



8 Fiscal Benefits of Walkable Communities

Over the last 15 years, academic research has shown that compact, mixed-use development costs less than contemporary low-density, segregated patterns of urban growth. According to the Brookings Institution, “North Carolina needs to grow differently; its growth needs to be more compact and balanced... State and local governments must rethink land use policies so that more development occurs in older areas with infrastructure and not on farmlands, open space and sensitive coastal areas...” (2000).

8.1 Infrastructure

Several studies show that infrastructure costs less per dwelling unit in walkable communities. Fewer linear miles of sewer and water lines, roads, and utilities are needed to service structures that are arranged compactly. For example, a synthesis of three studies finds that walkable development uses 45% less land and costs 25% less for roads, 15% less for utilities, 5% less for housing, and 2% less for other fiscal impacts (Duncan, 1989; Frank, 1989; Burchell, 1992, cited in Smart Growth Network, 2000). The table below provides more examples.

Cost Comparisons: Infrastructure	Smart Growth Savings	Reference
The cost of public infrastructure per dwelling unit is \$69,000 per unit in low density, non-contiguous developments, but only \$34,500 per unit for a compact, contiguous alternative	\$34,500 per dwelling unit	Frank, 1989, cited in Benfield et al., 1999
Utility costs are \$10,000 per unit for residential developments of 3–5 dwelling units per acre 10 miles from existing development, and only \$5,000 per unit in similar developments located 5 miles from existing development	\$5,000 per dwelling unit	Anderson, 2000
In Florida, public capital costs were between \$16,000 and \$17,000 per unit for corridor and nodal developments and almost \$24,000 per unit in scattered developments	\$7,000–\$8,000 per dwelling unit	Anderson, 2000
Compared to scattered developments, compact developments can save up to \$14,700 per dwelling for services and infrastructure	\$14,700 per dwelling unit	Duncan et al., 1989, cited in Raimi, 2000
The Minneapolis/Saint Paul, MN region could save \$3 billion on capital infrastructure in the next 20 years by increasing housing density from 1.8 to 5 dwelling units per acre	\$3 billion over 20 years nationwide	Lerner and Poole, 1999
Compact development around existing centers could save New Jersey \$699 million in road construction, \$561 million in water and sewer construction, and \$173 million in school construction, a total of \$1.3 billion over the next 20 years	\$1.3 billion over 20 years statewide	Burchell, 1992, cited in Benfield et al., 1999
An analysis of operation and maintenance costs for wastewater collection systems in the Cleveland and Chicago areas found that the costs were two or more times greater in areas with low-density development compared to areas with high service densities	50% less than the cost of low-density sprawl	Surface Transportation Policy Project, 2000

8.2 Public services

Police and fire service is less expensive for compact development because there is less area to patrol. Stations are closer to the average resident, so response times are shorter. School bus routes can be shorter, more students can be collected at each stop, and more children can walk to school or use regular transit services. Compared to low-density suburban developments, a compact urban area with comparable population size can be comparably served by fewer police stations, fire stations and schools. Examples follow.

Cost Comparisons: Public Services	Smart Growth Savings	Reference
Annual school busing costs in low-density, rural areas in suburban Chicago ranged between \$278 and \$405 per student, while costs were between \$44 and \$155 per student in higher-density townships	\$234–\$250 per student	Esseks et al., 1998
In scattered developments of suburban Chicago, response times were about 10 min for emergency medical calls, 16 min for fire calls, and about 25 min for police calls; in more compact, mixed-use developments, response times were about 6 min for emergency medical calls, 6 min for fire calls, and about 17 min for police calls	4 min for emergency medical calls, 10 min for fire calls, and 8 min for police calls	Esseks et al., 1998
School bus round-trips averaged between 37.4 min and 50.9 min for three scattered developments in suburban Chicago, but only averaged between 21.1 and 29.3 in higher-density, contiguously developed areas	16 to 21 min per round trip	Esseks et al., 1998
Loudoun County, VA, data showed that school transportation costs for a 1,000-unit development at a density of one dwelling unit per five acres would be more than five times greater than those for a 1,000-unit development at 4.5 dwelling units per acre	80% less than the cost of low-density sprawl	American Farmland Trust, 1986, cited in Benfield et al., 1999.

