The Cost of Sprawl

Executive Department

Maine State Planning Office
May 1997

Cover photo: Bangor Mall area, Bangor, Maine - 1995
Back cover: Bangor Mall area, Bangor, Maine - 1955

Photos courtesy of the James W. Sewall Co. Old Town, Maine.

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Contents

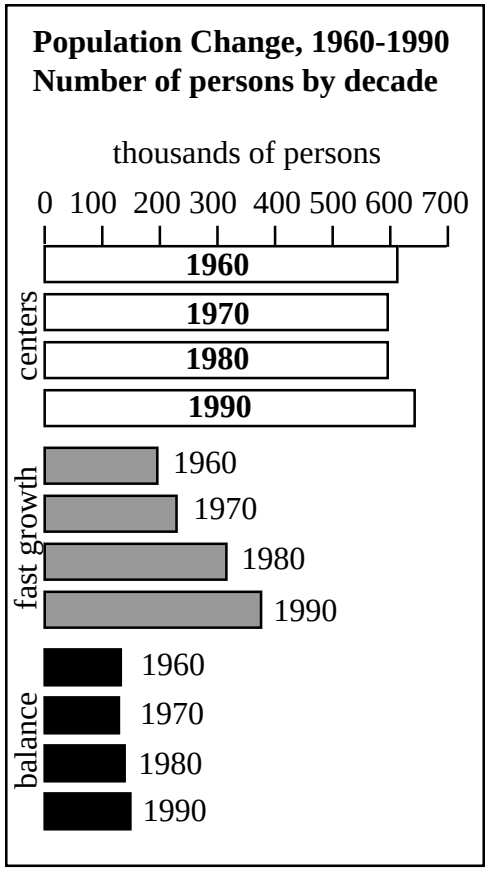
"There is no finer creation than the New England village. It is testament to the livable community — a community of neighborhoods, churches, shops and town hall. It is testament, too, to the countryside that surrounds it. The contrast between village and countryside in Maine is as crisp as a fresh apple, picked on a fine fall day. We savor both."

Angus S. King, Jr.

Overview

We are spreading out. Over the last 30 years, the fastest growing towns in Maine have been "new suburbs" 10 to 25 miles distant from metropolitan areas (see map on page 16).

These high-growth communities have accounted for virtually all of the state's population growth.



From town square to the countryside, from Main Street to the Mall, we are dispersing.

This outward movement has had unanticipated and unintended consequences.

It has increased local and state taxes in three ways. First, it has required new and redundant infrastructure in remote areas; for example, state taxpayers have paid for over $300 million in new rural school capacity, even though the student population statewide has declined. Second, it has required the lengthening of service routes for police, fire, emergency, road maintenance, and plowing; towns are losing economies of scale. Finally, it has left older city and town centers saddled with a declining population and an underused infrastructure. The ironic result is that even while rural taxpayers are pitching in to build new capacity, in-town residents are paying more (on a per-family basis) just to support the old capacity.

The costs go beyond dollars and cents. Spreading out also creates more air pollution from automobiles, more lake degradation from development runoff, and more fragmentation of wildlife habitats. There are social costs, such as the isolation of the poor and elderly in cities, and the disruption of traditional farming and forestry activities in the countryside.

This report does not provide conclusive answers. Instead it invites all Maine people, from planning board members to real estate developers to bankers to environmentalists, to come together and talk. Only through consensus can we find real answers.

1. The Individual Decision

The movement from city to country is the result of thousands of Maine families basing decisions on a whole host of powerful attractions.

The attractions include: lower prices, cheaper land, lower taxes, privacy, "coun-

try living." Sometimes government inadvertently makes the attractions even more powerful with subsidies like low-interest mortgages, new schools, and new roads and highways.

Each family's decision is made in its own apparent best interest. However, it is often made without full knowledge of the costs, either to the family itself or to the state as a whole. Because the entire phenomenon of spreading out, or "sprawl," is based on such individual decisions, it is worth examining the circumstances in more detail.

Imagine a young couple renting an apartment in Augusta. One is a teacher in Hallowell, the other a social worker at the Augusta Mental Health Institute. They scrimp and save to buy their first home. Finally they have enough and begin to look around.

The couple calculates that they can afford a mortgage for a $60,000 home. Two such houses are available: one in Augusta, one in Windsor.

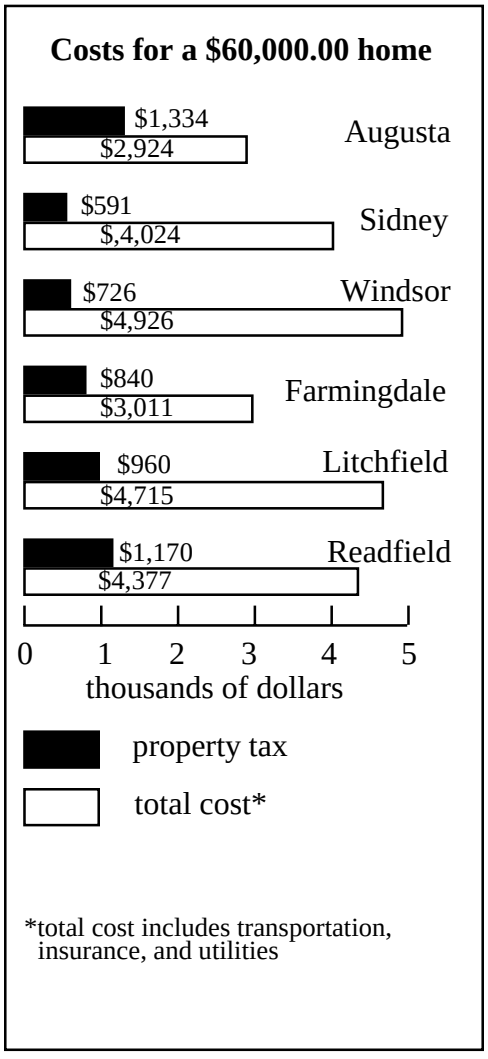
Though the prices of the two houses are the same, property taxes on the Windsor home are $600 less than for the Augusta home. This fact makes the decision easy. It seems that the couple can both have a dream house in the country, and save money on property taxes at the same time!

