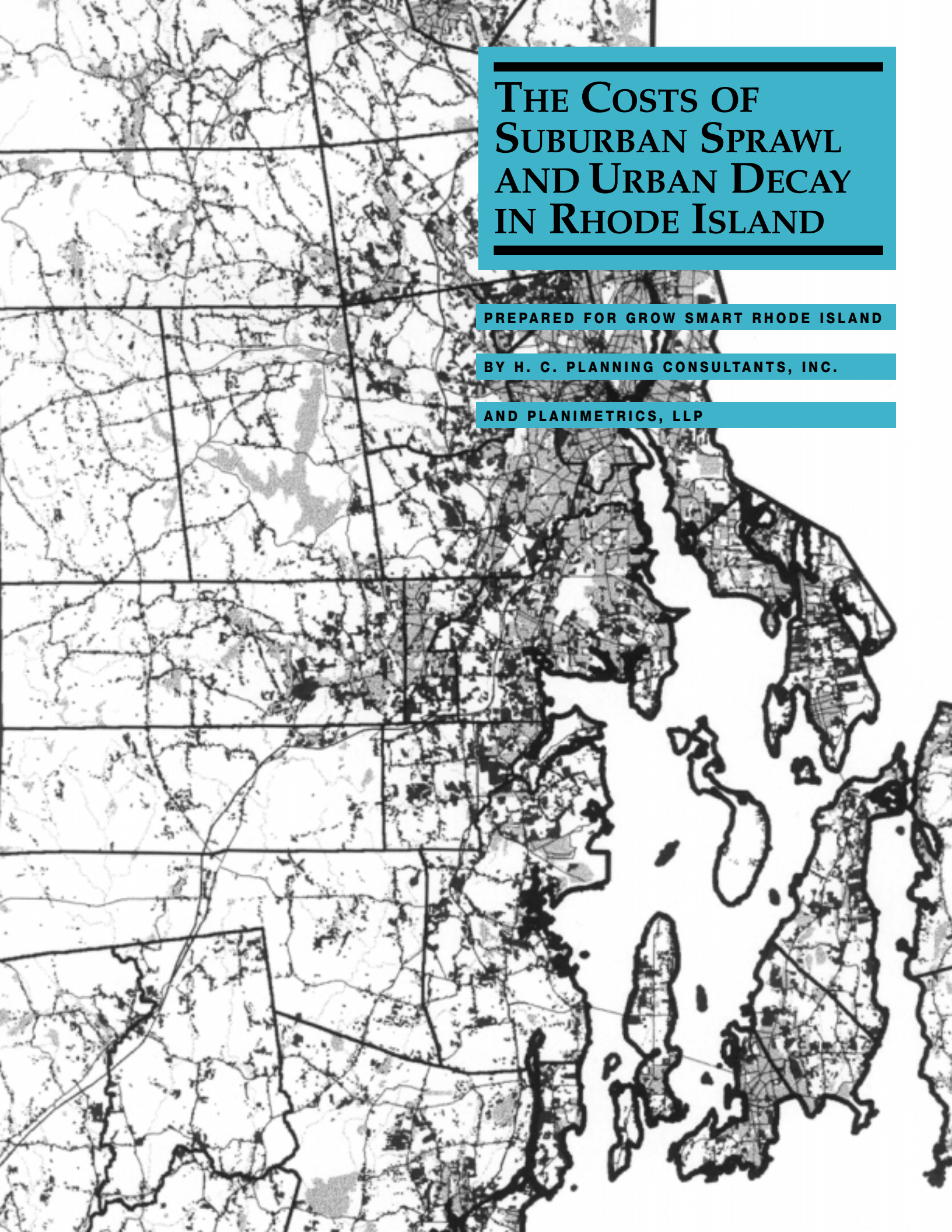

The Costs of Suburban Sprawl and Urban Decay in Rhode Island

PREPARED FOR GROW SMART RHODE ISLAND

BY H. C. PLANNING CONSULTANTS, INC.

AND PLANIMETRICS, LLP

GROW SMART RHODE ISLAND, BOARD OF DIRECTORS

THE COSTS OF SUBURBAN SPRAWL AND URBAN DECAY IN RHODE ISLAND EXECUTIVE SUMMARY

PREPARED FOR GROW SMART RHODE ISLAND

BY H. C. PLANNING CONSULTANTS, INC.

AND PLANIMETRICS, LLP

DECEMBER, 1999

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ABOUT THE REPORT

This publication contains the Executive Summary of *The Costs of Suburban Sprawl and Urban Decay in Rhode Island*. The comprehensive, 281-page report was prepared by H.C. Planning Consultants, Inc. of Orange, Connecticut and Planimetrics, LLP of Avon, Connecticut. HCPC's principal Hyung C. Chung, Ph.D., AICP, holds a Masters Degree in City Planning from Yale University and a Ph.D. in Planning from Columbia University. An urban economist and Professor of Economics and Planning at the University of Bridgeport for thirty years until his retirement in 1998, he has served as a consultant to the Connecticut Department of Education, the United Nations Center for Housing and Planning and numerous towns in Connecticut, Massachusetts and New York. Planimetrics Principal Bruce Hoben received his Masters Degree in Community Planning from the Georgia Institute of Technology. A Past President of the Connecticut Chapter, American Planning Association, he served as chief planner for the Connecticut towns of Avon and Farmington. Planimetrics Principal Glenn Chalder, AICP, received his Masters in Community Planning from Harvard University, and served as Town Planner in Avon, Connecticut.

The full report is organized in two parts. Part I establishes the conceptual foundation for measuring the costs of sprawl in Part II. After a brief introduction in Chapter 1, Chapter 2 introduces the *Circular Model of Sprawl*, emphasizing the inseparable link between the suburban sprawl and urban decay processes. In the same chapter, Rhode Island's 39 cities and towns are classified into four community types—urban core, urban ring, suburban, and rural/emerging suburban. In addition, a number of indicators for growth, suburbanization and sprawl are defined and used to monitor Rhode Island's growth trends over the last 40 years. Chapter 3 analyzes the growth trends for population, housing, employment, and motor vehicles, and Chapter 4 describes land consumption rates between 1960 and 1995 and projects future land consumption scenarios through 2020. Chapter 5 conducts case studies for three communities, each representing a major community type—urban ring, suburban, and rural/emerging suburban. Finally, in Chapter 6, five development patterns are introduced as alternatives to the current sprawl development trend. All five options assume that there will be no further population decline in urban communities over the next twenty years and that a 'balanced' growth pattern is desirable rather than lopsided growth that only occurs in the suburban and rural areas. Among the five alternatives, our consultants chose a Compact Core option as the optimal model of development because it exhibited the greatest potential to increase the efficient use of resources compared to sprawl development.

In Part II, our consultants measure the costs of sprawl. Chapter 7 projects and compares the gross costs of continued sprawl development with those of compact core development over the next twenty years (between 2000 and 2020). Chapter 8 addresses the issues of diminishing farmland, forestland, and other open spaces, and the disappearance of the state's 'rural character'. In Chapter 9, calculations are made for the net costs of sprawl for infrastructure (roads, school, and utilities). Chapter 10 focuses on the social and fiscal impacts of urban decay, particularly empty buildings, vacant lots, and low-income households all being concentrated in our core cities. Chapter 11 deals with the fiscal impact of sprawl on suburban and rural communities. Finally, Chapter 12 discusses the environmental impact of the rapidly increasing number of motor vehicles and mileage driven under sprawl development.

Our consultants differentiated two types of costs in analyzing the costs of sprawl: one-time costs and recurring costs. A capital cost is a one-time cost, but an operating cost such as municipal tax revenues and expenditures recurs annually. It is usually not the capital costs but the recurring costs that are much more expensive in the long run. Accordingly, an innovative formula called the "Equation of Cumulative Impact" was introduced. This equation has proven to be very convenient in calculating the long-term impact of recurring costs or benefits.

