<sup>6</sup> Source: Personal communication on February 4, 2014.

<sup>7</sup> Institute for Local Self-Reliance. "Distance-Based Impact Fees – Lancaster, CA." Jan. 12, 2009. <http://www.ilsr.org/rule/land-use-policy/2469-2>.

<sup>8</sup> City of Lancaster. *General Plan 2030*. 2009. <http://www.cityoflancasterca.org/Index.aspx?page=427>.

or reducing stormwater runoff through techniques that mimic natural processes.<sup>9</sup> Evidence shows these strategies can also promote fiscal strength in local governments.

Many local governments recognize the link between how and where the community develops and public costs and revenues—a link that is all the more important during challenging economic times. They realize that as development spreads out, it costs more and brings in fewer revenues than compact growth in city and town centers. This paper reviews the latest evidence of the connection between smart growth strategies and local government fiscal strength and can help communities make decisions about where and how to grow that are better for their economy, their quality of life, and the environment.

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<sup>9</sup> For more information on the environmental benefits of smart growth strategies, see: EPA. “Environmental Benefits of Smart Growth.” <http://www.epa.gov/smartgrowth/topics/eb.htm>. Accessed Dec. 13, 2013.

## II. Local Government Costs and Revenues

Local governments provide a wide variety of facilities and services. As budgets tighten, city leaders often struggle with how to reduce the costs of needed facilities and services and/or increase revenues without overburdening residents. Even as economic conditions improve and some revenue streams increase, many cities will continue to have growing costs for infrastructure maintenance, repair, and replacement. A breakdown of local government expenses and revenues can help illustrate the constraints under which local governments must operate.

### A. Local Government Costs

In the fiscal year ending in 2011, local governments in the United States spent more than \$1.6 trillion providing facilities and services to their constituents.<sup>10</sup> Exhibit 3 provides a breakdown of that spending.

Expenditure Type	Expenditure (in Billions)	Percent of Total
Intergovernmental expenditure	\$13.7	1%
Direct expenditures		
Current operation	\$1,304.8	78%
Capital outlay	\$220.0	13%
Assistance and subsidies	\$10.4	1%
Interest on debt	\$74.6	4%
Insurance benefits and repayments	\$40.9	2%
Total	\$1,664.5	100%

**Exhibit 3: Local Government Expenditures in the United States, FY 2011.** Totals might not precisely match the sum of the line items due to rounding. Duplicative intergovernmental transactions are excluded.

Source: Barnett, Jeffrey L. and Phillip M. Vidal. *State and Local Government Finances Summary: 2011*. U.S. Census Bureau. 2013. <http://www.census.gov/govs/local>.

Overall, more than three-quarters of local government spending is for current operations, while only 13 percent is for capital outlays.<sup>11</sup> Although capital outlays are a relatively small proportion of total expenditures, the new infrastructure they pay for generates long-term maintenance and eventual replacement costs, which communities often underestimate.<sup>12</sup> In the community of Long Grove, Illinois, homebuilding permit fees from new residential development helped pay for maintenance of existing roads for many years. However, that revenue fell from \$1 million in 2005-06 to virtually nothing in 2008-09. With no property tax and limited commercial development, the town was left with an annual shortfall of \$1 million for road maintenance.<sup>13</sup> The financial structure of most local governments

<sup>10</sup> Barnett, Jeffrey L. and Phillip M. Vidal. *State and Local Government Finances Summary: 2011*. U.S. Census Bureau. 2013. <http://www.census.gov/govs/local>.

<sup>11</sup> Ibid.

<sup>12</sup> Pagano, Michael A. "The Typical Municipal Budgeting Process Is Rigged Against Infrastructure Investments." *The Atlantic Cities*. Dec. 18, 2012. <http://www.theatlanticcities.com/politics/2012/12/how-typical-municipal-budgeting-process-rigged-against-infrastructure-investments/4190>.

<sup>13</sup> Eldeib, Duaa. "Long Grove Plan May Pave Way to Privatize Public Roads." *Chicago Tribune*. Jan. 14, 2014. <http://www.chicagotribune.com/news/local/ct-long-grove-roads-privatization-met-0114-20140113,0,177939,full.story>.



assumes that many of these costs will be covered by system ratepayers through fees. However, anticipated new ratepayers sometimes fail to materialize, and rate-increase proposals often face political opposition. In addition, the capital investment needed to address the backlog of necessary repair and replacement can force local governments to tap general funds to keep their systems working. For drinking water and wastewater systems alone, the “needs gap” has been estimated to be as high as \$500 billion over 20 years.<sup>14</sup> In addition, communities often struggle to pay for the capital costs of infrastructure they have already

#### Exhibit 4: Long-Term Infrastructure Costs

Strong Towns, a nonprofit organization that advocates for financially stronger communities, warns of an emerging fiscal challenge that many local governments across the country are likely to face. Since the 1950s, communities have taken on trillions of dollars of debt to build the infrastructure that facilitated spread-out, automobile-oriented development. This growth came with infrastructure for transportation and utilities that initially had low maintenance costs, and the revenues it generated helped fund the maintenance of older developments. However, automobile-oriented development rarely can generate enough revenue to cover the long-term maintenance and eventual replacement costs of the infrastructure that serves it. This process is fiscally sustainable only until municipalities need to replace existing infrastructure and only as long as growth continues—and the federal and state funding that aids growth is now shrinking.

Strong Towns calls this process “the growth Ponzi scheme,” since it operates similar to the classic financial swindle. Local governments receive the short-term benefits of new growth in exchange for long-term liabilities, and communities are left financially vulnerable when the pace of new development slows sharply or when the long-term costs of new growth eventually exceed the revenue that the growth produces.

Source: Strong Towns. *Curbside Chat*. 2011.  
<http://www.strongtowns.org/companion-booklet>.

built (see Exhibit 4), and debt payments can lead to difficult budget cuts in other areas and/or local tax increases.<sup>15</sup> This fiscal challenge is an increasingly important issue as more and more infrastructure systems are reaching the end of their useful life. In 2013, the American Society of Civil Engineers rated the United States’ infrastructure overall as a D<sup>+</sup> based on a significant backlog of overdue maintenance.<sup>16</sup>

## B. Local Government Revenues

Local governments raised more than \$1.6 trillion in revenue for the fiscal year ending in 2011. Exhibit 5 presents the breakdown by major revenue source. Thirty-three percent of local government revenues come from intergovernmental transfers—87 percent of which come from state governments and 13 percent from the federal government.<sup>17</sup> However, faced with their own budget challenges, many states have been shoring up their financial positions by cutting shared revenues and aid to local governments. Forty-five percent of cities that responded to a 2012 national survey reported reductions in state-shared revenues since 2010.<sup>18</sup>

<sup>14</sup> Anderson, Richard F. *Trends in Local Government Expenditures on Public Water and Wastewater Services and Infrastructure: Past, Present and Future*. The U.S. Conference of Mayors—Mayors Water Council. 2010.  
<http://www.usmayors.org/publications/201002-mwc-trends.pdf>.

<sup>15</sup> Walsh-Sarnecki, Peggy. “Housing Development Slowdown Leaves Suburbs to Pay for New Infrastructure.” *Detroit Free Press*. Sep. 18, 2012. <http://www.freep.com/article/20120918/NEWS05/309180071/Housing-development-slowdown-leaves-suburbs-to-pay-for-new-infrastructure>.

<sup>16</sup> American Society of Civil Engineers. *Report Card for America’s Infrastructure*. 2013. <http://www.infrastructurereportcard.org>. Accessed Dec. 18, 2013.

<sup>17</sup> Barnett and Vidal, op cit.

<sup>18</sup> Pagano, Michael A. et al. *City Fiscal Conditions in 2012*. National League of Cities. 2012. <http://www.nlc.org/find-city-solutions/center-for-research-and-innovation/finance/city-fiscal-conditions-in-2012>.

## Local Government Costs and Revenues

Revenue Source	Revenue (in Billions)	Percent of Total
Intergovernmental transfers	\$554.1	33%
Property taxes	\$429.1	26%
Charges for services	\$247.8	15%
Utility revenue	\$134.7	8%
Sales taxes	\$93.1	6%
Miscellaneous general revenue	\$79.6	5%
Insurance trust revenue	\$73.9	4%
Income taxes	\$32.8	2%
Other taxes	\$23.2	1%
Liquor store revenue	\$1.2	0.1%
<b>TOTAL</b>	<b>\$1,669.4</b>	<b>100%</b>

**Exhibit 5: Local Government Revenues in the United States, FY 2011.** Totals might not precisely match the sum of the line items due to rounding.

Source: Barnett and Vidal 2013.