So the couple buys the house in Windsor. After a few months, they notice that their checkbook is tight. One partner shrugs it off — "That's just the way it is, the cost of everything is going up." The other answers, "Wait a minute, let's look at our expenses more carefully."

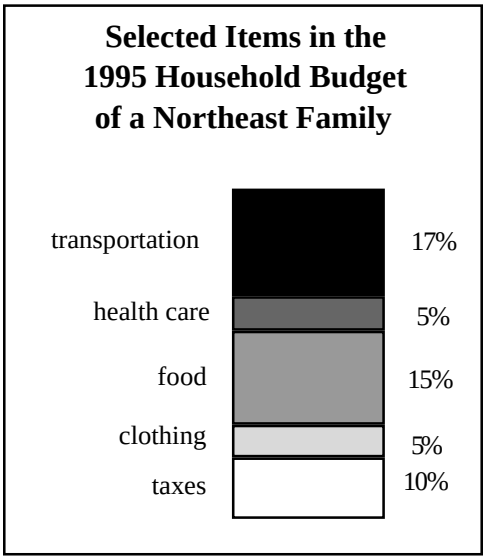
So they do. They notice higher monthly gasoline credit card bills. They both have longer commutes to work, and simply getting a loaf of bread or gallon of milk takes a trip in the car. Likewise, there are more bills for car maintenance. The house insurance bill is higher than would have been true in Augusta — they live farther away from a fire station.

In the end, after they add everything up, they discover that these "invisible" costs of living in the country have more than offset the savings in property taxes.

Planner Holly Dominie has estimated the living costs for this couple in a comparable $60,000 home in Augusta, Sidney, Windsor, Farmingdale, Litchfield, or Readfield. She found that even though property taxes on the Augusta home would run $200 to $700 more than in any of the neighboring towns, total living expenses would still end up running $100 to $1,400 less.



Dominie's research is confirmed by the Federal Bureau of Labor Statistics. For the average family in the northeast United States in 1995, transportation costs are now a sixth of the family budget — more than food, more than health care, more than clothing, more than taxes of all kinds.



Now let's revisit the hypothetical couple five years after their move. What might we find?

First, they are often pressed for time. Even the most routine activities take careful planning. Where once they walked to the corner to pick up a bottle of milk or loaf of bread, now they must drive several miles. An hour or so of the day is lost to commuting. Every time their children want to visit a friend, or take a lesson, or go to a basketball game, they have to be driven. Even to get a baby sitter requires driving across town. They haven't gotten to know their neighbors very well, because they live in their cars as well. Their old friends don't drop by as often because of the distance.

Then, as more families move into the area, it begins to feel less like country. The neighboring farm disappears. The water in the nearby lake is becoming cloudy. There are fewer wild animals to be seen.

The last straw is when property taxes start to go up. To serve the new families, the town has had to buy a plow truck, add on portable classrooms to the schools, and hire more staff. New expenses mean higher taxes. Thus part of the original motivation for moving to the country, lower taxes, is disappearing.

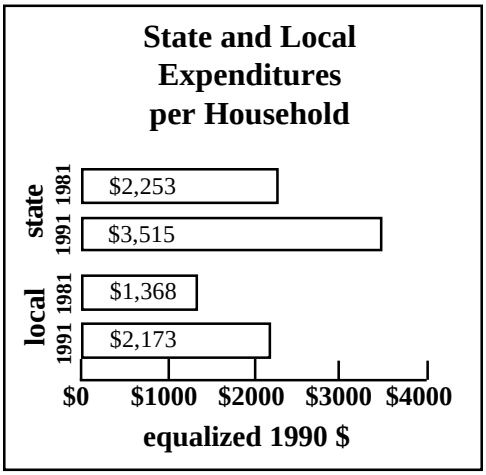
What to do? They decide to move farther into the country, where the taxes are still low and open spaces remain. But this is only a temporary solution, for there the cycle will surely repeat itself.

As this example shows, there is an irony in the fact that a movement motivated, in part, by the desire to reduce living costs and avoid high property taxes, ends up raising living costs and increasing property taxes, not just for the individual family involved, but for everyone.

2. The Cost to Taxpayers

Local governments in Maine spent $800 million more in 1990-91 than they did in 1980-81 (in equalized dollars), an increase of about 60%, or $1,700 per household.

We usually attribute this increase to rising local expectations, or more stringent federal and state regulations, or overeager local officials. No doubt all of these play some role. But a major part of the cost is due simply to the fact that we are spreading out. It just costs more, on a per-unit basis, to serve families who are widely dispersed than it does to serve families who live in traditional neighborhoods.

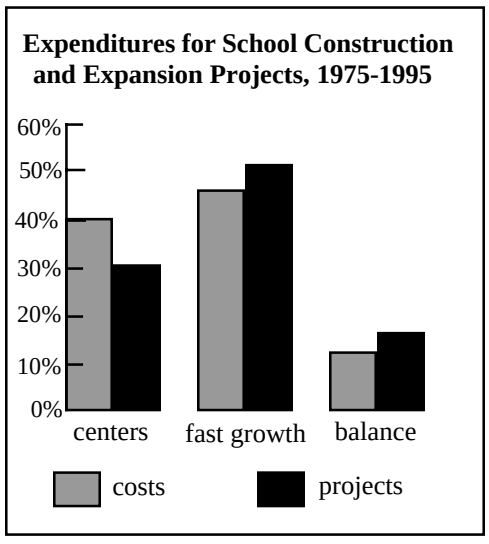


The following is a description of how public costs for schools, roads, and public safety have been increased by changing residential patterns.