The Executive Summary contains table source citations which refer the reader to tables in the full report. Copies of the full report have been placed in the main branches of Rhode Island city and town libraries. To order a copy, contact Grow Smart Rhode Island at (401) 273-5711.

THE HIGH PRICE OF URBAN DECAY AND SUBURBAN SPRAWL IN RHODE ISLAND

The following report looks back 40 years to assess the costs of suburban sprawl and urban decay in Rhode Island and projects through 2020 the costs of continuing our current development pattern.

- **The report estimates that staying on our sprawl course over the next 20 years will cost Rhode Island taxpayers almost $1.5 billion, a figure close to our total annual state budget.**
- **Tax revenue losses in decaying urban centers account for more than half the projected sprawl costs.** Another 15% of the total costs come from tax revenue losses in non-urban areas. The cost of building and maintaining extra infrastructure—local roads, public schools, gas lines, electric utility lines, sanitary sewer lines, etc.—to accommodate sprawl accounts for an additional 30% of the $1.5 billion figure.
- **As large as the estimated costs of sprawl are, they probably understate the real costs of sprawl for several reasons.** First, methodological obstacles precluded quantifying extra environmental and public health costs that result from sprawl vs. more compact core development. Second, the cost estimates are based on low population growth projections of only 4.4%. If our economy accelerates beyond its traditionally sluggish rates, these projections will be eclipsed and the costs of sprawl will increase accordingly. Third, the report assumes no increased spending for state roads under a sprawl scenario, a debatable assumption given the close historic relationship between sprawl and additional road building.

In examining recent development patterns, the authors found particularly disturbing trends for cities.

- **In the last 10 years, 1988–1998, total property values in the core cities (Woonsocket, Central Falls, Pawtucket, Providence and Newport) declined by 24%, a decline of more than $3.3 billion. At the same time, their effective tax rates went up by 44%, three times the rate of increase in rural communities.**
- **As of 1995, there were nearly 11,000 vacant buildings and lots in our five core cities. According to our consultants, this represents an estimated $1.3 billion in lost property value for these cities.**
- **Between 1980–1997 Rhode Island's core cities had a net loss of nearly 5,000 private sector jobs while the rest of the state registered a net gain of approximately 48,000 private sector jobs.**
- **As of 1990 urban core communities had only 30% of the state's families but 61% of all RI families falling below the poverty line.**

While sprawl is particularly harmful to cities, it's not good for the rest of the state either.

- **Rhode Island developed more residential, commercial, and industrial land in the last 34 years than in its first 325 years.** Only 65,000 acres of residential, commercial, and industrial land was developed between 1636 and 1961, but 1-1/2 times that amount—96,000 acres—was developed between 1961 and 1995. In this 34 year-period, residential, commercial and industrial land increased at 9 times the rate of population growth.
- **Between 1964 and 1997 Rhode Island's farmland acreage was nearly cut in half, going from 103,801 acres to only 55,256 acres.**
- **Between 1988 and 1995 Rhode Island lost 11,500 acres of farm and forest land, an area almost the size of the whole city of Providence. The report projects that another 3,100 acres of farmland and 24,000 acres of forestland will be consumed in the next 20 years under the sprawl development scenario.**

A CALL FOR ACTION

This report's compelling findings present in stark detail the social, economic, and environmental consequences of Rhode Island's current inefficient use of land and infrastructure. They document the accelerating consumption of open space in our outlying areas and the steady drain of jobs, people and tax revenues from our urban centers. The report is not, however, a call to stop growth. Rather, it is an urgent call for action to institute the policies and practices that will enable Rhode Island to promote growth in the areas where it can best benefit our citizens.

These changes in policies and practices are critical: If we do not change our current pattern of development, then we will limit our ability to grow long term.

We in Rhode Island are fortunate to still have a window of opportunity. A significant amount of our land remains undeveloped, and we can work together to ensure that a good portion of that land will stay forever green. At the same time, our urban residential neighborhoods and downtown streets have not yet lost the historic buildings and infrastructure which offer such potential for residential and commercial use.

There are already promising efforts under way in our cities, suburbs, and rural areas to combat the problems of urban decay and sprawl. On the urban front there are widely acclaimed revitalization efforts in Woonsocket's Main Street and its Fairmount neighborhood. In Central Falls, an exciting multi-use project is slated for the Blackstone River waterfront. Pawtucket is launching a new tourism center and moving forward with a strong historic preservation initiative. In Providence we have a nationally recognized downtown revival along with neighborhood initiatives for affordable housing and community reinvestment and bold new plans to redevelop the Providence Port area. And in Newport a major harbor front renewal plan is gathering momentum as the city continues its growth as an international tourist center.

On the land preservation front, twenty-six Rhode Island communities now have land trusts, underscoring our commitment to preserving farms, forests and open space. Regional planning and economic development initiatives offer additional positive signs. On Aquidneck Island and in South County, local officials, community leaders and concerned citizens are working across town boundaries to address common problems through regional cooperation and planning.

These efforts cannot be fully successful, however, unless we address two underlying factors that currently undermine our ability to shape our future. The first is Rhode Island's over reliance on local property taxes to fund education. Our dependence on property taxes puts unfair burdens on our older cities because they have low property values and numerous tax exempt properties. It also pits community against community in the competition to attract new businesses, leads towns to accept business demands for inappropriate siting of new facilities, and—in perhaps the greatest irony for a state that needs population growth to help fuel economic growth—means that families with children are no longer welcome additions in many Rhode Island communities. The second underlying problem is the absence of a coordinated, integrated and clearly articulated statewide approach for planning major land use and conservation initiatives and directing economic development to the areas that will best benefit the state.

There are a number of broad directions for public policy indicated by our report's findings.

■ Let's commit as a state to actively promote reuse of the vacant lots and empty buildings in Rhode Island's urban centers and to turn tax losses into tax revenues. To do so, we need to beef up our existing incentives and assistance for Brownfields redevelopment and streamline building rehab codes to promote more reuse of existing homes and buildings. We also need to encourage rehabilitation of the many historic homes in our cities and towns through expansion of the state historic preservation tax credit.

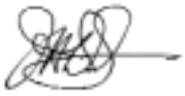
■ Let's ensure that a good portion of Rhode Island's prime agricultural lands will continue to be actively farmed and that Rhode Island will preserve a significant percentage of forests and open spaces to protect our water supply, preserve our state's scenic beauty, and provide recreation for our citizens and habitat for wildlife. To do so, we must commit the state, local and private funds necessary to protect open space in perpetuity and to fund specific farmland preservation efforts. We must also ensure that our towns have the planning expertise and resources to conserve open space through creative development practices.

■ Let's ensure that a range of safe and affordable housing choices accommodating the varied needs of all Rhode Islanders is available in all communities. To do so, we need to provide state funding for affordable housing and to address the danger posed by lead paint in older properties.

■ Let's plan for a future in which additional growth does not make greater traffic congestion inevitable and in which all Rhode Islanders are ensured access to jobs and community services. To do so, we need a more extensive and efficient mass transit system.

We Rhode Islanders are creative, resilient and public-spirited. When we recognized the plight of children without adequate health care, we developed a RITE CARE health program that is a national model. When state and city officials came together to move rivers in downtown Providence, we transformed an eyesore into a national urban showpiece. In the last decade, business and labor in Rhode Island have put aside longstanding differences to implement major reforms in our workers compensation system and successful incentives for targeted economic growth in such sectors as financial services and insurance.

Now we can use our limited window of opportunity and fashion a new, enlightened approach to growth, one that strengthens our cities, protects our special places and expands economic opportunity. Grow Smart welcomes the opportunity to respond to this challenge, and to work with Rhode Islanders from all walks of life to ensure that we can shape our state's future by choice rather than chance.