After intergovernmental transfers, the next largest category is property taxes, which account for more than one-quarter of the total. Although they are a large proportion of local government revenues, property taxes in many jurisdictions often cannot grow in parallel with the infrastructure and service needs in communities over time as market values or populations increase. For example, California's Proposition 13 measure limits the property tax rate to 1 percent of assessed value and restricts increases in assessed value to 2 percent per year, allowing market values to grow far beyond assessed values. Nearly all states also place some type of restriction on local property taxes. Thirty-eight states set tax rate limits, 18 set assessment limits, nine freeze property taxes under certain conditions, and 21 set limits on the amount of revenue collected and/or expenditures supported by property taxes, regardless of the population's size or needs.<sup>19</sup>

Locally generated sales taxes account for just 6 percent of local government revenues overall, but they are an important revenue source in many jurisdictions.<sup>20</sup> However, sales tax revenues are volatile, swinging with consumer spending habits and market cycles. Sales tax revenue collected by state and local governments has declined as consumers spend more on untaxed services such as medical care and education<sup>21</sup> and shop more online<sup>22</sup> where sales taxes often go uncollected.<sup>23</sup> Inflation-adjusted retail

<sup>19</sup> Byers, Jacqueline. *Property Taxes: A Look at Exemptions, Tax Limits, and Assessment Cycles*. National Association of Counties. 2012.

<http://www.naco.org/newsroom/pubs/Documents/County%20Management%20and%20Structure/Property%20Taxes%20A%20Look%20at%20Exemptions,%20Tax%20Limits%20and%20Assessment%20Cycles.pdf>.

<sup>20</sup> According to Census Bureau statistics, in 13 states sales taxes made up 10 percent or more of local government revenues in 2010, led by Louisiana, where the share was 19.7 percent. Many states collect sales taxes and redistribute some of the revenue to local governments, which is accounted for in the Intergovernmental Transfers category in Exhibit 3.

<sup>21</sup> Cauchon, Dennis. "Tax-Free Internet Sales, Exemptions Erode State Revenue." *USA Today*. Feb. 28, 2012.

<http://usatoday30.usatoday.com/money/economy/story/2012-02-27/sales-tax-rate/53274224/1>.

<sup>22</sup> In the fourth quarter of 2012, 5.4 percent of retail sales occurred online, a 15 percent increase over 2011. Source: National Retail Federation Foundation. "E-Commerce Sales." <http://research.nrffoundation.com/Default.aspx?pg=46>. Accessed Jun. 25, 2013.

<sup>23</sup> Lemov, Penelope. "States Look to Collect Internet Sales Taxes." *Governing*. May 18, 2011.  
<http://www.governing.com/columns/public-finance/states-collect-internet-sales-taxes.html>.

sales declined sharply in the 2007-2009 recession, bottoming out at more than 10 percent below the prerecession peak.<sup>24</sup> Property tax revenues dropped at the same time due to declining property values.<sup>25</sup>

The bottom line is that at the same time that many jurisdictions struggle with rising costs for services, they also face stagnant or even declining revenues. As the economy recovers, some revenue sources are likely to increase, but rising costs due to expanding infrastructure that requires maintenance and a backlog of needed repairs and replacements are likely to remain a challenge for local governments irrespective of the economy's performance. Smart growth approaches can help lower service costs and raise property and sales tax revenues regardless of economic conditions, as discussed in the next sections.

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<sup>24</sup> Dadayan, Lucy and Robert J. Boyd. "Sales Tax Revenues Show Slowest Growth in the Last Two Years." *State Revenue Report*. The Nelson A. Rockefeller Institute of Government, State University of New York at Albany. Oct. 2012, No. 89. [http://www.rockinst.org/pdf/government\\_finance/state\\_revenue\\_report/2012-10-25-SRR\\_89\\_v2.pdf](http://www.rockinst.org/pdf/government_finance/state_revenue_report/2012-10-25-SRR_89_v2.pdf).

<sup>25</sup> Dadayan, Lucy et al. "The Impact of the Great Recession on Local Property Taxes." *Rockefeller Institute Brief*. The Nelson A. Rockefeller Institute of Government, State University of New York at Albany. 2012. [http://www.rockinst.org/pdf/government\\_finance/2012-07-16-Recession\\_Local\\_Property\\_Tax.pdf](http://www.rockinst.org/pdf/government_finance/2012-07-16-Recession_Local_Property_Tax.pdf).

### III. Lowering Costs through Smart Growth Strategies

A key smart growth strategy local governments can pursue to lower costs is supporting compact development in already-developed places.<sup>26</sup> Savings come from reduced capital costs for infrastructure and reduced costs to provide municipal services. Understanding how development patterns affect these expenses can suggest more efficient ways for local governments to meet their service obligations.

#### A. Reducing Infrastructure Costs

Studies of the effects of compact development patterns on infrastructure costs began in the early 1970s with the pioneering *Costs of Sprawl* report prepared for the federal government<sup>27</sup> and continued through the 1980s<sup>28</sup> and 1990s.<sup>29</sup> All of these studies found that water, sewer, and road infrastructure cost less in compact development than in more dispersed development. Likewise, a review of more than 18 scenario planning studies conducted in regions across the United States<sup>30</sup> between 1995 and 2004 found that all concluded that growing in a more compact, smart growth fashion produces substantial infrastructure cost savings when compared to trend-based scenarios that assume continuation of more dispersed, conventional development patterns.<sup>31</sup> For example, the Delaware Valley Regional Planning Commission studied in depth five alternative development scenarios for the city of Philadelphia and surrounding counties in Pennsylvania and New Jersey. Their analysis found that infrastructure costs for roads, schools, and utilities were least expensive (\$25,000 per household) for a “recentralization” scenario, which used 72 percent less land than the current long-range plan.

*Nationally, researchers estimated the potential savings from smart growth development patterns to be \$12.6 billion in water and sewer infrastructure costs and \$110 billion in road building costs between 2000 and 2025.*

<sup>26</sup> Muro, Mark and Robert Puentes. *Investing in a Better Future: A Review of the Fiscal and Competitive Advantages of Smarter Growth Development Patterns*. The Brookings Institution. 2004.

[http://www.brookings.edu/reports/2004/03metropolitanpolicy\\_muro.aspx](http://www.brookings.edu/reports/2004/03metropolitanpolicy_muro.aspx).

<sup>27</sup> Real Estate Research Corporation. *The Costs of Sprawl*. U.S. Government Printing Office. 1974. Executive summary available at [http://www.smartgrowth.org/pdf/costs\\_of\\_sprawl.pdf](http://www.smartgrowth.org/pdf/costs_of_sprawl.pdf).

<sup>28</sup> Frank, James E. *The Costs of Alternative Development Patterns: A Review of the Literature*. Urban Land Institute. 1989.

<sup>29</sup> Burchell, Robert W. et al. *Costs of Sprawl—Revisited*. Transit Cooperative Research Program. 1998.

[http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp\\_rpt\\_39-a.pdf](http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_39-a.pdf).

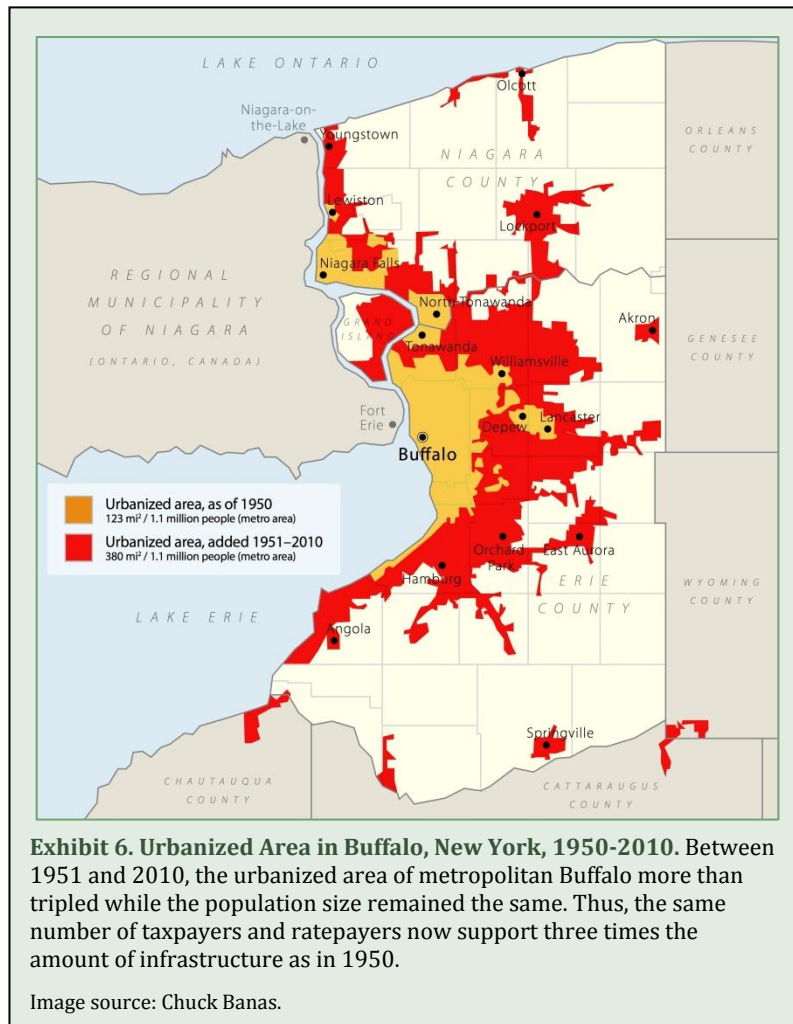
<sup>30</sup> The regions included Albuquerque, New Mexico; Austin, Texas; Kansas City, Missouri/Kansas; Philadelphia; Sacramento, California; Salt Lake City; and Minneapolis-St. Paul, as well as smaller metropolitan areas in Florida, Georgia, and South Carolina.