A. Schools

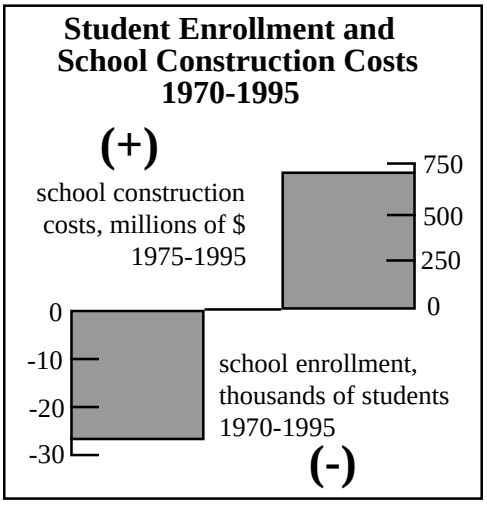
The clearest example is school construction. Between 1970 and 1995 the number of elementary and secondary public school students in Maine actually declined by 27,000. Yet from 1975 to 1995 Maine state government alone committed $727 million to new school construction and additions. Some of the money was used to renovate or consolidate old schools. But 46%, or $338 million, went to build new capacity in fast-growing towns.

This new capacity was redundant. It was not needed because Maine's school population was increasing — in fact students were decreasing. It was simply needed to serve existing students whose families had moved around.



More schools for fewer students also has a subtler cost. It means that the old schools left behind in the cities are under-used. This in turn means higher per-pupil costs for maintenance. So we're paying twice — once to build a new set of schools in the countryside, and once more to maintain older schools which are under-used.

Another example is school busing. In 1970 Maine state and local governments paid $8.7 million to bus children to and from school. Today — with 27,000 fewer students - that cost has risen to $54 million, or $254 per student. State government pays nearly two-thirds.



This $54 million is used to bus children to schools which in many cases lack computers and science labs. In a different world, the $54 million could be used to equip every student with access to state-of-the-art computers, Internet connections, and science equipment. Instead it is used for gasoline and bus drivers.

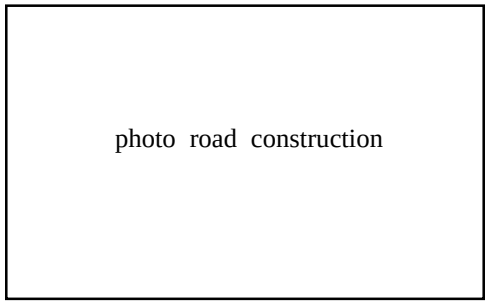
Not all of the busing cost has to do with living patterns. Part is due to state policy which encourages consolidated schools and school districts. But even without this policy, a significant increase in busing expense was inevitable once people started moving farther away from schools and from each other.

B. Roads

Although Maine's population increased less than 10% during the 1980's, total miles driven went up 57%, or over 40 million miles a year. Not surprisingly, total highway expenditures for local and state governments rose by about a third during that same period (in equalized dollars), or over $200 per household.

Yet even this is not enough. The Maine Department of Transportation reports that it is falling behind on mainte-

nance and repairs, and that more money (and possibly higher taxes) will be needed in the years ahead just to stay even.



Typical state expenditures on roads include the adding of left turn lanes to busy commuter highways. These are necessary in many instances because uncontrolled commercial growth along these avenues — development encouraged in the first place by the presence of heavy commuter traffic — has slowed the flow of vehicles by adding new driveways and access points. Nine of these projects alone in the last ten years, from Paris to Windham to Farmington, have cost taxpayers over $17 million.

Selected Road Projects

Town	Route	Lanes	Cost*	Year
Auburn	4	5	1.33	1985
Farmington	2/4	5	1.05	1989
Lewiston	202	3	0.84	1989
Lewiston	196	5	2.78	1995
Manchester	11/202	5	3.26	1990
Newport	11/100	3	dev	1994
Paris	25	3	2.22	1987
Portland	1A	3	2.94	1989
Sanford	109	5	1.01	1987

*millions of dollars

Roads are also a growing burden to local government. In South Berwick five new miles of roadway have been paved for scattered new development, at a cost to local taxpayers of about $400,000. Waldoboro has rebuilt about a mile of gravel roads per year during the last ten years, at a cost of $10,000 to $15,000 a mile. Poland and Litchfield have added new plow trucks to serve rural homes.

Overall, from 1987 to 1994 Maine municipalities were accepting new roads at a rate of 100 miles a year, the equivalent of a new two-lane road from Kittery to Augusta annually.

C. Police

Public safety presents a similar story. From 1980 to 1993 the crime rate in Maine dropped by 17%. Total crimes were down by 7,800, yet the number of police officers (local, county, and state) increased by 10%, or 180. During the 1980's, total police protection expenses for all levels of government increased by 40% (in equalized dollars), or by about $60 a family.

Why would police expenses increase when the crime rate is down? In part it is due to spreading out. Crime follows people. In 1993 a higher proportion of Maine's crimes were committed in rural areas than in 1980. This in turn requires more rural police patrols.

In Kennebunk, when a new large subdivision was built 25 minutes away from the town center, a new patrol had to be added to serve the area. A full-time patrol requires one cruiser and four police officers, and costs about $175,000 a year. Around the same time the Town of Scarborough, just up the road, had to add a new patrol at a similar cost to serve families moving to the other side of the turnpike. Multiply this same situation many times over all around the state, and it can be understood why municipalities have added nearly 200 new officers in the past 13 years.

A second major responsibility of the police is traffic control. As was mentioned earlier, Maine motorists drive 40 million more miles today than in 1980. With driving comes accidents. The number of reported accidents increased by 10,000 between 1980 and 1994, or by about a third. This was true even though the roads and cars are safer today. Spreading out means more traffic safety work for police.

As is true in all of the other examples mentioned above, sprawl is not the only cause of higher police expenses. A change in labor standards governing overtime, the addition of new responsibilities in drug education, and other policy decisions have also played a large part. However, the

spreading of patrol responsibilities, the increased demand for traffic control, and the higher expectations for police service and response times from former city dwellers now living in the country, have all contributed to higher costs.