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Grow Smart Rhode Island

Scott Wolf
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AUTHORS' ACKNOWLEDGEMENTS

The first draft was ready within five months of the study's initiation in January of 1999, but it took the remainder of 1999 to refine the report. The nine members of the Grow Smart Rhode Island Task Force, who are listed below, spent many hours reviewing the report and provided many constructive comments. They also assisted us in obtaining hard-to-get data and shared their intimate knowledge of their communities. Three individuals were particularly helpful. Peter Marino, who served as Chairman of the Task Force for this study, is also the Director of Policy for the Rhode Island Public Expenditure Council, and he shared his expertise in public finance and RIPEC's research resources. Scott Wolf, Executive Director GSRI, has been a de facto editor in chief and assembled, organized and forwarded the review comments from task members and many others who volunteered to review the draft reports. This made the researchers' job immensely easier in completing the report. Sheila Brush, GSRI's Program Director, deserves our appreciation. She provided a great deal of guidance in familiarizing us with Rhode Island at the inception of the study, continuing to help us up through the completion of this study. Finally, we would like to acknowledge Professor Howard Foster, Department of Community Planning, University of Rhode Island who read our first draft report.

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United States Department of Agriculture
Lastly, several staff members of HCPC and Planimetrics who assisted the researchers with data collection, data entry, mapping, word processing, and editing deserve acknowledgment.

INTRODUCTION

This executive summary presents highlights of a comprehensive study that was prepared for Grow Smart Rhode Island. Grow Smart Rhode Island is a not-for-profit organization representing a statewide coalition of public and private-sector individuals and organizations who share a common concern about the current pattern of development in Rhode Island. The coalition's purpose is to educate Rhode Island's citizens and leaders about patterns of development that can accommodate economic growth while at the same time conserving natural resources, preserving the traditional character of our communities, and ensuring that all Rhode Islanders have equitable access to affordable housing, jobs and community services.

The purpose of this study was to estimate the potential costs of suburban sprawl and urban decay in the state. The summary of our findings is presented in two parts. Part I analyzes past growth trends in Rhode Island and growth projections over the next two decades (2000–2020). Part II presents the estimated costs of sprawl.

Sprawl Defined

The term "suburban sprawl" refers to a low-density, large-lot, and scattered pattern of development that, in this study, is characterized as "an inefficient development pattern." Sprawl describes land development trends and patterns which are wasteful because they tend to consume an unnecessarily large amount of natural resources, require redundant capital investments (public facilities and infrastructures), and waste considerable human resources by making people commute unnecessarily long distances. Sprawl is also wasteful because it causes the underutilization of sizable investments already made in urban areas.

The report contends that sprawl is not only wasteful, but that it also limits individual choices and encourages a segregated society that in turn creates social and economic chasms between urban and suburban communities.

Suburban sprawl, which has been taking place in Rhode Island for the past 50 years, can be explained by a *Circular Model of Sprawl,* which is depicted graphically on page 2. The model consists of two submodels, a suburban sprawl model (Fig. 1A) and an urban decay model (Fig. 1B).

Suburban Sprawl Model: Lured by cheaper outlying land, lower property taxes, ample open spaces, new public facilities and schools and also encouraged by governmental subsidies for home ownership and highway construction, an increasing number of families with children have settled in inner and outer suburban areas. The growing number of families moving into these areas has placed increased burdens on municipal services, public facilities, infrastructure, and schools. The result of such trends is higher municipal expenditures and a need for increased tax revenues.

In the hope of holding down tax rates, suburban and rural towns often seek to expand their tax base by bringing more industries and businesses into their towns. However, additional commercial and industrial employment attract even more residents. The suburban growth cycle is now complete and ready to repeat itself. Some residents may find their towns are getting too "crowded" and are ready to move to more rural areas.

Urban Decay Model: Between 1940 and 1990, while the state's overall population increased by more than 40%, Providence's population declined by more than a third (-36.6%), from 253,504 in 1940 to 160,728 in 1990, one of the steepest mid century rates of population loss among American cities. As the suburban population grew, businesses and industries began to locate their offices, stores, and plants in the suburbs, which aggravated the existing urban decay.

This depopulation of the cities deprived them of their ability to rejuvenate themselves by redeveloping old properties and facilities through the market. Thus, urban centers have been left with many aging and deteriorating properties, facilities and infrastructures. As a result, some properties have been abandoned by their owners with city taxes left unpaid. This has produced a decline in these cities' property values and tax revenues.

Figure 1A, Suburban Sprawl

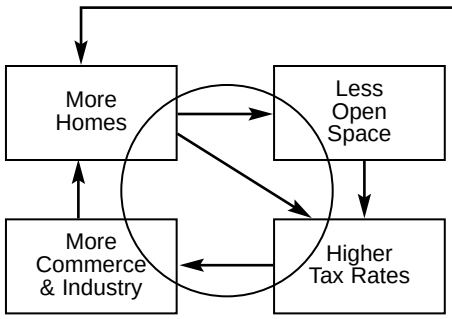
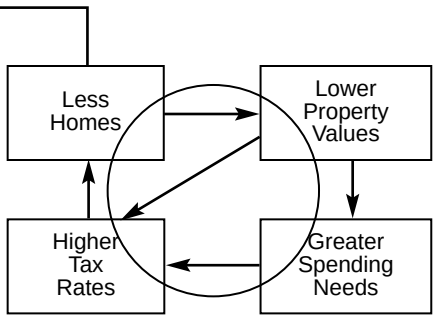


Figure 1B, Urban Decay



While the urban tax base has declined, the need for public services and investments in many cities has multiplied. Since the non-poor are those most likely to leave the cities, urban areas are left with a disproportionate concentration of low income groups. This relatively high concentration of low-income groups obliges cities and the state to expand their services to the needy. Because many private properties in cities cannot attract private investments for redevelopment, cities are increasingly called upon to make public investments through city-sponsored urban renewal programs that offer subsidies to entice private investments.

This increased demand for government intervention comes only after property values and property tax revenues have already dwindled. Thus, numerous cities are forced to increase their taxes. This pattern is evident in Rhode Island where a recent (1998) Rhode Island Public Expenditure Council report shows that the average effective tax or mil rate in the state's 10 urban communities was 30.70 ($30.70 per $1,000 equalized property valuations) compared to 18.15 for the 29 non-urban communities. In other words, the owner of a $100,000 home must pay an average property tax of $3,070 in urban areas but only $1,815 in non-urban areas.

Many remaining city residents who own homes meanwhile find that they must pay higher taxes and yet live with a decaying urban environment. Thus, the decaying cities *push* the non-poor out as much as the suburbs *pull* them in. The full cycle of suburban sprawl is complete, and another new cycle begins. The predicament of urban decay sends more people to the suburbs, which exacerbates the sprawl process already occurring there. In this circular process, it does not matter whether the suburban sprawl or the urban decay came first: once the process has been set in motion, it keeps going.

Classification of Rhode Island Communities

In order to analyze the impacts of suburban sprawl and urban decay in Rhode Island, we have classified the state's 39 municipalities into four groups: Urban Core, Urban Ring, Suburban, and Rural/Emerging Suburban. For the sake of brevity, we will refer to those groups as Core, Ring, Suburban, and Rural. Figure 2 on page 3 shows the classifications.