8.3 Transportation

Automobile-oriented development leads to traffic congestion, reduced pedestrian safety, and rising costs of time wasted in automobiles. Residents of compact development with a mix of residential, office, and commercial land uses have shorter trips to grocery and hardware stores, healthcare, restaurants, and jobs. They can more easily travel by foot or bicycle, or in carpools, all of which are less costly than solo car trips. Compact development served by transit also relieves many residents of the high cost of personal automobile ownership (see section 8.6). Proximity of businesses promotes a thriving local economy and keeps sales tax revenue in the county.

Public transit is feasible at densities of 5–10 dwelling units per acre (Pushkarev and Zupan, 1982; Holtzclaw, 1994; Downs, 1992; Newman and Kenworthy, 1989, cited in Benfield et al., 1999). In Los Angeles, high-density neighborhoods have 20 times the transit ridership per capita of low-density neighborhoods (Benfield et al., 1999). Over 70% of survey respondents to one survey said they would switch from driving to walking or bicycling for shopping or personal business, if the trips were one-half mile or less and pedestrian walkways were provided (Robinson et al., 1980, cited in Holtzclaw, 1994). Only 10% of Americans are willing to walk over one-half mile per trip, so walking is a viable alternative only in mixed-use, high-density, compact developments (Holtzclaw, 1994; Nationwide Personal Transportation Survey, 1995). The following table shows the savings that can result from smart transportation planning.

Cost Comparisons: Transportation	Smart Growth Savings	Reference
The Denver Regional Council of Governments trip calculator shows that compared to driving alone to and from work, carpooling (2 persons or more) saves about \$20, taking transit saves about \$30, and walking or biking saves about \$40 per week (assuming that gas costs \$1.50 per gallon and the car gets 30 miles per gallon, calculated for round-trip commute distances of 5, 10, and 20 miles)	\$1,000–\$2,000 per year per resident	Denver Regional Council of Governments, 2000
Doubling neighborhood density results in more than a 40% drop in vehicle miles traveled per household in the San Francisco area	40% fewer vehicle miles travelled per household	Holtzclaw, 2000
An examination of six communities in Palm Beach County, FL revealed that residents of sprawling suburbs spend about two-thirds more time driving than residents of traditional neighborhoods with a better mix of land uses	40% less time spent driving per resident	Benfield et al., 1999
Mixed-use village centers may reduce automobile trips by 13% and miles driven by 33% in California’s San Joaquin Valley and vehicle trips by 18% and miles driven by 12% in New Jersey compared to typical suburban developments	13–18% fewer vehicle trips and 12–33% fewer vehicle miles traveled	California Air Resources Board, 1996, cited in Benfield et al., 1999
Doubling neighborhood density can decrease per-household vehicle use and emissions by 20–40%	20–40% less vehicle use and 20–40% fewer emissions	Natural Resources Defense Council, 2000

8.4 Farmland preservation and land conservation

In the long run, municipalities do not necessarily realize increased revenues from land developed for residential growth. Open land, forest, and farmland generate much more tax revenue than they cost for government services. Conversely, low-density development frequently costs more to service than it generates in tax revenue.

Cost Comparisons: Farmland Preservation and Land Conservation	Smart Growth Savings	Reference
Open land, forest, and farmland land uses generate approximately three times more tax revenue than the amount spent to service them	3 times more net tax revenue from preserved natural and agricultural lands than from low-density sprawl	American Farmland Trust, 1999
For every dollar generated in tax revenue, it costs approximately \$0.35 to service farmland, \$0.35 to service commercial and industrial areas, but \$1.20 to service residential areas—in Wake County, the cost to service residential areas is \$1.48 for every dollar generated in tax revenue	\$0.85 for farmland and \$0.85 for commercial and industrial areas per dollar of tax revenue	American Farmland Trust, 2000; Smart Growth Network, 2000; Brookings Institution, 2000
Maryland lost 71,200 acres of forest between 1985 and 1990. If the trend of low-density, segregated development continues, 585,000 acres of land will be developed between 1990 and 2020; under a smart-growth scenario, the same amount of growth could take place on only 220,000 acres of land	365,000 acres of undeveloped land statewide	Smart Growth Network, 2000

8.5 Property and housing values

Although residential lots and houses tend to be smaller in compact developments, studies have shown that their values appreciate at least as fast if not faster than comparable lots and houses in contemporary suburban tract developments. Real estate experts believe that a house in a compact, mixed-use developments may be a much safer investment than one in a low-density suburban area.