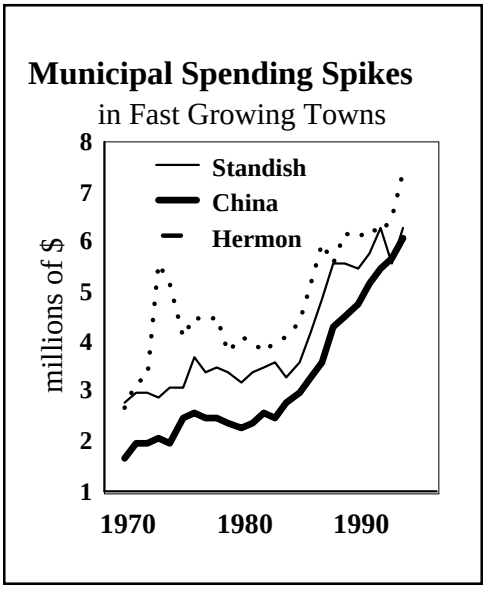
D. Summary of fiscal impacts

Maine state and local government spending in the above three areas alone — education, roads, and police — increased in real dollars by $637 million during the 1980's, a total of over $1,300 per Maine household. How much is due to sprawl, and how much to policy decisions, can never be scientifically determined. But it is beyond dispute that the spreading out of Maine families is a major contributing factor to the overall increase.

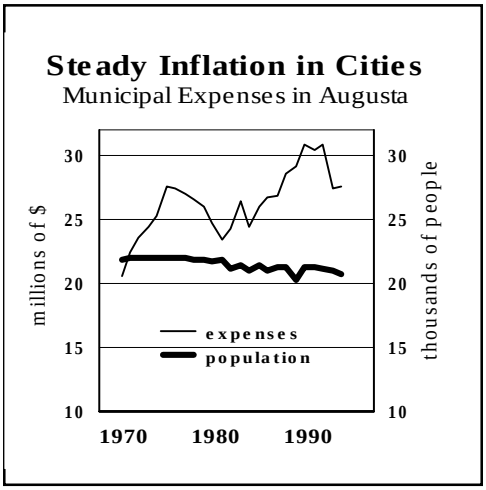
Spreading out contributes to the increase in two ways. First, it requires taxpayers to essentially "re-create" a new infrastructure of roads, schools, and public safety services in rural areas. Second, it requires taxpayers to continue supporting an older set of public facilities in urban areas, even though the population base is in many cases declining. The result is that property taxes rise in both rural towns and in cities.

But the property tax increases are experienced differently. **In growing towns**, local government expenses tend to go upwards in a "step function." In other words, the building of a new subdivision does not create an immediate increase in local expenses. What happens is that the new homes accumulate, until at a certain point the municipality is faced with the necessity of making a major expansion of services — a new school or fire station or road or police patrol or plow.

When the expansion occurs, local government costs "jump" to a new level, where they remain stable until the next jump is needed.



In older cities and service centers, on the other hand, the rise in expenses is gradual and ongoing. Augusta, for example, lost population between 1970 and 1994, but its real expenses went up by 35%, in part because of the higher service demands of an elderly and low-income population, and in part because it still had to service the growing commuter population with roads and other improvements. Because the population base declined, the per capita cost went up even faster, from $950 to $1,350, a 40% increase. Since incomes in the City were relatively lower compared to the beginning of the period, the actual tax burden experienced by urban taxpayers grew even more sharply.



In state government, the spending pressures are experienced in a rising demand for local government aid for schools and transportation. When times are good, state government increases its local aid, and local property taxpayers are helped. When times turn bad, state government cuts back on its aid, and property taxpayers are hit hard.

One unfortunate side effect of this pattern is that it tends to distract voters from the true causes of local government inflation. During good times the impact of rising local expenses are cushioned, and during bad times the state gets the blame for cutting back. Because of this political dynamic, the significant cost of inflation due to sprawl has not received adequate acknowledgment or attention.

While it is impossible to say precisely what proportion of the state budget today goes to pay for the costs of sprawl, a minimum estimate would be $30 to $40 million per year for school construction and busing costs alone. Other costs related to state police, environmental regulation, and roads would add to the total.

Examples of where Sprawl Increases State Government Costs

School construction
School busing
Road construction
State police coverage
Air and water pollution control
Growth management
Rural infrastructure (CDBG, DEP)

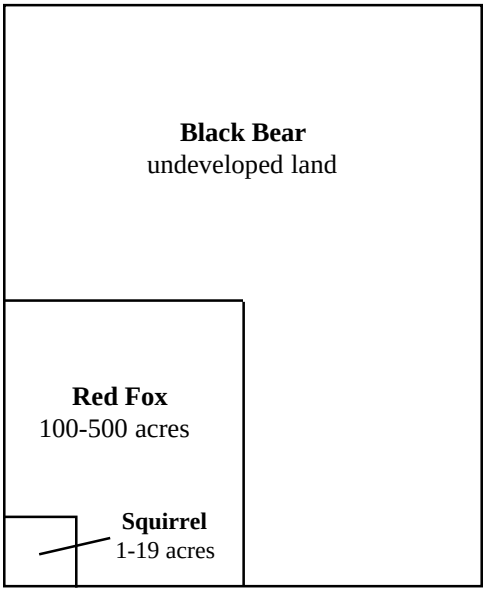
3. Environmental Costs

We have already discussed the invisible costs to the individual family. When thousands of people make such choices, at some point these individual costs cross the line to become public costs.

For example, the "car test" debacle was caused by a very real problem. The southern and coastal portions of the state exceed air pollution standards for certain months every year. Part of this problem is caused by utility emissions from the Midwest. But a significant part is also caused by automobile driving. Car use has doubled since 1970. Over half of the volatile compounds which create ozone problems are caused by emissions from automobiles. Our penchant for spreading out imposes a cost in reduced air quality.