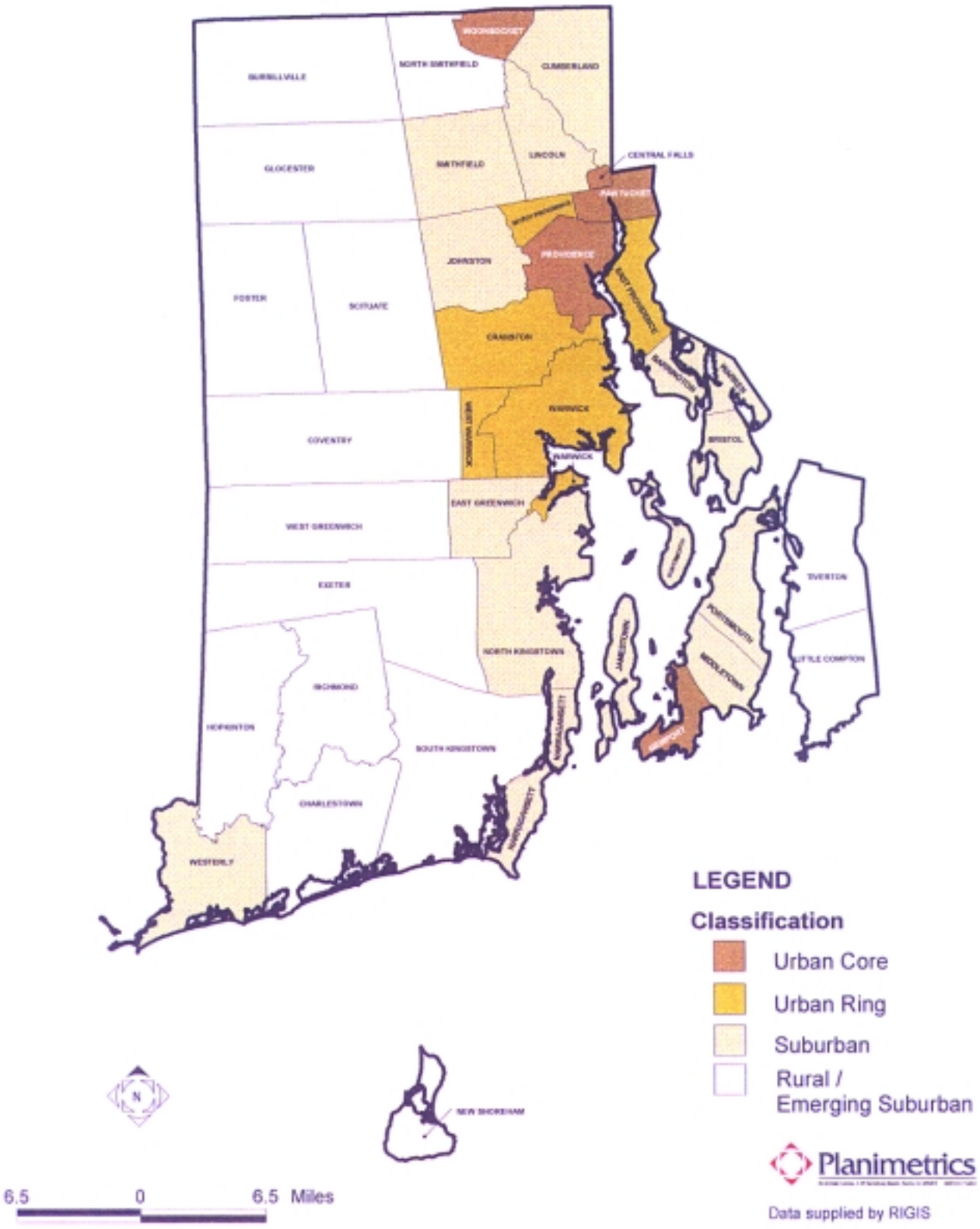
Urban Core, ***characterized by high gross population density and population decline:***
Central Falls, Newport, Pawtucket, Providence, Woonsocket (5 communities)

Urban Ring, ***characterized by medium gross density and very slow or no growth:***
Cranston, East Providence, North Providence, Warwick, West Warwick (5 communities)

Suburban, ***characterized by low gross density and slow growth:***
Barrington, Bristol, Cumberland, East Greenwich, Jamestown, Johnston, Lincoln, Middletown, Narragansett, North Kingstown, Portsmouth, Smithfield, Warren, Westerly (14 communities)

Rural/Emerging Suburban, ***characterized by very low gross density and rapid growth:***
Burrillville, Charlestown, Coventry, Exeter, Foster, Glocester, Hopkinton, Little Compton, New Shoreham, North Smithfield, Richmond, Scituate, South Kingstown, Tiverton, West Greenwich (15 communities)

Figure 2
Classification of Cities and Towns in Rhode Island



PART I

Rhode Island Growth Trends

Rhode Island is the smallest state in the Union, encompassing 1,214 square miles and inhabited by approximately a million people as of 1998. The whole state may be considered as a metropolitan area, most of which can be reached within an hour of driving from its capital, the City of Providence (population, 151,000). Rhode Island's population density is the second highest in the nation after New Jersey's.

Between 1980 and 1997, the total population of Rhode Island grew by 4.2% compared with an overall growth in the United States of 18.2%. During the same period, the number of jobs in Rhode Island also increased slowly. The private nonfarm establishment employment in Rhode Island rose by only 13% compared to 36% in the United States. However, Rhode Island's estimated numbers of housing units and motor vehicles have grown at much faster rates than its population and employment, rising by 17% in the past two decades. The relatively faster growth of housing and motor vehicles underscores the rapid suburbanization in the state.

Table 1
Growth of Total Population, Jobs, Housing and Motor Vehicles, Rhode Island, 1980, 1997, 2000, and 2020

(in thousands)

	1980	1997	2000 Proj.	2020 Proj.	1980–1997 (%)	1980–2000 Proj. (%)	1980–2020 Proj. (%)
Pop.	947	987	1,012	1,057	4.2%	6.9%	4.4%
Jobs*	328	371	—	—	13.1%	—	—
Housing	373	430	437	462	15.3%	17.2%	5.7%
Motor V.	623	710	725	831	14.0%	16.4%	14.6%

Source: Tables 3.3, 3.6, 3.8, 3.9 and 3.10.
* Covered private establishmentemployment. — = not available.

According to the population projections prepared by the Rhode Island Statewide Planning Program, Rhode Island's total population is expected to grow over the next twenty years at an even slower rate than it has in the past two decades. However, in spite of the continued slow growth in the population, the numbers of housing units and motor vehicles are still expected to continue increasing fairly rapidly.

Housing Location Trends

Table 2 shows the past and expected future growth in the number of housing units by community type. Note that roughly 64,000 new dwellings are projected for Rhode Island between 1980 and 2000, but only 30% of these housing units are forecast for urban (core and ring) areas while the remaining 70% are projected for non-urban (suburban and rural) areas.

The projected change in housing units over the next two decades is even more skewed away from the urban core areas. Rhode Island is forecast to register a ***net gain*** of 25,000 housing units between 2000 and 2020. However, the net gain includes a ***loss*** of 9,000 in the five core cities and a gain of 34,000 units in the ring, suburban and rural areas. In other words, non-urban areas are projected to gain housing units in the next twenty years equivalent to 130% of the statewide net gain in housing units.