<sup>31</sup> Bartholomew, Keith et al. “Compact Development, Sprawl, and Infrastructure Costs.” *The Best Stimulus for the Money: Briefing Papers on the Economics of Transportation Spending*. Smart Growth America and the University of Utah. Apr. 2009. <http://www.smartgrowthamerica.org/documents/thebeststimulus.pdf>.

Infrastructure costs were most expensive (\$45,000 per household) for a “sprawl” scenario, which used 150 percent more land than the current long-range plan.<sup>32</sup> In Central Texas, an analysis of four scenarios for accommodating the next 1.25 million people and 800,000 jobs found that infrastructure costs would be lowest (\$3.2 billion) under a scenario that concentrates development in existing cities and towns and has the most redevelopment and mixed-use development among all the scenarios. Infrastructure costs were over three times higher (\$10.7 billion) under a scenario that assumed continuation of current development trends.<sup>33</sup> Nationally, researchers estimated the potential savings from smart growth development patterns to be \$12.6 billion in water and sewer infrastructure costs and \$110 billion in road-building costs between 2000 and 2025.<sup>34</sup>

## B. Reducing Service Delivery Costs

Not only does spread-out development require more infrastructure, it also costs more to operate and maintain. Ongoing expenses, including those for police, fire, and emergency services; water and sewer services; street maintenance; and trash removal, are higher per capita when development is dispersed and infrastructure must serve people across a larger geographic area. Exhibit 6 shows how the urbanized area of metropolitan Buffalo, New York, changed between 1951-2010, a period in which the population size was static. The local governments thus needs to support three times the amount of infrastructure in 2010 as just 60 years earlier because of how much the region spread out.



<sup>32</sup> Delaware Valley Regional Planning Commission. *Regional Analysis of What-If Transportation Scenarios*. 2003. <http://www.dvrpc.org/reports/03020.pdf>.

<sup>33</sup> Envision Central Texas. *Scenario Briefing Packet*. 2003. <http://www.envisioncentraltexas.org/resources.php>.

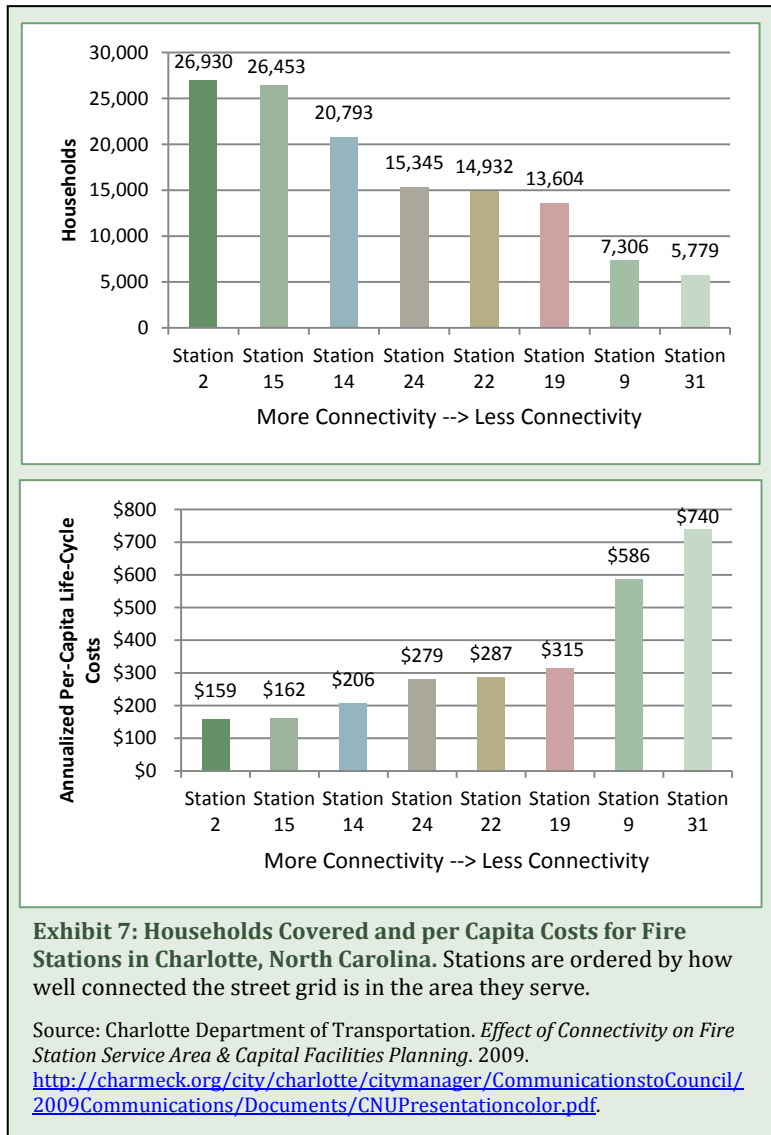
<sup>34</sup> Burchell, Robert W. et al. *Costs of Sprawl – 2000*. Transit Cooperative Research Program. 2002. <http://www.trb.org/Publications/Blurbs/160966.aspx>.



## Lowering Costs through Smart Growth Strategies

For example, education expenses increase with spread-out development patterns because in such areas, street design often makes it difficult or unsafe to walk or bike to school, and students must be bused greater distances. While busing costs were only around 4 percent of U.S. public education expenditures in the 2007-08 school year, they amounted to over \$21 billion nationally, or \$854 per student.<sup>35</sup> From 1970 to 1995, school busing costs in Maine increased from \$8.7 million to \$54 million even as the number of students decreased by 27,000.<sup>36</sup> As development spreads out and becomes less connected, new schools (and thus more staff) are needed to serve students. In Maine, as enrollment was declining from 1975 to 1995, the state spent \$338 million—46 percent of its total school construction spending—building new schools in fast-growing rural areas 10 to 25 miles from metropolitan centers.<sup>37</sup> A study in Michigan showed that building new schools on the edges of communities or in undeveloped areas while closing, rather than renovating, existing schools costs more and encourages spread-out development patterns that require municipal services to expand, which in turn requires higher taxes or fees to pay for them.<sup>38</sup>

Costs are likewise higher for police, fire, and emergency medical services. When houses are built far from existing police and fire stations, particularly when they are built on dead ends or cul-de-sacs, the community must provide more



<sup>35</sup> National Center for Education Statistics. "Tables 183 and 184." *Digest of Education Statistics*. 2010. [http://nces.ed.gov/programs/digest/d10/tables/dt10\\_183.asp](http://nces.ed.gov/programs/digest/d10/tables/dt10_183.asp) and [http://nces.ed.gov/programs/digest/d10/tables/dt10\\_184.asp](http://nces.ed.gov/programs/digest/d10/tables/dt10_184.asp).

<sup>36</sup> O'Hara, Frank et al. *The Cost of Sprawl*. Maine State Planning Office. 1997.

<sup>37</sup> Ibid.