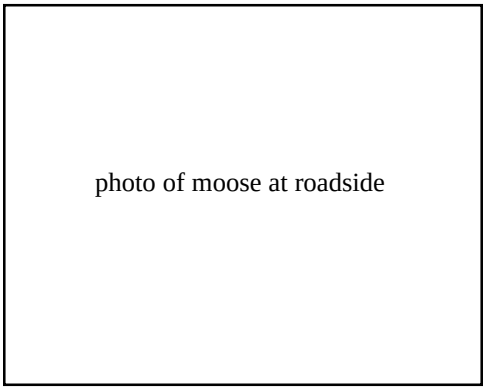
Secondly, habitats for wildlife in Maine have been seriously fragmented by development sprawl. Wildlife such as bobcat, owls, hawks, and certain song birds need extended stretches of undeveloped land in order to maintain their populations.

Habitat Block Size Requirements for Wildlife in Maine

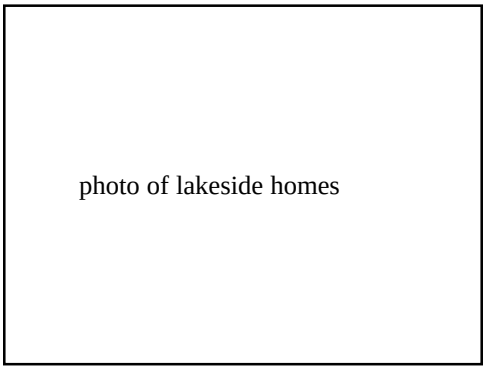


When we scatter homes randomly through the countryside, these habitats are interrupted, and the wildlife diminishes. In southern Maine nesting sites for endangered birds, such as the piping plover and least tern, have been lost to development.

Wetlands have been described as the "last refuge of wildlife in an urbanizing region." But they are of greatest value when they offer isolation from human activities. A study of 8 towns in southern Maine in 1985 found that 76% of the wetlands were visible from a road or within 2,000 feet, and thus of limited habitat value.



Thirdly, lakes and other water bodies are affected by development. Of 2,700 Maine lakes, over 200 have already been harmed by development, and another 300 are at risk if current trends continue. Unlike a river, once a lake deteriorates, it is hard to recover. It costs hundreds of thousands of dollars to "treat" a lake, like China Lake, which has deteriorated due to runoff. And even this money will be wasted unless effective development controls are adopted for the future.



Maine's traditional quality of life has been very closely associated with its pure air, clean water, and diverse wildlife. The spread-out pattern of living alters all three of these environmental assets.

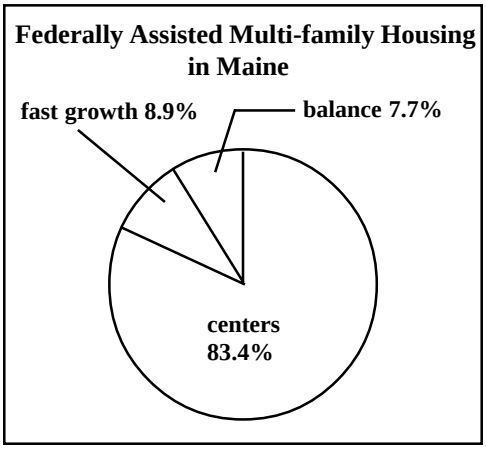
4. The Cost to Community Character

The flight from city to country has affected both settings. Town centers have lost their historic anchors — department stores, post offices — and historic buildings. Rural towns have lost their working farms and fisheries.

No institution is immune. The Roman Catholic Diocese of Maine announced this year that it would have to close historic St. Dominic's church on the Portland peninsula. The peninsula has lost half of its population since 1950. St. Dominic's, with a seating capacity of 700, now has 265 member families. Nearly two-thirds are over the age of 60.

Meanwhile, as St. Dominic's is closing, the Diocese also finds itself having to build new churches in growing towns like Scarborough at a cost approaching a million dollars apiece. The money must be spent even though the Catholic population in Maine has not grown measurably in the past 25 years. Meanwhile the historic West End of Portland must lose a cultural landmark.

The St. Dominic's example also illustrates another aspect of social change. Cities are increasingly the residence of those who are left behind. Middle-class families are moving out. The elderly, the poor, and the disabled are left behind. Sixty percent of children with special education needs now live in city and town centers. Over 80% of subsidized housing is in city centers. The loss of the stabilizing influence of middle-class neighbors for the state's poor children has contributed to the difficulties facing those children.