Table 2
Projected Growth and Distribution of Housing Units by Community Type, Rhode Island, 1980, 2000, and 2020

(in thousands)

	Housing Units Added 1980–00		Units to be Added 2000–2020		20–Year Growth Rate	
	Number	%	Number	%	1980–00	2000–20
Core	3,200	5%	–9,000	–36%	2.3	–6.5%
Ring	16,300	25%	1,700	7%	16.2	1.4%
Suburban	25,300	40%	15,700	63%	29.0	13.9%
Rural	19,200	30%	16,600	66%	38.7	24.2%
State	64,000	100%	25,000	100%	17.1	5.7%

Source: Appendix Table 3.3

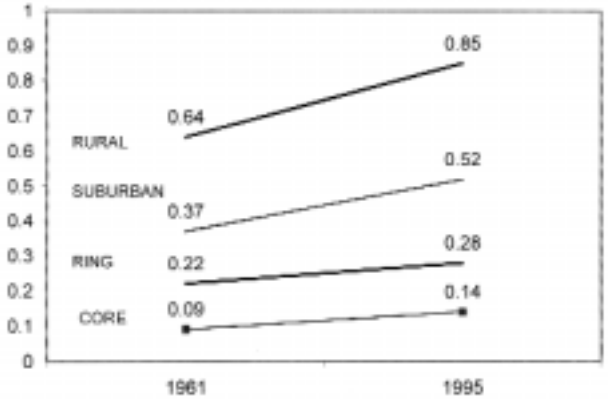
In sum, of 34,000 new housing units, all but 1,700 will be built in suburban towns (15,700 units) and rural towns (16,600 units). Clearly, this trend will be a threat to the conservation of natural resources in suburban and rural areas and will aggravate existing urban decay.

Land Consumption Trends

Although Rhode Island has experienced very slow population growth rates over the last forty years, development in its suburban and rural areas has still consumed a considerable amount of land.

As shown in Figure 3 on the following page, between 1961 and 1995 land consumption in terms of average acres per housing unit increased considerably for all areas, but especially in rural and suburban towns.

Figure 3
Land Consumption Trends in Rhode Island, 1961–1995
(Acres per Housing Unit)



Furthermore, while Rhode Island's total population increased by only 16% during this thirty-four year period, the state's land consumption for residential, commercial and industrial uses increased by 147%, nine times faster than the population growth rate. Even more striking is that between 1961 and 1995, Rhode Island developed far more land (96,000 acres) for residential, commercial and industrial purpose than in the previous 325 years of the state's existence (65,000 acres).

Table 3
Developed Land* by Community Type
Rhode Island, 1961, 1995, and 2020

	Total Land (Acres)	Developed Land* (Acres)			1961-1995 Change	
	1995	1961	1995	2020	Amount	%
Core	28,757	12,108	18,612	18,654	6,504	54%
Ring	59,315	14,358	31,941	33,086	17,583	122%
Suburb	176,509	20,996	56,421	67,422	35,425	169%
Rural	425,476	17,997	54,951	73,129	36,954	205%
State	690,057	65,459	161,925	192,290	96,466	147%

Source: Tables 4.4, 4.6, and 4.17.
* Includes only residential,commercial, and industrial uses.

The land consumption rate was particularly high in non-urban areas: the amount of developed land increased by 205% in rural towns and 169% in suburban towns. Even in urban areas, the total land consumption increased by 122% in ring areas and 54% in core cities.

Figure 4, on page 6, compares the location and extent of developed land in 1995 with that projected for 2020.

PART II

Cost of Sprawl Defined

The (net) cost of sprawl is calculated to be the difference between the gross costs of sprawl and the gross costs of the best alternative to sprawl. In our study, we hypothesized that compact core development would be the best alternative to sprawl. Compact core development is a development scenario in which projected future growth is redirected among the four community types (core, ring, suburban, and rural). It is assumed that there will be no further population decline in urban areas over the next two decades, while there will be a considerable reduction in the growth rate of non-urban areas, as shown in Table 4. Thus, the cost of sprawl is:

Gross Costs of Sprawl
– Gross Costs of Compact Core Development
Net Costs of Sprawl

It must be noted that (net) costs of sprawl may be alternately called (net) benefits of compact core development.

Table 4
Number of Housing Units to Be Added under Sprawl and Compact Core Scenarios between 2000 and 2020

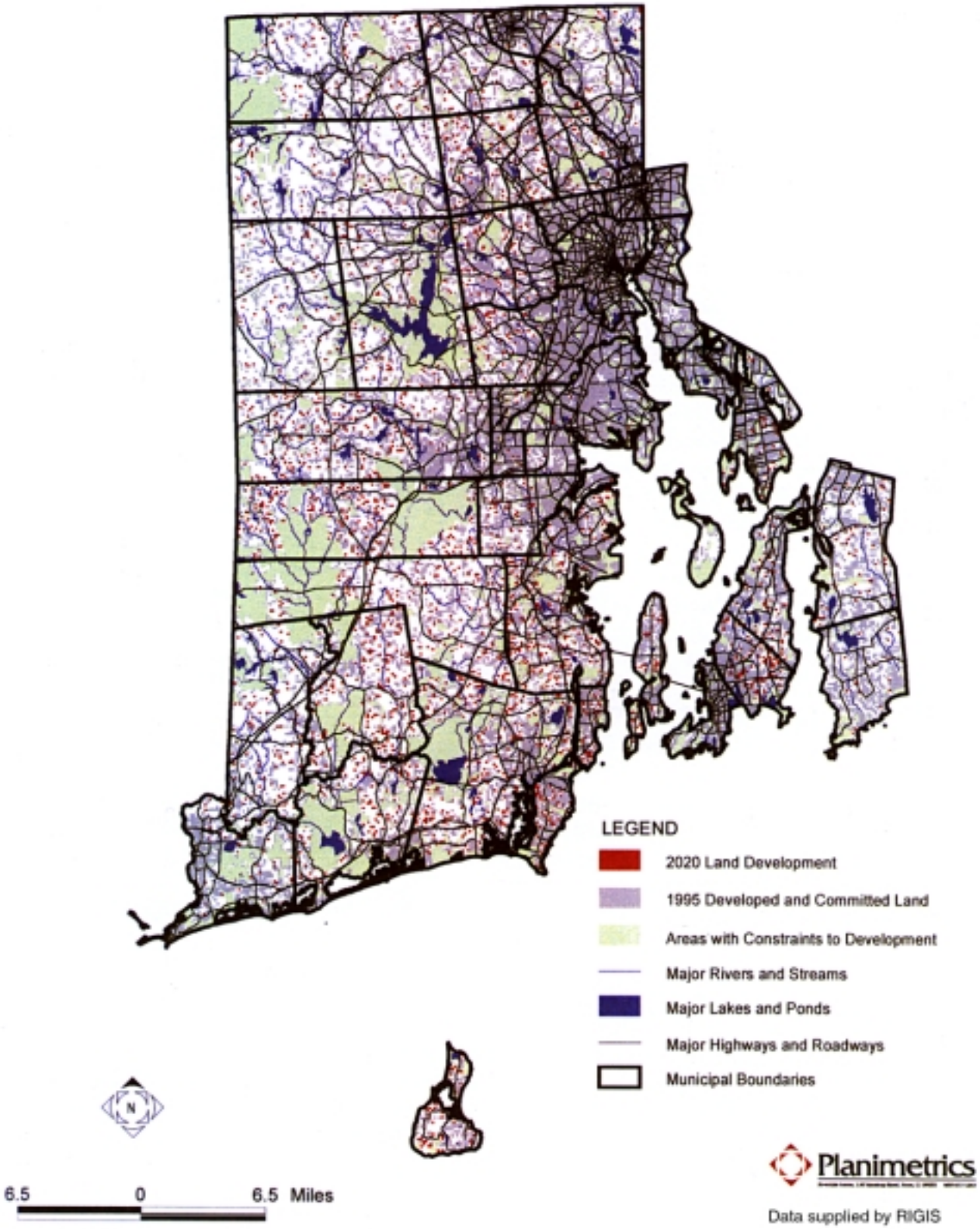
	Sprawl Trend		Compact Core	
	H. U.	Percent	H. U.	Percent
Urban Core	–9,000	–36%	5,000	20%
Urban Ring	1,700	7%	3,750	15%
Suburban	15,700	63%	6,250	25%
Rural/ES	16,600	66%	10,000	40%
State Total	25,000	100%	25,000	100%

Source: Table 6.4

Loss of Farms and Forestland

Scattered large-lot residential development consumes a large amount of land including farms and forests. Between 1964 and 1997, the United States Department of Agriculture estimates that Rhode Island's farmland was roughly halved, from 103,801 acres in 1964 to 55,256 acres in 1997. More recently, during the seven-year period between 1988 and 1995, Rhode Island lost approximately 11,500 acres of farm and forest lands (1,500 acres of farmland and another 10,000 acres of forestland). Put another way,

Figure 4
2020, Developed Land



in seven years Rhode Island developed farm and forestland that was almost equal to the total land area of the City of Providence (12,029 acres.) This loss of land has been taking place in spite of the relatively slow population growth documented in this study. If the actual future population growth exceeds modest current projections, the land resources may be consumed all the sooner.