<sup>38</sup> McClelland, Mac and Keith Schneider. *Hard Lessons: Causes and Consequences of Michigan's School Construction Boom*. Michigan Land Use Institute. 2004. <http://www.mlui.org/userfiles/filemanager/1761>.

stations, equipment, and personnel to maintain adequate coverage.<sup>39</sup> A study conducted by the city of Charlotte, North Carolina, found that the better connected the city's street network was, the more households a fire station could serve and the lower the per capita costs of service (Exhibit 7). A station in the area with the most-connected street pattern covered 4.5 times as many households at less than one-quarter of the per capita cost of a station in the least-connected area.<sup>40</sup>

A study that focused on 10 counties in Kentucky found that public service costs in counties with a more compact growth pattern were significantly lower than in those with more dispersed development. For all services examined—police, fire, highways, schools, sewer, and solid waste—the cost to serve 1,000 new residents was higher in the more spread-out counties than in those where development was more concentrated in established areas.<sup>41</sup> For example, in Fayette County, which includes Lexington, growth is relatively concentrated in established municipalities. There, the county would save \$1.08 per existing household for every 1,000 new residents added. In suburban Pendleton County, where growth is largely in unincorporated areas, the county would need to spend an additional \$1,222.39 per existing household for every 1,000 new residents added. A nationwide modeling scenario found that if existing development patterns across the United States were 25 percent denser (measured as people plus jobs per acre of developed land), public services would cost \$3.63 billion less per year, and if development were 25 percent less spread-out (measured as the percentage of land area that is developed), public services would cost \$6.56 billion less per year.<sup>42</sup>

*A nationwide modeling scenario found that if existing development patterns across the United States were 25 percent denser, public services would cost \$3.63 billion less per year, and if development were 25 percent less spread-out, public services would cost \$6.56 billion less per year.*

Local government fees for delivering public services are typically based on the average cost of a service over the entire jurisdiction, even though the cost of serving a specific property or neighborhood can vary significantly based on its location and/or characteristics. Structuring fees and other service charges to better reflect the actual cost of service delivery can encourage development in more efficient locations and ensure that development in more expensive locations pays its fair share. Albuquerque, New Mexico,

<sup>39</sup> Coyne, William. *The Fiscal Cost of Sprawl: How Sprawl Contributes to Local Governments' Budget Woes*. Environment Colorado Research and Policy Center. 2003. [http://www.impactfees.com/publications%20pdf/fiscalcostofsprawl12\\_03.pdf](http://www.impactfees.com/publications%20pdf/fiscalcostofsprawl12_03.pdf).

<sup>40</sup> Congress for the New Urbanism. *CNU Report: Emergency Response & Street Design*. 2009.

<http://www.cnu.org/resources/publications/cnu-report-emergency-response-street-design-2009-2009>.

<sup>41</sup> Bollinger, Christopher R., Mark C. Berger, and Eric Thompson. *Smart Growth and the Costs of Sprawl in Kentucky: Intercounty Analysis (Phase II)*. University of Kentucky Center for Business and Economic Research. 2001.

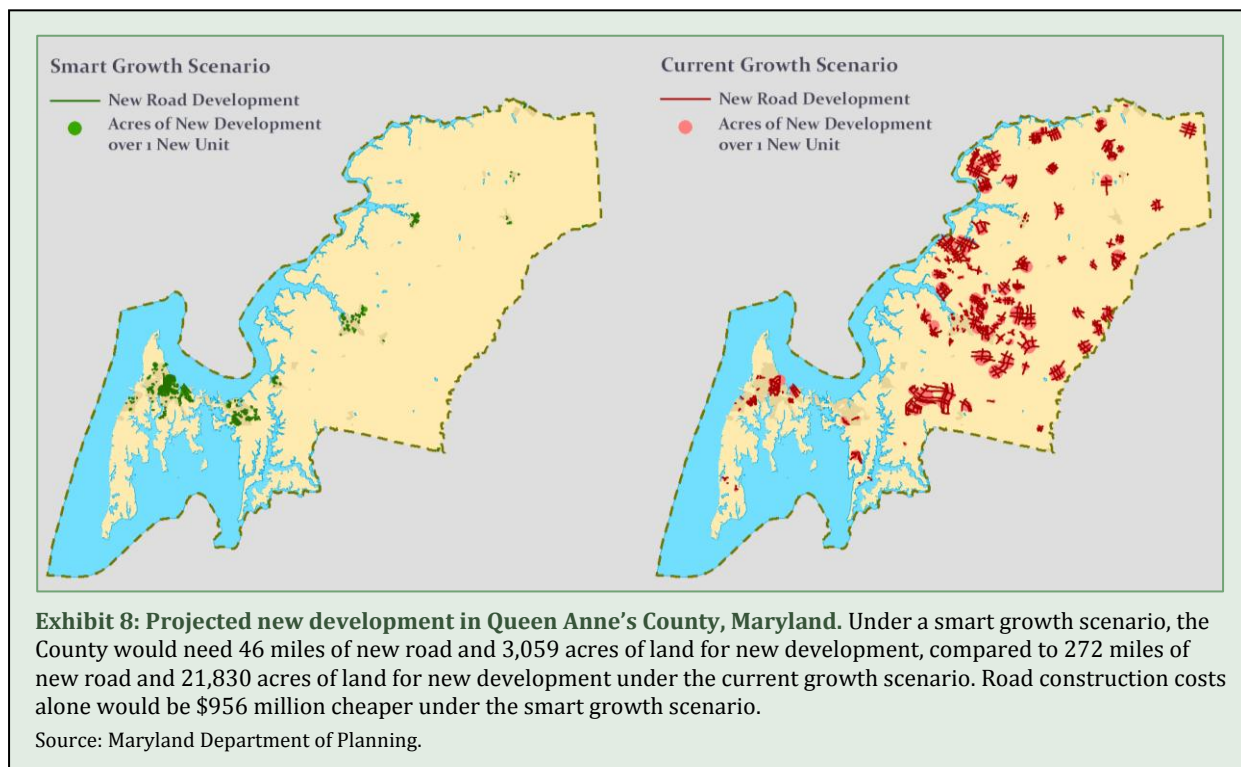
<sup>42</sup> Carruthers, John I. and Gudmundur F. Ulfarsson. "Does 'Smart Growth' Matter to Public Finance?" *Urban Studies*. 45.9 (2008): 1791-1823.

charges impact fees on new development for roads, parks, public safety facilities, and drainage facilities that reflect the costs to meet user needs in the service area in which a project is located.<sup>43</sup>

Other types of policies can help local governments deliver services more cost effectively. For example, school siting policies that locate facilities on compact campuses in the towns and neighborhoods they serve can reduce transportation costs by enabling students to easily walk or bike to school rather than being bused.<sup>44</sup>

### C. Overall Cost Comparisons

Many studies look at both initial capital costs and long-term operations and maintenance costs for alternative development scenarios. For example, the Maryland Department of Planning found that its state-level smart growth scenario that focuses on compact development and higher residential densities would require 2.5 times fewer miles of local-serving roads in communities from 2010 to 2030 when compared to current dispersed growth trends (Exhibit 8). This reduction in infrastructure would translate to savings of \$12 billion in construction costs and \$253 million in maintenance costs over this period when added up statewide.<sup>45</sup> For public water and sewer costs, a site-level analysis of hypothetical development patterns found that increased lot size, tract dispersion, and distance from existing water



<sup>43</sup> City of Albuquerque. "Impact Fees." <http://www.cabq.gov/planning/developers/fees/impact-fees>. Accessed Dec. 3, 2012.

<sup>44</sup> EPA. "Smart Growth and Schools." <http://www.epa.gov/smartgrowth/schools.htm>. Accessed Dec. 16, 2013.

<sup>45</sup> Choi, Kenneth and Christopher A. Fricke. *Fiscal Impact Analysis—Analyzing the Effects of Smart Growth on Projected Road Development in 2030*. Maryland Department of Planning. 2010. [http://www.mdp.state.md.us/PDF/OurWork/FiscalImpact\\_RoadProjection.pdf](http://www.mdp.state.md.us/PDF/OurWork/FiscalImpact_RoadProjection.pdf).

and sewer service centers all increased the infrastructure and service costs of more spread-out, far-flung neighborhoods.<sup>46</sup>

Similarly, in 2012, against a backdrop of mounting budget deficits and fears of financial insolvency,<sup>47</sup> the city of Fresno, California, conducted a fiscal impact analysis of its comprehensive plan update.<sup>48</sup> City planners studied the effects of five development scenarios on Fresno's costs and revenues through 2035. Planning staff estimated that under the "business as usual" scenario based on recent development trends continuing through 2035, a significant portion of new growth would occur in unincorporated county areas, and the city would expand its boundaries significantly to annex this land, building and maintaining new road and park infrastructure. The planning commission and staff recommended a smart growth scenario,<sup>49</sup> which would direct growth to existing nodes such as downtown and to transit corridors, leading to almost twice as many infill housing units and reducing capital costs by 10 percent and operating costs by 6 percent—saving \$163 million through 2035 compared with the business-as-usual scenario.