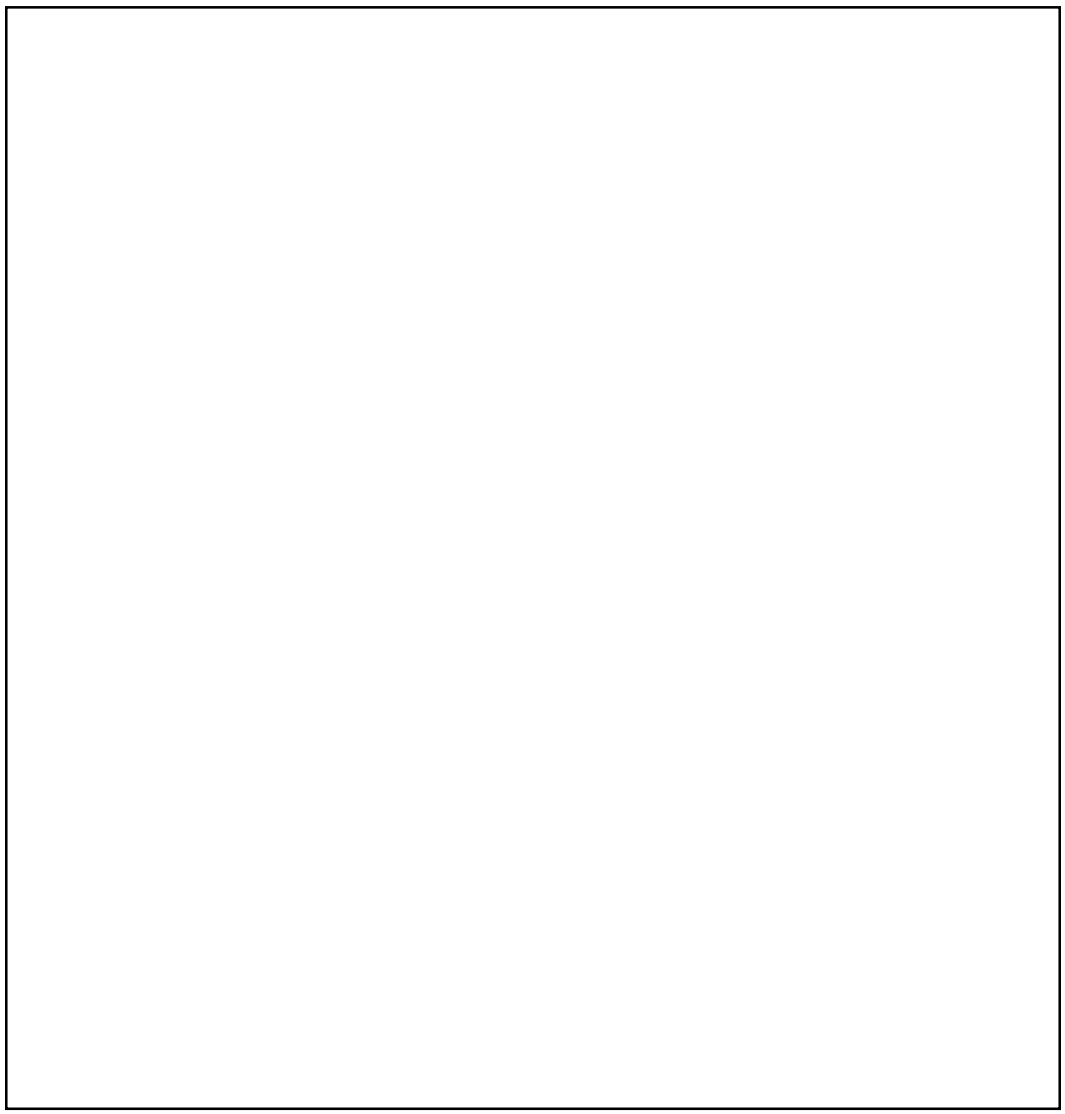


In the country there is also loss and change. The active, working landscape of farms, mills, fishing boats, and gravel pits, where land means livelihood, is being replaced by subdivisions and lawns — land as passive scenery. Fishing families

along the coast, farmers in growing towns, have been forced to move by rising property taxes. Further, farming land, because it is flat and clear, has been a prime location for new development. From 1960 to 1990, two-thirds of new development in Cumberland and York Counties took place on prime agricultural soils.

Meanwhile the invasion of homes turns the uses of the traditional working rural town — the spreading of sludge and manure on farms, the placement of energy facilities, the mining of gravel — into "nuisances."

The quality of life in Maine is more than our lakes and trees and mountains. It is also our people, our work, our ways of living together. The spreading out of Maine threatens these traditions as well.



Wilshore Farm in Falmouth - scene of conflict between area residents and the spreading of sludge. Aerial photographs courtesy of Greater Portland Council of Governments.

5. Future Directions

Sprawl is a problem in every state in the nation. Is it simply unavoidable?

It isn't as if we don't know what kind of growth makes sense. Holly Dominie surveyed twenty or so local Maine officials in 1995. She found that they were able, from their experience, to define very clear standards for sensible and cost-effective development (see the Appendix for the results).

Dominie's work is affirmed by a large and growing body of national research on the subject of sprawl. The earliest studies were done twenty to thirty years ago by George Sternlieb at Rutgers University, and culminated in a 1974 federal government study called the Costs of Sprawl. The latter found that high-density planned development cost 44% less to develop and maintain than rural scattered development on a per-unit basis.

In more recent years Robert Burchell has done a series of related studies for the State of New Jersey, the Lexington metropolitan area of Kentucky, and the Delaware River Estuary. Burchell has identified municipal savings in the range of 2% to 7% , and larger savings to the homeowner, from planned development.

Once the problem is understood, answers are not difficult. Some Maine communities have saved taxpayers money by creating incentives for developers to locate near built-up areas, and to cluster new development in individual sites.

But still today the problem is not widely recognized or acknowledged. There needs to be a statewide dialogue among citizens, developers, environmentalists, and municipal officials to define the problem and develop solutions.

This is an issue which is fundamentally related to Governor King's goal of reducing Maine's tax burden. To date the Administration is pursuing the following approaches:

A. Reduce the regulatory burden of in-town development. Because sites in built-up areas tend to have more impact on neighboring uses, the regulatory burden for development in built-up areas has grown more stringent over the years. The unintended consequence has been to encourage development to locate in rural areas.

The King Administration is moving to even the scales and to make in-town development easier. Last year the Site Location of Development Act was reformed to make it easier for development in cities to meet traffic standards. This year the State Planning Office is working with the Department of Education to make it easier to locate new schools in built-up neighborhoods. The general policy is that it should be no harder — and whenever possible it should be easier — to build new housing and commercial development in service centers where services and capacity exist, than in the country where they don't.

B. Invest in town and city centers. It is cheaper to maintain and rehabilitate existing roads, schools, and utilities in urban areas than it is to build new facilities in the country. But in the past state government has focused on new building, and in this way helped subsidize the movement out of the city to the countryside.

As with the regulatory example above, state government is looking to level the playing field for public investments. This will also make in-town development more attractive, and provide new choices to individual families and businesses. The State Planning Office is working with the Department of Transportation, the Education Department, and the Department of Economic and Community Development, to promote investment in city and town centers.