Future Loss of Farm and Forestland: How much more farm and forestlands Rhode Island will lose in the future will depend on the pattern of development the state follows. If the current sprawl trends continue, as much as 3,100 acres of additional farmland and 24,000 acres of forestland will most likely be consumed by 2020. However, the acreage of farmland consumption under the compact core development pattern is estimated at 1,600 acres, approximately one-half of that resulting from the sprawl development pattern. Thus, the compact core development model could preserve as much as 1,500 acres of farmland. Similarly, 14,000 acres of forestland would be developed under the compact core scenario, resulting in a savings of 10,000 acres of these important natural resources.

Economic Value of Farmland: Farming adds to the rural character of a town, but it is also a business. This report estimates that an additional 1,500 acres of farmland will be lost under the sprawl development scenario versus the compact core development model. The economic value of the agricultural products that would be produced on those 1,500 acres is estimated at $13.6 million.

Loss of Rural Character: Many suburban and rural residents value the rural character of their towns. For example, West Greenwich's Comprehensive Town Plan states that its first development goal is to: "Promote preservation of the Town's rural character…". (*Town of West Greenwich Comprehensive Plan*, p. VI-30.) Unfortunately, at the rate that land consumption is occurring in suburban and rural towns, many towns are going to lose their rural character. The projected population growth indicates that three more rural towns will become suburban towns over the next two decades. This means that in the year 2020, there will be only 12 rural towns left, and at the current rate of development, all of these 12 rural towns will become suburban towns over the next 80 years (12 rural towns converted at the rate of 3 towns every two decades). In short, by the year 2100, the entire state of Rhode Island may not have any rural towns at all.

Infrastructure Costs

Capital costs of infrastructure such as roads, sewer systems, and schools are more expensive in a sprawl pattern than in a compact development pattern.

Local Roads: Rhode Island Department of Transportation (RIDOT) data shows that as of 1995 rural towns had on average 16.5 miles of local roads per 1,000 housing units, or almost three times as many as urban core communities (6.1 miles per 1,000 housing units). At this rate, under sprawl development, over the next two decades 228 miles of local roads could be constructed at the cost of $182 million vs. 130 miles at a price of $104 million under the compact core development scenario. ***In short, if Rhode Island develops in a compact development pattern, $78 million or 43% of projected local road construction costs could be saved during the next twenty years.***

State Roads: RIDOT officials believe that there will be little need to expand the existing state highway system in the near future. However, with sprawl, more travel mileage by drivers will necessitate more frequent repairs, resurfacing, and rebuilding of the existing systems.

School Facility Expansion Costs: This study projects that the K–12 public school students in the state will increase by 8,900 students in two decades, or on average 445 students per year. As shown in Table 5, although the statewide increase is projected to be 8,900 students, this figure masks the projected gain of 11,800 students in non-urban towns (5,200 students in suburban towns and 6,600 students in rural towns) because the core cities are projected to lose 3,400 students while ring areas will gain only 500 students under the sprawl (trend) scenario.

In contrast, under the compact core scenario, the core cities are also forecast to gain students (1,900 students), while enrollment growth in rural and suburban areas will be considerably reduced.

Table 5
Public School Enrollment Growth and Projected Costs of School Expansion, Rhode Island 2000–2020

	Sprawl		Compact Core		
	Enrollment Change 2000–20	Costs of School Additions ($MM)	Enrollment Change 2000–20	Costs of School Additions ($MM)	Net Costs of Sprawl ($MM)
Core	-3,400	-	1,900	$19	-$19
Ring	500	$5	1,100	$12	-$7
Suburban	5,200	$52	2,000	$21	+$31
Rural	6,600	$66	4,000	$40	+$26
State	8,900	$123	9,000	$92	+$31
		100%		74%	26%

Source: Table 9.9

The enrollment changes will be reflected in the capital costs of school expansion programs faced by various communities. Under sprawl development, core cities will be faced with excess school capacities while suburban and rural areas will have to add more school facilities. On the other hand, under a compact core development model, the enrollment growth should be more evenly spread among the four community groups leading to many fewer school expansion programs. ***As shown in Table 5, over the next two decades sprawl will cost an estimated $123 million as a result of school expansions compared to $92 million under the compact core scenario. In sum, the statewide savings from adopting a compact core development plan could be $31 million. The savings are particularly pronounced in suburban and rural communities: suburban towns could save $31 million and rural areas, $26 million. Meanwhile, urban core cities could incur an extra $19 million and urban ring communities could spend $7 million more for school expansion programs.***

Utility Lines Installation Costs: The lengths of 'composite' utility lines (sanitary sewers, water supply, storm drainage, natural gas pipeline systems, and electricity and telephone lines) were estimated at 308 miles under the sprawl development and 173 miles under the compact core development model. Thus, sprawl development would require 133 more miles of utility lines (43% more) than the compact core devlopment model. (These estimates factor in the impact of potential in-fill development and the percentage of new homes likely to have septic systems and/or wells.)

Table 6
Capital Costs of Composite Utility Lines Under Trend and Compact Core Development Scenarios Rhode Island, 2000–2020

	Sprawl		Compact Core		Costs of Sprawl $MM
	Length Miles	Costs $MM	Length Miles	Costs $MM	
Urban Core	0	$0	3	$4	-$4
Urban Ring	5	$7	11	$16	-$9
Suburban	117	$131	46	$52	$79
Rural	187	$168	112	$101	$67
State	309	$306	172	$173	$133

Source: Table 9.10

As shown in Table 6, the costs of composite utility lines under sprawl development are estimated at $306 million vs. $173 million under compact core development. Thus, the net costs of sprawl or the benefits of the compact core development option could be potentially $133 million, or 43% in savings.

Since utility-line installation costs are generally assumed by the utility companies, they will eventually be reflected in a higher utility rate structure for all customers.

Operating Costs of Infrastructure: Capital costs are one-time costs over the useful life of facilities; however, operating costs of these facilities are annually recurring costs whose cumulative sum over the next twenty years should prove considerable. It is estimated that Rhode Island could spend as much as $181 million more in operating infrastructure under the sprawl development than the core development model over the next twenty years.

- Local Roads …. ……. $14 million
- School Facility Management $19 million
- Pupil Transportation…….. $ 6 million
- Public Sewer System…….. $142 million

Total $181 million

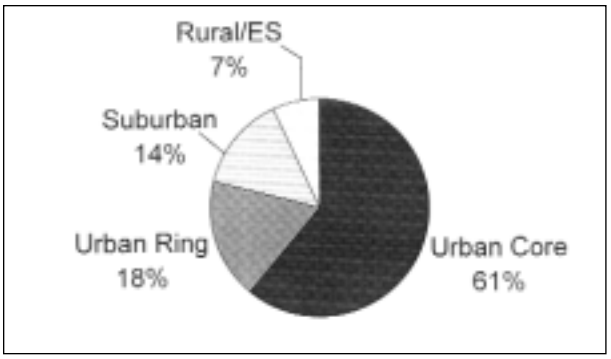
Source: Tables 9.13, 9.15, 9.17 and 9.18

Social Costs of Decaying Urban Centers

Poverty in the Core Cities: Decaying urban centers are an undesired effect of suburban sprawl. As the core cities experienced an exodus of mostly middle and upper income households, many low-income families moved into the core cities. The 1990 U.S. Census of Population data indicate that whereas the five core cities had 30% of the state's total

number of families, they had 61% of the families below the poverty level. (See Figure 5 below.)