Both Maryland and Fresno, like many other places across the country, are looking at smart growth approaches as a strategy to control costs. However, smart growth approaches can also help communities increase revenues, as discussed in the next section.

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<sup>46</sup> Speir, Cameron and Kurt Stephenson. "Does Sprawl Cost Us All? Isolating the Effects of Housing Patterns on Public Water and Sewer Costs." *Journal of the American Planning Association*. 68.1 (2002): 56-70.

<sup>47</sup> Vekshin, Alison. "California's Fresno Has Ratings Cut by S&P on Budget Woes." *Bloomberg*. Aug. 17, 2012.

<http://www.bloomberg.com/news/2012-08-18/california-s-fresno-has-ratings-cut-by-s-p-on-budget-woes.html>.

<sup>48</sup> City of Fresno. *Fresno General Plan and Development Code Update: Fiscal Impact Analysis of Concept Alternatives*. 2012.

<http://www.fresno.gov/NR/rdonlyres/A59BF398-1094-4743-9C54-EE18D319C1AA/0/EIRFiscalAnalysisReportMarch192012.pdf>.

<sup>49</sup> Scott, Mark and Keith Bergthold. "Review and Select a Preferred Alternative for the Preparation of the 2035 Fresno General Plan Update." Apr. 5, 2012. <http://www.fresno.gov/NR/rdonlyres/554C4649-4635-471B-84ED-085B25BBFEBA/0/CCPlanAlternativeApril520122.pdf>.

## IV. Boosting Revenues through Smart Growth Strategies

Local governments are looking for new revenue while also trying to stabilize existing sources. One approach is to carefully evaluate how much revenue a community's development patterns produce and use this information when deciding where to direct infrastructure and operational resources. Both property taxes and sales taxes are affected by how a community develops.

### A. Boosting Property Tax Revenues

Property taxes are an important component of any strategy for local governments to increase revenue because overall they account for more than one-quarter of total revenues and are the largest locally generated revenue source (see Exhibit 5). Smart growth development can help communities maximize property tax revenue without raising tax rates because research shows higher property values are associated with:

- Compact development in established town and city centers.
- Transit connecting homes and jobs.
- Neighborhoods and streets that make walking and biking safe, convenient, and enjoyable.

#### Compact Development in Established Town and City Centers

All private development produces property tax revenue, but all else being equal, compact, mixed-use development in established town and city centers produces more per acre, meaning that communities can maximize the revenue generated while minimizing the amount of land consumed. This advantage of compact development was demonstrated in a study of nine communities in the western United States, which found that downtown business districts and other mixed-use centers generated an average of five times the property tax revenue per acre compared to conventional development patterns.<sup>50</sup> Exhibit 9 describes a similar comparison in Minnesota. Analysis of property tax revenues and service costs has shown that, in many places, a spread-out, automobile-oriented development pattern does not generate sufficient revenue to cover its costs, especially after accounting for long-term maintenance and replacement costs.<sup>51</sup> Similar results have been found for rural residential development that replaces farmland.<sup>52</sup>

Studies also show that smart growth development can have higher values per unit and retain those values better during economic declines. A study of the urban growth area of King County, Washington, containing Seattle and several major suburban cities, found that higher development density was associated with higher values for single-family residential, retail, and office properties, while multifamily rental properties had higher values when they were near retail and offices.<sup>53</sup> In Philadelphia, during the economic downturn from 2007 to 2012, homes in higher-density central locations with a mix of uses and

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<sup>50</sup> Sonoran Institute. *About Town: Building Revenue for Communities*. 2012. <http://www.sonoraninstitute.org/abouttown.html>.

<sup>51</sup> Strong Towns. *Curbside Chat*. 2011. <http://www.strongtowns.org/companion-booklet>.

<sup>52</sup> Coupal, Roger H., Donald M. McLeod, and David T. Taylor. "The Fiscal Impacts of Rural Residential Development: An Econometric Analysis of the Cost of Community Services." *Planning and Markets* 5.1 (2002): 24-31.

<sup>53</sup> Sohn, Dong Wook, Anne Vernez Moudon, and Jeasun Lee. "The Economic Value of Walkable Neighborhoods." *Urban Design International*. 17.2 (2012): 115-128.



### Exhibit 9: New Development but Less Revenue

When a block of aging commercial buildings is replaced by new development, many people might assume that the property tax revenues from the new development will be higher. However, an example from Brainerd, Minnesota, shows that outcome is not guaranteed when compact development is replaced with dispersed, automobile-oriented businesses.

A study compared the property values of two adjacent blocks on an arterial road in an area the city targeted for redevelopment. One block contains aging, one-story commercial storefronts housing a mix of businesses, including two liquor stores, a pawn shop, a barber shop, a bankruptcy attorney, and a vacant building (see photo on left). The total assessed value of this block is just over \$1.1 million.



The second block was redeveloped from multiple commercial uses into a single fast-food franchise surrounded by a large parking lot in accordance with the city's comprehensive plan, which calls for "strong highway commercial" uses in this area (see photo on right). The assessed value of the new development is \$800,000, or 30 percent less than the nearby, more compactly developed block that is still targeted for redevelopment.

Source: Marohn, Charles. "The Cost of Auto Orientation." *Strong Towns*. Jan. 2, 2012.

<http://www.strongtowns.org/journal/2012/1/2/the-cost-of-auto-orientation.html>.

Photo source: StrongTowns.org.

access to transit retained their value better than homes in low-density, single-use, automobile-oriented communities.<sup>54</sup>

Local governments can evaluate spending decisions based on their impact on both quality of life and the financial return on the investment (see Exhibit 10). This approach allows governments to target limited resources where they will produce the maximum benefit for the city and its residents. For example, Raleigh, North Carolina, prioritizes major capital projects using a return-on-investment analysis that

### Exhibit 10: Neighborhood-Focused Return on Investment.

A white paper by IBM Global Business Services suggests that local governments will need to focus more on growing revenues than on cutting costs for long-term fiscal sustainability. The paper proposes that local governments measure the impact of new neighborhood investments by tracking how they change property values. Places where public spending is producing visible improvements will be more highly valued. By evaluating spending according to its return on investment (i.e., impact on property values), local governments can more effectively use their resources while improving quality of life and encouraging a more comprehensive approach to neighborhood improvement.

Source: Edwards, David. *The Neighborhood-Centric City: Achieving Fiscal Sustainability by Maximizing Returns on Investment in Neighborhood Health*. IBM Global Business Services. 2011. <http://www-01.ibm.com/common/ssi/cgi-bin/ssialias?infotype=SA&subtype=WH&htmlfid=GBW03133USEN>.

<sup>54</sup> Gillen, Kevin C. *The Correlates of House Price Changes with Geography, Density, Design and Use: Evidence from Philadelphia*. Congress for the New Urbanism. 2012. <http://www.cnu.org/cnu-news/2012/11/cnu-releases-report-philadelphia-area-housing-prices>.

## Boosting Revenues through Smart Growth Strategies

considers infrastructure costs, projected revenues, and the ability to attract private development.<sup>55</sup> A \$25 million plaza and street renovation project downtown shows the impact of this approach. It led to \$2 billion in economic returns from new downtown development spurred by the improvements. The initial taxpayer investment yielded returns that have ultimately helped to limit tax increases.<sup>56</sup>

Arlington County, Virginia, has recognized the ability of compact development to help achieve larger economic development and fiscal sustainability goals. After gaining a new Metrorail line underneath an aging commercial corridor in the 1970s, Arlington decided to encourage walkable, compact, mixed-use development around station areas and along transit corridors through its zoning code, land use plan, and site plan approval process (Exhibit 11). This strategy created not only several mixed-use urban villages, but also considerable new tax revenue. As of 2012, \$27.5 billion of the county's \$57.5 billion in assessed value (48 percent) is in the county's two Metrorail corridors, which make up only 11 percent of the county's land area.<sup>57</sup> This strategy of concentrating infill and redevelopment around transit stations also allowed the largely built-out county to maintain the character of surrounding neighborhoods while generating sufficient revenues to provide high-quality services. In addition, the county was able to keep effective real estate taxes at \$0.96 per \$100 of assessed value, which is below the regional average of \$1.07 per \$100, making the jurisdiction competitive to people and businesses looking to locate in the greater Washington, D.C., area.<sup>58</sup> These practices support a strong fiscal bottom line, as the county consistently receives a AAA bond rating.<sup>59</sup>



**Exhibit 11: Clarendon Metro Station, Arlington, Virginia.**  
New compact development like that near the Clarendon Metro Station generates nearly half the county's property tax while taking up only 11 percent of the land.  
Photo Source: Ron Cogswell via flickr.com .