C. Promote regional planning. Sprawl is a regional phenomenon. In the long run investments in roads and airports, industrial parks and shopping malls, are what determine the shape of a town's and a region's development. In the past these decisions have been made too often on a case-by-case basis, without considering

the regional implications. The State Planning Office is retooling its Growth Management Program to help municipalities work together to plan these decisions that affect growth regionally.

D. Develop a consensus. Sprawl is the favored pattern of development in Maine, driven by rational (but less than fully informed) economic decisions, by the desire for privacy, and by the desire for a low-density, suburban lifestyle. As this report shows, there are costs (fiscal, environmental, and social character) to these decisions that have not been reckoned.

Further, the costs are masked by the public's willingness — through school construction, road, revenue-sharing, and other aid formulas — to subsidize the outward movement. Each of these aid programs rewards the shift of populations into rural communities; each pays part of the bill for individual decisions. Before the pattern of sprawl can be slowed or reversed, the fundamental questions for which consensus must be found are these:

• Are the benefits of a spread-out pattern of development worth the cost ?

• Who should pay for the cost of sprawl; those making the decisions to move outward, or the public at-large? Should State programs continue to subsidize sprawl?

6. What you can do

In the end, this problem can't be solved by a few government or business leaders. A problem which has emerged from the choices and actions of thousands of individual Mainers, must find its solution at the same grass roots level.

The solution will come from new home buyers who decide that they're simply not going to drive that far anymore. It will come from business owners who decide to fix up historic stores on Main Street. It will come from the Planning Board members who have the courage to design ordinances which reward in-town living. It will come from the selectmen who invest in maintaining and upgrading their older roads, schools, and buildings.

Sprawl is a problem with important fiscal dimensions. But in the end the problem isn't just about money. It's about imagination — the ability to look around, to see what it is we value about Maine, to act in ways which enhance rather than detract from that value. It's a problem of vision.

And as we act in new ways, individual by individual, we will begin to create a new reality. A Maine that reaffirms our deepest values and beliefs, that preserves the open space and historic town centers that are our heritage and our children's birthright, and that keeps this place special — "as crisp as an apple on a fine fall day."

We don't have to become "Anywhere, USA." There's a better way.

MAINE

Fastest Growing Towns in Maine

	Housing % change 1970-1990	Population % change 1960-1990
Androscoggin County		
Durham	172.6	161.7
Greene	90.8	198.6
Leeds	88.1	106.8
Minot	100.7	113.3
Poland	80.6	182.5
Turner	86.9	128.3
Wales	81.8	150.6
Sabattus	115.5	183.9
Aroostook County		
Ludlow	173.8	56.9
Cumberland County		
Casco	79.0	218.7
Gorham	84.0	105.6
Naples	139.1	289.1
North Yarmouth	110.9	113.1
Standish	105.5	266.5
Windham	83.1	189.5
Yarmouth	92.5	123.5
Franklin County		
Coplin Plt	179.6	200.0
Dallas Plt	115.5	109.1
Rangeley Plt	82.9	164.1
Temple	123.2	78.3
Hancock County		
Hancock	79.1	118.0
Lamoine	92.8	170.9
Osborn	108.3	100.0
Trenton	94.2	182.7
Kennebec County		
Clinton	101.8	92.7
Fayette	149.4	160.7
Litchfield	82.9	162.1
Mount Vernon	85.5	128.5
Rome	108.6	106.5
Sidney	115.1	162.4
Wayne	81.1	106.6
West Gardiner	81.2	121.2
Windsor	124.3	115.8
Knox County		
Cushing	81.9	106.3
Lincoln County		
Somerville	107.9	80.3
Westport	111.9	398.5
Oxford County		
Brownfield	121.8	92.2
Denmark	82.7	127.4
Hartford	77.0	122.2
Otisfield	104.5	147.5
Oxford	93.0	123.5
Stow	125.3	162.0

	Housing % change 1970-1990	Population % change 1960-1990
Penobscot County		
Alton	155.7	154.5
Bradford	128.1	59.9
Corinth	113.9	91.3
Edinburg	95.7	463.2
Etna	96.9	101.0
Garland	125.5	87.3
Glenburn	116.7	231.4
Greenbush	124.3	131.7
Greenfield	365.0	167.0
Holden	83.4	114.7
Kenduskeag	110.2	111.3
Levant	151.5	112.7
Lowell	136.8	102.3
Maxfield	125.0	120.5
Milford	106.3	83.5
Newburgh	119.0	101.7
Plymouth	144.4	133.2
Stetson	96.9	101.7
Woodville	238.1	338.8
Piscataquis County		
n/a		
Sagadahoc County		
Arrowsic	129.4	181.4
Bowdoin	196.2	220.8
Topsham	95.6	129.1
Somerset County		
Brighton	137.5	51.6
Canaan	128.9	104.5
Palmyra	122.6	85.0
Waldo County		
Belmont	123.4	121.0
Frankfort	107.7	47.4
Jackson	103.7	88.6
Montville	82.4	139.6
Troy	104.5	71.0
Washington County		
Alexander	139.7	117.3
Beddington	139.8	207.1
Columbia	103.7	99.5
Deblois	84.0	180.8
Marshfield	108.6	72.7
Roque Bluffs	150.6	53.9
York County		
Alfred	107.7	86.3
Arundel	143.8	194.3
Buxton	136.4	177.6
Dayton	132.2	165.4
Hollis	121.2	199.0
Lebanon	107.1	177.9
Limington	98.9	233.3
Lyman	122.2	540.8
South Berwick	103.8	88.8
Waterboro	139.3	325.9

Criteria for Determining Sprawl Conditions

Prepared by H. Dominie, Inc., Readfield, Maine — revised December 6, 1995.