Figure 5 Distribution of Families Below Poverty Level

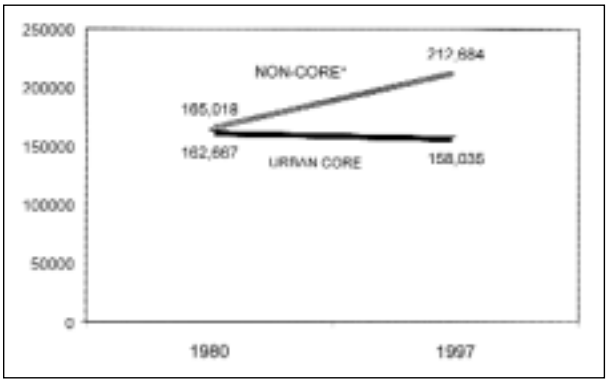


Similarly, the core cities had a high concentration of populations needing public aid**:**

- 69% of the state's total Family Independence Program (formerly known as AFDC) cases in 1997
- 64% of the state's total food stamp cases in 1995
- 71% of the state's total number of students eligible for free/reduced lunch in 1998

Loss of Jobs from Core Cities: The core cities not only lost many people to the suburbs, but they also lost jobs. Between 1980 and 1997, the five core cities lost 4,600 private covered jobs (-3%) while the non-core communities gained nearly 48,000 jobs as shown in Figure 7. ***Jobs are now less accessible to low-income families living in core cities.***

Figure 6
Covered Private Job Growth in Urban Core and Non–core Areas, Rhode Island, 1980–1997*



*Including urban ring, suburban and rural areas.

Social Stratification: The flight of the mostly non-poor to non-urban areas and the concentration of the poor in central cities has accentuated an urban-suburban contrast. Social stratification is clearly exhibited by geographical separation of society by income level, ethnicity and race. We list the following statistics that highlight the contrast between suburban communities and inner cities:

- 82% of all minority students in the state are concentrated in the five core cities, with only 10% in ring, 5% in suburban, and 3% in rural areas.
- Although minority students constituted only 27% of core cities' public school enrollment in 1981, by 1997, they represented nearly 60% of all public school students in core cities.

Over the next twenty years, the urban-suburban dichotomy is likely to become more pronounced if the current sprawl trend continues.

Economic Impacts on Decaying Urban Centers

While social changes in core cities have necessitated greater state and municipal expenditures to provide community services and assistance to needy families, the tax base (property value) of core cities has diminished because of a deteriorating physical environment.

Vacant Buildings and Lots: The continued exodus of people and businesses from the core cities produced a large stock of empty (often abandoned) buildings and vacant lots. As of 1999, 560 buildings were vacant in Providence alone. Vacant lots in Providence covered 934 acres of land in 1998, nearly 8% of the citywide acreage.

As of 1995, there were approximately 10,788 vacant lots in the five urban core communities, consisting of 8,723 residential vacant lots and 2,065 commercial/industrial vacant lots. ***These vacant lots represented an estimated loss of $1.3 billion worth of assessed valuations in the five core cities.***

If the current trends continue, core cities are projected to lose an additional 9,000 residential units and an unknown number of commercial/industrial establishments by 2020. Thus, under a sprawl pattern, it is certain that more vacant buildings and empty lots will materialize in core cities, which will in turn cause a further depreciation of inner city

property values. However, if the current trend is reversed and the core cities gain more households, core cities will not only stop the increase in vacant lots but will also be able to redevelop many of the vacant lots currently existing, thus converting non-tax producing lots into tax-paying properties. ***It is estimated that over the next twenty years compact core development will benefit core cities by reclaiming $400 million more in taxes, consisting of $183 million from residential redevelopment and $217 million from commercial/industrial development. (These figures represent the net tax revenue increase after calculating the costs of providing community services to an increased number of households.)***

Citywide Effects on Core City Property Values: The negative impacts on decaying cities are not confined to vacant buildings and lots. These impacts are citywide for two major reasons: (1) a decline in housing demand and an excess housing supply tend to reduce the property values throughout core cities; and (2) vacant buildings and lots scattered throughout cities negatively affect the property values of entire neighborhoods. (The value of a well-maintained building will decrease if the building next to it is a boarded-up building.)

As shown in Table 7, the full or equalized property value (in 1998 dollars) of Rhode Island declined by 1% between 1988 and 1998 while the statewide population declined by 0.4%. However, such statewide data mask the fact that ***urban core cities lost over $3.3 billion worth of property values, a decline of 24% in a decade. Similarly, urban ring communities lost $1.5 billion in property value, a decline of 10%. In contrast, suburban towns' property values increased by $1.9 billion or 12%, while rural areas experienced a gain of $2.1 billion in property values or 24%.*** These changes in property values paralleled very closely population changes in these communities.

It must be noted that the decrease in property valuations in urban areas was due largely to the depreciation of existing properties, while the increase in property values in non-urban areas was largely due to the addition of new homes. Here is another reason why purchasing a home in urban areas has often not been a good investment, and why some who could afford to leave cities have done so.

Table 7
Changes in Full (Equalized) Property Values
Rhode Island, 1988-1998

	Changes in Property Values 1988–1998		Changes in Population 1988–1998		% Change in Effective Tax Rate
	$Billion	Percent	Persons	Percent	Percent
Core	-$3.26	-24%	-21,800	-7%	+44%
Ring	-$1.46	-10%	-5,700	-2%	+31%
Suburban	+$1.93	+12%	+11,100	+4%	+19%
Rural	+$2.11	+24%	+12,700	+5%	+15%
State	-$0.68	-1%	-3,700	-0.4%	+24%

Source: Tables 10.17, 10.18 and 10.22

Increasing Tax Rates in Urban Areas: Since the value of the urban tax base has declined, central cities have had to increase tax rates in order to maintain tax revenues. Between 1988 and 1998, the effective tax rates of central cities increased nearly three times faster than those for the rural towns. Overall effective tax rate increases were 44% in core cities, 31% in ring communities, 19% in suburban towns, and 15% in rural towns (see last column of Table 7).

Core Cities' Tax Revenue Loss under Sprawl: Given that sprawl has been present for some time, what impacts do we project for core cities under the sprawl and compact core scenarios?

It is estimated that during the next two decades the five core cities will lose 22,200 persons and $3.3 billion in total property values if the current sprawl trends prevail. In contrast, core cities could add 9,000 persons and increase their property values by $1.3 billion under a compact core development scenario. In other words, ***if the compact core scenario is realized, the core cities' property values could have a net increase of nearly $4.7 billion, which consists of not losing more than $3.3 billion combined with a gain of more than $1.3 billion in extra property values resulting from the redirected population growth. The nearly $4.7 billion in extra net property values can be translated into cumulative tax revenues of $782 million over the next twenty years, or annual tax revenues of $39 million per year at the current effective tax rate.***

Fiscal Impact of Sprawl on Non-Urban Areas

In spite of increased tax bases, why have suburban and rural towns been experiencing tax rate hikes?