Cost Comparisons: Property and Housing Values	Reference
One real estate industry analysis predicts that real estate values will rise the fastest in "smart communities" that provide a concentration of amenities, an integration of residential and commercial districts, and a "pedestrian-friendly configuration"	ERE Yarmouth and Real Estate Research Corporation, 1998, cited in Lerner and Poole, 1999
33% of the value of land adjacent to Philadelphia's Pennypack Park can be attributed to the proximity of the park open space	Smart Growth Network — MD "Sprawl Costs Us All," 2000
A greenway in Boulder, CO, raised property values of nearby land by \$5.4 million and created an additional \$500,000 in additional tax revenue per year	Smart Growth Network — MD "Sprawl Costs Us All," 2000
According to a 1998 report by ERE Yarmouth and Real Estate Corporation, real estate values will rise the fastest in communities that incorporate a concentration of amenities, integrate residential and commercial districts, and make destinations walkable	Lerner and Poole, 1999
A 1996 report by Arthur Andersen found that proximity to open space is seen as an important benefit in residential location choices	Lerner and Poole, 1999
Homes adjacent to Pea Island Wildlife Refuge in North Carolina have a 20% higher value than homes further from the refuge	Smart Growth Network, 2000
The presence of greenways was one factor that lured Caterpillar, Inc., to Morgantown, NC, and Reichold Chemical Company to Research Triangle Park, NC	Lerner and Poole, 1999
Properties in compact developments appreciated as fast and often faster than those in traditional subdivisions in Amherst, MA, and Concord, MA	Lacy, 2000
The face-to-face contact and good quality of life promoted by compact, mixed-use town and neighborhood centers is one of the keys to the future success of business and industry	Henton and Walesh, 1998
The premium for living near preserved natural areas ranges from 5% to 32% in the Northeastern U.S.	Smart Growth Network, 2000
Cluster developments appreciated 12% faster than sprawl subdivisions over a 20-year period in Massachusetts	Lacey and Arendt, 1990, cited in Smart Growth Network, 2000
Raleigh, NC voters stated that "overpopulation/growth" and "traffic" were the first- and second-most significant problems in the city	Brookings Institution, 2000
Cary, NC residents said that "traffic/roads/congestion" and "growth/too much, too fast" were the first- and second-most significant problems in the city	Brookings Institution, 2000
Citizens give the lowest approval ratings to pictures of "cookie cutter" residential development, highway strip development, and shopping centers with large front parking lots and the highest approval ratings to natural areas, farmland, woodlots, parks, and streams	Benfield et al., 1999

8.6 Personal and family budget impacts

Auto-oriented development exacts a price from individuals and families as well as communities. Financing, maintaining, and insuring a car can cost thousands of dollars every year. These costs could be avoided or reduced if other transportation choices were available. The Surface Transportation Policy Project and the Center for Neighborhood Technology (STPP/CNT, 2000) found that:

- The typical American household spends 18 cents per dollar earned on transportation, 98% of which covers the purchase, operation, and maintenance of cars;
- Most families spend more on driving than on health care, education, or food, and some spend more on cars and driving than on housing;
- Transportation costs are increasing at a rate of 1% per year;
- Transportation costs are highest in predominantly suburbanized regions that invest most heavily and almost exclusively in highway construction, while walkable areas have much lower transportation costs; and

- Investment in housing is much more profitable than investing in transportation: every \$10,000 spent on a house yields \$4,730 in equity over 10 years, while the same amount applied to a car yields only \$910.

Few people realize how the choice of transportation mode affects household finances. People buy new homes in sprawling subdivisions, far removed from city centers, without considering how much more they will pay for transportation. In some cities a homebuyer could save \$100 to \$500 every month by buying a home in a walkable neighborhood served by public transit.

Conventional mortgages generally do not account for the financial advantage of a walkable location for a household, so banks may refuse to make loans to families that actually should qualify. However, in some areas, Fannie Mae will qualify a homeowner for a location-efficient mortgage on a home in a walkable community close to public transportation (McCann, 2000).

8.7 References

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