Factor	Rating	Thresholds	Rationale	Sources
Distance to Schools	Best	0-0.5 mile	School walking policies generally allow/require children in grades K-6 to walk if they live within 0.5 to 1 mile and grades 7-12 if they live within 0.75 to 1 mile. Beyond a mile, the closer development is concentrated, the easier and more cost effective it is to plan bus runs and to minimize commuting time for students. In SADs and Unions, encouraging development in clusters or near town centers is important to maximize numbers of children per stop. Walking areas need to be coupled with sidewalk/bikeway programs.	David Leavitt (778-4307), Bus Director SAD 9, current president of Maine Assoc. for Pupil Transport (see survey that David conducted of 30 Maine school systems). Also consulted: Jim Scott, Busing Director SAD 42, 685-3621; Bill Miller, DECR, 287-5903.
	Better	0.6-1 mile		
	Good	1.1-2 or 3 miles		
Distance to Fire Stations	Best	0-1.5 miles	ISO rating criteria give top marks for communities with engine companies withini 1.5 miles of all development and with ladder companies within 2.5 miles. Deputy Chief Brown said that responses are pretty good for homes within 2 to 3 road miles. Insurance rates rise substanitally for homes greater that 3 to 5 miles away, depending upon the company, or are not available at all for some over 5 miles (i.e. Allstate). Good building codes are needed as well as close proximity to delay flash-over times. Fire flow demand needs to be balanced with available fire flow capacity.	Deputy Fire Chief Brown, Portland, 874-8400; Fire Fighter Shawn Goodwin, Augusta, 626-2375; Don Curtis, Fire Portection Engineer for Acme Ins. Co., 884-8405; Kim Gilley, agent, Allstate, 626-0001; Nancy Taylor, agent, Dunlap, 622-7178.
	Better	1.6-2.5 miles		
	Good	3.1-5 miles		
Distance to Ambulance Transport Services	Best	0-1 road mile	For cardiac, elderly care, and other critical situations, rapid response is essential. If a call comes from within a mile's distance, transport ought to be able to get there in at least 5 minutes; within 3 miles --5 to 7 minutes; and within 5 miles -- 7 to 10 minutes for optimal response. Good building codes and site layouts are critical as well.	Drexell White, Licensing Agent, Maine Emergency Medical Services, 287-3953.
	Better	1.1-3 road miles		
	Good	3.1-5 road miles		
Distance to Town Centers (to expedite future transmission line planning)	Best	0-0.5 crow mile	Negative perceptions and property parcel fragmentation brought about by suburbanization have made transmission line siting more difficult. Compact development in rural towns can help leave enough open space to meet multiple needs.	Mary Smith, CMP Director of Environmental and Licensing, 621-4447.
	Better	0.6-1 crow mile		
	Good	1.1-2 crow miles		

Distance to Regional Centers (to expedite future transmission line planning)	Best Better Good	0-3 miles 3.1-5 miles 5.1-10 miles	Negative perceptions and property parcel fragmentation brought about by suburbanization have made transmission line siting more difficult. Compact development can help with siting, though it should go hand in hand with open space planning.	Mary Smith, CMP Director of Environmental and Licensing, 621-4447.
Distance to Distribution Substations (makes electrical distribution more efficient/reliable)	Best Better Good	0-1 miles 1.1-3 miles 3.1-5 miles	Electrical distribution becomes inneficient when circuit lines are beyond 5 miles from a distibution substation. If lines are extended beyond 10 miles, they pose a significant reliability problem and potential need for another substation, so perhaps negative points should be given when developments are located this far out.	Jim Meyer, CMP Director of Transmission Siting, 626-9600 ext. 2281; Art Ray, CMP Department of Distribution, 623-3521 ext. 2236.
Public Water Supply	Best	contiguous to the existing distribution system	Fees for public water service have risen substantially in many communities as districts and companies have complied with federal regulations. These fees can be reduced through increasing the number of consumers on the system, especially where existing distribution infrastructure already exists.	Dan Jellis, Gen'l Mgr, and Ron Foucher, Source Protect. Coord., Portland Water District, 774-5961; Jeff McNelly, Ex. Dir. of ME Water Util. Assoc. consulted but did not support the concept.
Distance to Town Centers (for transportation planning)	Best Better Good	0-0.25 mile 0.26-0.5 miles 0.51-1 mile	Transit plannners recommend a 1 mile radius for development in growth areas. People favor shorter walking distances (within 0.25 mile and a 5 minute walk). A half mile walk takes 10-15 minutes. People are more likely to bike with shorter distances as well, i.e. 1-2 miles.	Calthorpe Associates, *Transit Oriented Development Design Guidelines*, 1992; Margaret Van Der Brook MDOT; Bruce Hammond, NRCM.
Distance to Regional Centers (for transportation planning)	Best Better Good	0-1 mile 1.1-3 miles 3.1-5 miles	Higher densities closer to Maine's 36 regional economic centers will make bus services and bikeways more viable. Shorter commuting distances will also diminish auto emissions, a major contibutor to the Greenhouse Effect, and encourage higher bicycling participation. In 1980, Mainers commuted an average of about 10 miles in 14 minutes; in 1990 we averaged 13.5 miles in 19 minutes.	Calthorpe Associates, *Transit Oriented Development Design Guidelines*, 1992; Joyce Benson, SPO, 287-3261; Margaret Van Der Brook MDOT; Bruce Hammond, NRCM.
High Density within Close Proximity to Regional Centers	Best Better Good	4+ units/acre 2+ units/acre 1+ unit/acre	Studies show that costs for development decrease with decreasing distance from service centers. Greater savings, however, occur at higher densities. Encouraging compact development should go hand in hand with open space planning.	Market Decisions, *Options to Integrate Land Use Planning Into Transportation Policy*, 1992; American Farmland Trust, *Density-Related Public Costs*, 1986; Council on Environmental Quality, *The Costs of Sprawl*, 1974.

This report may be viewed on, or downloaded from, the Maine State Planning Office's Internet Homepage. Also available on the Homepage is a selected bibliography of publications and articles about the costs of sprawling development.

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