<sup>55</sup> City of Raleigh. *The 2030 Comprehensive Plan for the City of Raleigh*. 2009.

<http://www.raleighnc.gov/business/content/PlanLongRange/Articles/2030ComprehensivePlan.html>.

<sup>56</sup> Wig, Jennifer. "Raleigh Planners Look to ROI for Future Growth." *Raleigh Public Record*. Feb. 11, 2013.

<http://raleighpublicrecord.org/news/2013/02/11/raleigh-planners-look-to-roi-for-future-growth>.

<sup>57</sup> Duffy, Robert. "40 Years of Smart Growth: Arlington County's Experience with Transit Oriented Development in the Rosslyn-Ballston Metro Corridor." Arlington County Department of Community Planning, Housing, and Development. 2012.

[http://www.arlingtonva.us/departments/CPHD/planning/powerpoint/rbpresentation/rbpresentation\\_060107.pdf](http://www.arlingtonva.us/departments/CPHD/planning/powerpoint/rbpresentation/rbpresentation_060107.pdf).

<sup>58</sup> Government of the District of Columbia. *2011 Tax Rates and Tax Burdens – Washington Metropolitan Area*. 2012.

<http://cfo.dc.gov/sites/default/files/dc/sites/ocfo/publication/attachments/Tax%20Rates%20and%20Burdens%202011%20Washington-Metro.pdf>.

<sup>59</sup> Arlington County, Virginia. "Arlington's Triple-Aaa Bond Rating Reaffirmed." *News Releases*. Feb. 3, 2012.

<http://news.arlingtonva.us/releases/arlington-s-triple-aaa-bond-rating-228397?ncid=31099>.

### Transit Connecting Homes and Jobs

Investments in transit can also help local governments maximize long-term property tax revenues because the market has shown that people will pay more to live near transit, and these price premiums hold even in economic downturns. A 2008 review of studies found that, in most cases, property values near rail transit are higher, although the amount of the premium varies widely.<sup>60</sup> A wide range of factors affects transit's impact. For example, areas with higher property values near rail stations often are zoned for higher density.<sup>61</sup> Research shows higher property values can also be associated with proximity to bus rapid transit, which uses infrastructure upgrades and service improvements to offer rail-like service with buses.<sup>62</sup> A study of residential property values between 2006 and 2011 in five regions found that properties located within a half-mile of rail transit stations (including light, heavy, and commuter rail) declined less in value than in the region as a whole. The station areas outperformed the rest of the region by 30 percent in Chicago, 37 percent in Phoenix and San Francisco, 48 percent in Minneapolis-St. Paul, and 129 percent in Boston. Households living in the station areas also had better access to jobs across the region and lower combined housing and transportation costs.<sup>63</sup> While the premium is generally assumed to be due to the accessibility advantages of being near transit,<sup>64</sup> the pedestrian-friendly design and amenities of transit-oriented neighborhoods can generate an important portion of the premium independent of the value placed on transit accessibility.<sup>65,66</sup>

### Neighborhoods and Streets That Make Walking and Biking Safe, Convenient, and Enjoyable

Higher levels of walkability also correlate with higher property values. A study that analyzed more than 90,000 home sales in 15 different markets in the United States found that homes with above-average levels of walkability command a premium of about \$4,000 to \$34,000 over homes with average levels of walkability, holding housing characteristics and other neighborhood attributes constant.<sup>67</sup> Likewise, an analysis of the market value and annual investment returns of more than 4,200 office, apartment, retail, and industrial properties from 2001 to 2008 found that, on a 100-point scale, a 10-point increase in

<sup>60</sup> Fogarty, Nadine, Nancy Eaton, Dena Belzer, and Gloria Ohland. *Capturing the Value of Transit*. Center for Transit-Oriented Development. 2008. <http://www.reconnectingamerica.org/resource-center/books-and-reports/2008/capturing-the-value-of-transit-3>.

<sup>61</sup> Duncan, Michael. "The Synergistic Influence of Light Rail Stations and Zoning on Home Prices." *Environment and Planning-Part A*. 43.9 (2011): 2125-2142.

<sup>62</sup> Federal Transit Administration. *Land Use Impacts of Bus Rapid Transit: Effect of BRT Station Proximity on Property Values Along the Pittsburgh Martin Luther King, Jr. East Busway*. 2009. <http://www.ssti.us/2012/04/land-use-impacts-of-bus-rapid-transit-national-brt-institute-2009>.

<sup>63</sup> The Center for Neighborhood Technology. *The New Real Estate Mantra: Location Near Public Transportation*. American Public Transportation Association and National Association of Realtors. 2013. <http://www.realtor.org/reports/the-new-real-estate-mantra-location-near-public-transportation>.

<sup>64</sup> Smith, Jeffery J. and Thomas A. Gihring. *Financing Transit Systems Through Value Capture*. Victoria Transport Policy Institute. 2012. <http://www.vtpi.org/smith.pdf>.

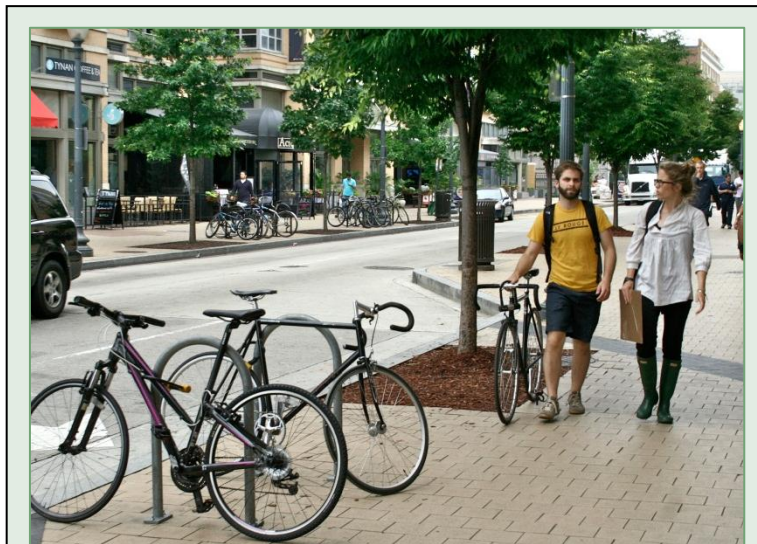
<sup>65</sup> Bartholomew, Keith and Reid Ewing. "Hedonic Price Effects of Pedestrian- and Transit-Designed Development." *Journal of Planning Literature*. 26.1 (2011): 18-34.

<sup>66</sup> Mathur, Shishir and Christopher E. Ferrell. *Effect of Suburban Transit Oriented Developments on Residential Property Values*. Mineta Transportation Institute. 2009. [http://transweb.sjsu.edu/MTIportal/research/publications/documents/Effects\\_of\\_Sub-Urban\\_Transit\\_\(with\\_Cover\).pdf](http://transweb.sjsu.edu/MTIportal/research/publications/documents/Effects_of_Sub-Urban_Transit_(with_Cover).pdf)

<sup>67</sup> Cortwright, Joseph. *Walking the Walk: How Walkability Raises Home Values in U.S. Cities*. CEOs for Cities. 2009. <http://www.ceosforcities.org/work/walkingthewalk>.

walkability increased values by 9 percent for office and retail properties, and 1 percent for apartments.<sup>68</sup> Studies of single geographic areas show similar results. In Jefferson County, Alabama, residential land values generally increase with walkability,<sup>69</sup> while in King County, Washington, the same holds true for multifamily rental, retail, and office properties.<sup>70</sup>

A study of the Washington, D.C., metropolitan area shows how walkable, mixed-use places can achieve superior economic performance.<sup>71</sup> The study compared 43 walkable urban places to the typical automobile-oriented suburban development found elsewhere in the region. For each walkable urban place, researchers calculated the average rent per square foot for office, retail, and residential



**Exhibit 12. Columbia Heights, in Washington, D.C.** In this urban neighborhood the street design and close proximity of homes and businesses make walking and biking convenient for residents and visitors.

Photo source: EPA.

properties (converting for-sale housing prices to the equivalent rent) and sorted them into four levels of performance. The lowest-performing group, which has an average Walk Score<sup>72</sup> of 77 and gross floor area ratio<sup>73</sup> of 0.41, showed a 4 percent premium over drivable suburban development for office space, 13 percent more for for-sale housing, 23 percent more for rental apartments, and 26 percent more for retail space. The highest-performing group, which has an average Walk Score of 96 and gross floor area ratio of 2.2, had average prices more than double those in drivable suburban development for all property types.

Not only do walkable places produce higher property tax revenues because of their higher property values, but research suggests property owners in walkable areas have a lower risk of mortgage default, which helps make property tax revenue more resilient to market changes. A study of more than 37,000 loans for multifamily developments found a lower risk of mortgage default if the property was in an area

<sup>68</sup> Pivo, Gary and Jeffrey D. Fisher. "The Walkability Premium in Commercial Real Estate Investments." *Real Estate Economics*. 39.2 (2011): 185-219.

<sup>69</sup> Rauterkus, Stephanie Yates, and Norman G. Miller. "Residential Land Values and Walkability." *The Journal of Sustainable Real Estate* 3.1 (2011): 23-43.

<sup>70</sup> Sohn, Dong Wook, Anne Vernez Moudon, and Jeasun Lee. "The Economic Value of Walkable Neighborhoods." *Urban Design International*. 17.2 (2012): 115-128.

<sup>71</sup> Leinberger, Christopher B. *DC: The WalkUP Wake-Up Call*. The George Washington University School of Business. 2012. <http://business.gwu.edu/walkup>.

<sup>72</sup> Walk Score measures the walkability of an address by awarding points based on the distance to a variety of services and amenities.

<sup>73</sup> Gross floor area ratio is the ratio of the area of all the enclosed building spaces on a lot divided by the area of the lot.



that is more walkable and has other smart growth attributes that can reduce the need to own a car and lower overall transportation costs:

Every 1 percent increase in the number of residents who walk to work was associated with a 3 percent reduction in the risk of default.

- A block group with 16 or more retail establishments was associated with a 34 percent reduction in the risk of default.
- A block group with more than 30 percent of residents that commute by subway or elevated train was associated with a 58 percent reduction in the risk of default.
- A property located within 1 mile of protected open space was associated with a 33 percent reduction in the risk of default.
- Conversely, every one-minute increase in the commute time to work was associated with a 4 percent increase in the risk of default.<sup>74</sup>

In another study, researchers found that the likelihood of mortgage default in Chicago; San Francisco; and Jacksonville, Florida, increased with the number of vehicles owned by the household, after controlling for income, suggesting that lower transportation costs might help households weather financial difficulties.<sup>75</sup> However, using Walk Score as a predictor of mortgage default gave mixed results. In high-income areas, the risk of default decreased with increased walkability, while the opposite was true in low-income areas. The authors attribute this difference to the fact that low-income, high-default areas tend to be inner-city neighborhoods, which are often walkable. In high-income areas, the lower risk of default with increased walkability could be due to reduced transportation costs or to better property value retention, which gives homeowners more options when facing financial challenges that might lead to default.

Local governments looking to capitalize on the higher property values found in walkable neighborhoods can use zoning codes and regulations to encourage this type of development. For example, Davidson, North Carolina, requires streets to connect within a development and with adjoining developments and blocks to be not more than 600 feet long to promote connectivity and walkability.<sup>76</sup> Some communities are implementing form-based zoning codes, which describe the physical form of buildings and their relationship to each other and the street but do not mandate the separation of uses as conventional zoning does. Form-based codes reflect a clear community vision that tells developers and landowners the type of development allowed on a site, reducing uncertainty and risk in the approval process and helping to create mixed-use, walkable neighborhoods.<sup>77</sup> In Arlington County, Virginia, less than 10 years

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<sup>74</sup> Pivo, Gary. "The Effect of Transportation, Location, and Affordability Related Sustainability Features on Mortgage Default Prediction and Risk in Multi-Family Rental Housing." Fannie Mae. 2012.

[http://www.fanniemae.com/resources/file/aboutus/pdf/hoytpivo\\_mfhousing\\_sustainability.pdf](http://www.fanniemae.com/resources/file/aboutus/pdf/hoytpivo_mfhousing_sustainability.pdf).

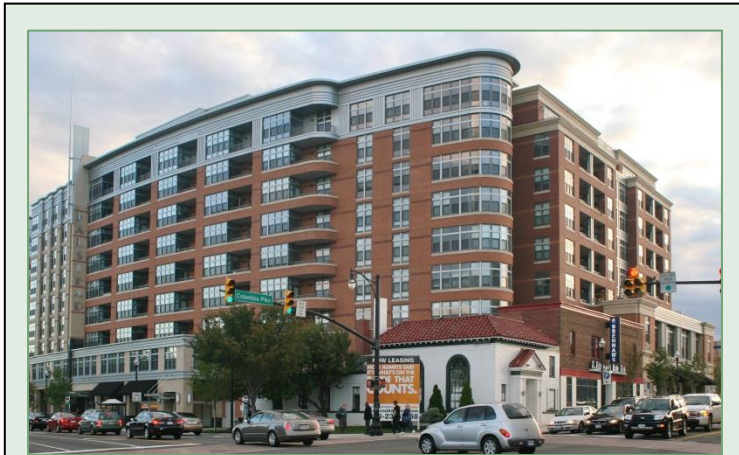
<sup>75</sup> Rauterkus, Stephanie Y., Grant I. Thrall, and Eric Hangen. "Location Efficiency and Mortgage Default." *The Journal of Sustainable Real Estate* 2.1 (2010): 117-141.

<sup>76</sup> Town of Davidson. *Planning Ordinance Section 11: Streets and Greenways*. 2009.  
<http://www.ci.davidson.nc.us/DocumentCenter/Home/View/1304>.

<sup>77</sup> Rangwala, Kaizer. "Form-Based Codes." *Economic Development Journal*. 11.3 (2012): 35-40.



after adopting a form-based code for the Columbia Pike corridor in 2003, the formerly struggling area saw almost 1,200 new housing units and over 250,000 feet of retail space built or planned.<sup>78</sup>



**Exhibit 13. The Halstead Apartments on Columbia Pike in Arlington, Virginia.** The Halstead Apartments were completed in 2008, five years after the county passed a form-based code. The building added 269 residential units and 35,000 feet of retail space to the corridor.

Photo source: Cliff via flickr.com.

Local governments can also use public buildings to stimulate or support private development by locating them in walkable areas that could benefit from the foot traffic they bring. For example, the city of Chandler, Arizona, selected a downtown site for its new city hall to encourage development; make the downtown a destination; and improve traffic circulation, pedestrian access, and parking in the area.<sup>79,80</sup> The city's overall revitalization efforts helped the 1998-1999 downtown vacancy rate of 65 percent decline to less than 4 percent in 2012, and downtown sales receipts were up 12 percent in 2012 compared to 2010 when the city

hall was completed.<sup>81</sup> The Urban Renewal Authority in Arvada, Colorado, recognized that a new public library could bring life to a redeveloped town square in historic Olde Town. Since its opening in 2006, it serves 40,000 visitors a month who contribute to the area's revitalization.<sup>82</sup>

## B. Boosting Sales Tax Revenue

Smart growth approaches might also help local governments increase sales tax revenues. As communities have invested in making retail districts more walkable and bikable, they have often found that more businesses and restaurants are filling empty storefronts and drawing more people.

In Memphis, Tennessee, a demonstration project temporarily re-engineered a three-block commercial district on Broad Avenue to be more accommodating to walkers and bikers.<sup>83</sup> The project was so successful in attracting residents to the area that the city made many of the changes permanent,

<sup>78</sup> Elliott, Donald L., Matthew Goebel, and Chad Meadows. *The Rules that Shape Urban Form*. American Planning Association. 2012.

<sup>79</sup> RNL Design. *Chandler City Hall Study: Program and Site Selection for New City Hall and Museum*. City of Chandler, Arizona. 2006. <http://www.chandleraz.gov/Content/CityHallStudy.pdf>.

<sup>80</sup> City of Chandler. "Chandler City Hall Complex." <http://www.chandleraz.gov/default.aspx?pageid=73>. Accessed Oct. 16, 2012.

<sup>81</sup> Madera, Cody. "Downtown Chandler Revitalization Taking Time, but Efforts Paying Off." *Phoenix Business Journal*. Apr. 13, 2012. <http://www.bizjournals.com/phoenix/print-edition/2012/04/13/downtown-chandler-revitalization.html?page=all>.

<sup>82</sup> Arvada Urban Renewal Authority. "Olde Town Square." <http://arvadaurbanrenewal.org/completed-area/olde-town-square/>. Accessed Dec. 18, 2013.

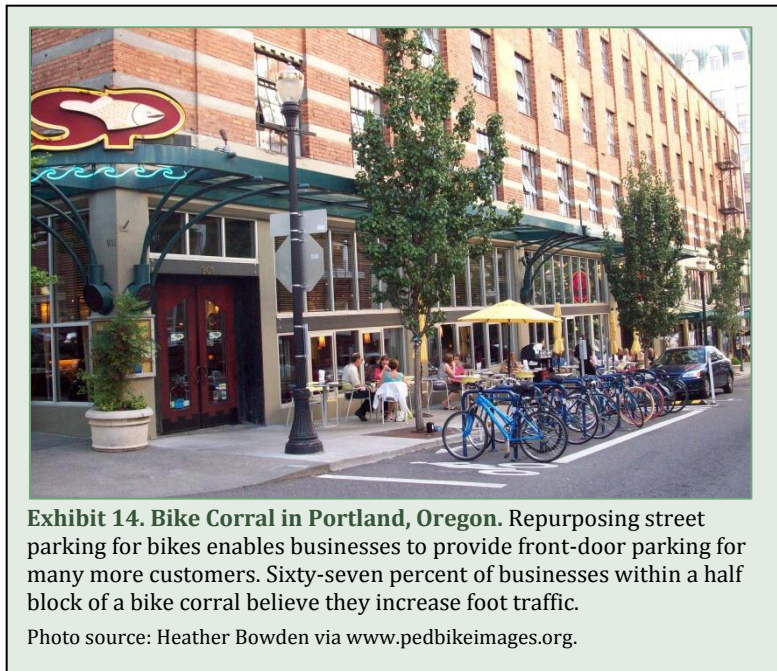
<sup>83</sup> Bailey, Thomas Jr. "Broad Smiles: Organizers Revel in Success of Bikable, Walkable Demonstration Event." *The Commercial Appeal*. Nov. 23, 2010. <http://www.commercialappeal.com/news/2010/nov/23/broad-smiles>.

including new bike lanes. Two years later, 30 buildings had been renovated and 19 new businesses had opened or planned to, including a bike shop, sports bar, and dance studio. The vice president of the Broad Street Business Association said of the changes, “Two years ago, everyone was concerned bikes would take away from business, and we quickly saw it was helping business twofold. You did have people biking, but it also helped narrow the street and slow people down. All of a sudden, people were noticing your business that had never noticed it before because they were speeding by at 45 or greater.”<sup>84</sup>

Hamburg, New York, resisted the state’s plan to widen its main street and instead narrowed travel lanes, created space for bikes on the road, and added mid-block crosswalks and sidewalk extensions. Four years after the project was completed, business owners had invested \$7 million in the area to upgrade and restore 33 buildings. Public safety improved as well—car accidents declined by 66 percent and injuries by 60 percent.<sup>85</sup>

Portland, Oregon, instituted a program to replace individual on-street parking spots in busy commercial corridors with racks to accommodate 10 bikes (Exhibit 14). In a survey of businesses located within half a block of a bike corral, 84 percent responded that they enhanced the street and neighborhood identity, 77 percent responded that they enhanced transportation options for employees and patrons, and 67 percent responded that they increased foot and bike traffic.<sup>86</sup>

The New York City Department of Transportation studied sales tax data for businesses located near seven street improvement projects before and after project implementation. The city found that at most sites sales tax receipts increased more within the project area than at comparison sites or in the borough as a whole. For example, a project in downtown Brooklyn that closed a portion of Willoughby Street to motorized traffic found that three years after



<sup>84</sup> Baker, Sarah. “Broad Avenue Attracts Retail, Seeks More as Bike Lanes Take Shape.” *The Daily News*. Oct. 4, 2012. <http://www.memphisdailynews.com/news/2012/oct/4/grassroots-effort>.

<sup>85</sup> Gaffney, Dennis. “Widen Main St.? Community Had Other Ideas, and Thrived.” *The New York Times*. Aug. 16, 2013. [http://www.nytimes.com/2013/08/17/nyregion/widen-main-st-community-had-other-ideas-and-thrived.html?\\_r=0](http://www.nytimes.com/2013/08/17/nyregion/widen-main-st-community-had-other-ideas-and-thrived.html?_r=0).

<sup>86</sup> Meisel, Drew. “Bike Corrals: Local Business Impacts, Benefits, and Attitudes.” Portland State University School of Urban Studies and Planning. 2010. [http://bikeportland.org/wp-content/uploads/2010/05/PDX\\_Bike\\_Corral\\_Study.pdf](http://bikeportland.org/wp-content/uploads/2010/05/PDX_Bike_Corral_Study.pdf).

construction sales were up 47 percent at businesses near the project site compared to 24 percent in Brooklyn overall and 4 to 12 percent at comparison sites in the borough.<sup>87</sup>

Increased revenues due to better conditions for walking and biking come not just from residents, but tourists and visitors as well. Across the country, recreational cyclists spend nearly \$47 billion annually on meals, transportation, lodging, gifts, and entertainment.<sup>88</sup> In North Carolina's Outer Banks, a survey suggested that more than 40,000 visitors annually consider biking opportunities in the area important to their decision to visit. Estimates of the economic impact of their tourism dollars are nine times the amount of money the area has invested in bike infrastructure.<sup>89</sup> A study of 11 U.S. cities found that spending on bike and pedestrian infrastructure created more in-state jobs per dollar spent than other types of transportation projects—bicycling projects created 46 percent more in-state jobs, and pedestrian projects created 28 percent more in-state jobs than projects involving only roads.<sup>90</sup>

In addition to higher property values, research suggests that transit investments are also associated with higher wages, meaning residents have more income to spend in the community. A study of more than 300 U.S. metropolitan areas found that the level of transit service available is correlated with central city employment density, average wages, and per capita gross metropolitan product.<sup>91</sup> For example, an additional 3.7 seats on buses and rail cars per 1,000 residents in the metropolitan area was associated with roughly 19 percent (320) more jobs per square mile in the central city area. Because of this correlation with employment density, a 10 percent increase in the number of seats on public transit or the number of rail miles per capita was associated with an increase in yearly wages per worker of between \$53 and \$194, depending on average wages in the metropolitan area. The difference in wages averaged \$45 million across all metropolitan areas, ranging between \$1.5 million and \$1.8 billion, depending on metropolitan area size.

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<sup>87</sup> New York City Department of Transportation. *The Economic Benefits of Sustainable Streets*. 2012.

<http://www.nyc.gov/html/dot/downloads/pdf/dot-economic-benefits-of-sustainable-streets.pdf>.

<sup>88</sup> Flusche, Darren. "Bicycling Means Business: The Economic Benefits of Bicycle Infrastructure" Advocacy Advance. 2012.

[http://www.advocacyadvance.org/site\\_images/content/Final\\_Econ\\_Update\(small\).pdf](http://www.advocacyadvance.org/site_images/content/Final_Econ_Update(small).pdf).

<sup>89</sup> Lawrie, Judson J., Thomas P. Norman, Mary Meletiou, and Sarah W. O'Brien. "Bikeways to Prosperity: Assessing the Economic Impact of Bicycle Facilities." *TR News*. 242 (2006): 32-33.

<sup>90</sup> The study estimated direct jobs from construction and engineering, indirect jobs created throughout the supply chain, and induced jobs created by the spending of those with direct and indirect jobs. Source: Garrett-Peltier, Heidi. *Pedestrian and Bicycle Infrastructure: A National Study of Employment Impacts*. Political Economy Research Institute, University of Massachusetts, Amherst. 2011. <http://www.peri.umass.edu/236/hash/64a34bab6a183a2fc06fdc212875a3ad/publication/467>.

<sup>91</sup> Chatman, Daniel G. and Robert B. Noland. "Transit Service, Physical Agglomeration, and Productivity in U.S. Metropolitan Areas." *Urban Studies*. (2013) doi: 10.1177/0042098013494426.

## V. Conclusion

Careful decisions about how and where communities grow can build fiscal strength in local governments. Many people want to live in areas where they can walk to shops and restaurants and have the option of taking transit to destinations farther away. Local governments have been able to attract and retain residents and strengthen their fiscal health with a variety of smart growth strategies:

- Invest economic development dollars in downtown areas.
- Establish policies such as impact fees that direct growth to areas with existing infrastructure.
- Support schools on compact campuses in the towns and neighborhoods they serve rather than at the edge of developed areas.
- Create connected street networks that make delivery of emergency services and road maintenance more efficient.
- Structure fees and service charges to better reflect the actual cost of service delivery, while avoiding disproportionate impacts on disadvantaged households.
- Create neighborhoods and streets that make walking and biking safe, convenient, and enjoyable.
- Use zoning codes and regulations to encourage private development that supports walkable neighborhoods.
- Use public facilities to stimulate or support private development by locating them in walkable areas that could benefit from the foot traffic they bring.
- Support transit that connects homes and jobs.

With these approaches, local governments are finding ways to address the problem of growing costs and shrinking revenues while achieving environmental and human health benefits.