The answer lies in the circular model of suburban sprawl. According to past studies**,** four Rhode Island towns (Hopkinton, West Greenwich, Little Compton, and North Kingstown) spend on average $1.17 for every $1.00 collected from residential properties. In other words, residential development is a net tax burden to towns because expenditures to serve these residences exceed the town revenues resulting from residential development. Therefore, as more dwellings are built, a higher tax liability develops, producing tax rate hikes. (Southern New England Forest Consortium, Inc., *Cost of Community Services for selected New England towns;* Town of North Kingstown, *Cost of Community Services, Study;* and a study of Little Compton by Houston L. and D. Wichelns)

It was also found that commercial/industrial land as well as open spaces provide tax benefits to towns because towns spend only 43 cents per one-dollar of property tax revenue from commercial/industrial land uses, and 38 cents per one-dollar of revenue from open spaces. As more farms, forestlands and open spaces are consumed for residential development, net tax benefits turn into net tax liabilities.

In order to minimize the potential tax rate hikes due to residential development, many towns are actively seeking new commercial and industrial developments. However, ***the dilemma of sprawl is that more employment opportunities brought by commercial and industrial development attract more households into towns.*** Thus, the commercial/industrial development itself can set off another cycle of more homes, less open space, tax hikes, and more commercial/industrial developments.

Fiscal Impact of Various Land Uses: A comparison of the fiscal impact of various land uses under the sprawl and compact core scenarios is summarized in Table 8. Note that

- Under the compact development scenario, residential land uses produce $23.1 million less inmunicipal revenue shortfalls to suburban and rural communities than sprawl development does.
- The sprawl development model could produce $3.4 million more in tax benefits to the suburban and rural towns from commercial and industrial sources than would be generated by the compact development model, but not enough to offset the tax revenue shortfalls resulting from increased residential construction.
- Farms, forests and open space in suburban and rural communities generate net tax surpluses as long as they are not developed residentially. With compact development, less tax money ($0.48 million) will be lost from farm, forest, and open space land uses than under sprawl development.

Table 8
Municipal Revenue Surplus or Shortfall by Land Use under Sprawl and Compact Core Development
Rhode Island, 2020

Land Use	Revenue Surplus or Shortfall in the Year 2020		Difference in Tax Surplus or Shortfall $Million
	Trend (Sprawl) $Million	Compact Core $ Million	
Residential	-$47.1	-$23.9	-$23.1
Commercial/ Industrial	+$6.7	+$3.3	+$3.4
Farms, Forests & Open Spaces	-$1.1	-$0.6	-$0.5
Total	-$41.5	-$21.3	-$20.2

Source: Table 11.6

Suburban and rural towns are likely to experience revenue shortfalls under both the sprawl and compact scenarios. However, overall annual revenue deficits are projected to be greater under the sprawl scenario than under compact development. ***By 2020, the potential annual deficit of $41.5 million under a sprawl scenario could be as much as $20.2 million more than the deficit of $21.3 million under a compact scenario. The cumulative impact over the twenty years could be as much as $212 million, or, on average, $10.6 million per year.***

Transportation and Travel Costs

As sprawl development trends continue, more cars are purchased and more miles are driven. According to the Federal Highway Administration, as of 1997 Rhode Island had a total of 709,680 motor vehicles including 515,446 automobiles, 1,745 buses, and 192,489 trucks. There were also 17,741 motorcycles.

Growth of Motor Vehicles during the Past 20 Years: In the United States and Rhode Island, the number of motor vehicles is projected to have increased two and one-half times faster than the population growth during the last 20 years (1980–2000). While the population of the state as a whole is projected to have grown by only 6.8% between 1980 and 2000, both numbers of housing units and motor vehicles are projected to have increased by approximately 17%. The growth of motor vehicles in rural areas is particularly pronounced: while the population of the rural areas is projected to have increased by 23% between 1980 and 2000, the number of motor vehicles is projected to have increased by 48%. The projections show that this trend may continue over the next twenty years.

Growth of Motor Vehicles Over the Next 20 Years: Future land use development patterns (e.g., sprawl *vs*. the compact core option) will have considerable impacts on the growth of motor vehicles in Rhode Island.

As shown in Table 9, the current sprawl trend could lead to an addition of nearly 58,100 motor vehicles in twenty years. If the Compact Core plan is implemented, an estimated 47,500 new motor vehicles are projected. Thus, under the Compact Core plan, there could be 10,600 (18%) fewer new motor vehicles than there would be with sprawl. This is expected because under the Compact Core option, fewer people will live in the suburban and rural areas where car ownership per capita is greater than in the cities.

Table 9
Estimated Growth of Motor Vehicles under Trend (Sprawl) and Compact Core Development Scenarios
Rhode Island, 2000–2020

		Trend (Sprawl)		Compact Core	
	Number of Motor Veh. Per Dwelling	# of H.U. to be Added	# of M.V. to be Added	# of H.U. to be Added	# of M.V. to be Added
Urban Core	1.32	-9,000	-11,900	5,000	6,600
Urban Ring	1.87	1,700	3,200	3,750	7,000
Suburban	1.98	15,700	31,100	6,250	12,400
Rural	2.15	16,600	35,700	10,000	21,500
State Total	1.80	25,000	58,100	25,000	47,500

Source: Table 12.4

Vehicle Miles Traveled: Sprawl generates more total miles of vehicle travel per car than compact forms of development do. In the United States, the daily commute length increased by 36.5% between 1983 and 1995. Similarly, dependency on personal automobiles for travel has increased. 77% of travel was done by automobiles in 1970, but this percentage increased to 87% by 1990. In comparison, Rhode Islanders are using automobiles at an even higher level than the rest of the United States. In 1970, 82% of all travel in Rhode Island was done by automobile and in 1990, this figure had increased to 90%. Furthermore, 78% of work trips in Rhode Island were done in single-occupant automobiles. Single occupant commuting travel time had also increased from 18.3 minutes in 1970 to 19.6 minutes by 1990.

Table 10
Total Mileage Driven Per Year in the Year 2020 for Rhode Island under Trend (Sprawl) and Compact Core Development Scenarios with 25,000 New Housing Units

	Annual Vehicle Miles of Travel per Dwelling	Trend (Sprawl)		Compact Core	
		# of H.U. to be Added	Total Mileage Driven Per Year	# of H.U. to be Added	Total Mileage Driven Per Year
			Million Miles		Million Miles
Urban Core	12,936	-9,000	-117	5,000	65
Urban Ring	14,081	1,700	24	3,750	53
Suburban	15,290	15,700	240	6,250	96
Rural	18,710	16,600	311	10,000	187
State Total	*	25,000	458	25,000	400

Source: Table 12.9
* State total varies according to future development patterns.

Note that in Table 10, the annual mileage driven by all new households under sprawl development is estimated at 458 million miles in the 20th year (Year 2020) when all 34,000 units have been built, including a reduction of 9,000 units from the core cities. This number will be 400 million miles under the Compact Core scenario. ***In short, Rhode Islanders are projected to drive 13% (58 million miles) more under sprawl development than under a compact core development scenario in the year 2020 alone. Cumulatively, the additional mileage driven by 25,000 households over the next twenty years is calculated to be 609 million miles as a result of sprawl development.***

Negative Impact on Environment: The redundant growth of cars (10,600 motor vehicles) and additional cumulative mileage (609 million miles) to be driven over the next 20 years as a result of sprawl development suggest that a considerable quantity of pollutants is likely to be added to the Rhode Island environment if sprawl continues. We can surmise that the growing number of cars is likely to produce road congestion and impacts on the environment. It is generally believed that freeway congestion causes lower worker productivity, more accidents, wasted fuel, and increased auto maintenance. Increased automobile emissions result in acid rain, chronic health problems, and even forest damage. ***Since sprawl development is projected to generate 18% more motor vehicles and 13% more vehicle miles traveled than a compact core development scenario would, we may surmise that sprawl development produces roughly 13% to 18% more negative effects on our environment than the compact core development would.***

Costs of Sprawl Summarized

Rhode Island has incurred substantial costs from the sprawl development patterns of the past 50 years. However, the past costs are sunk costs and have no direct bearing on future investment decisions. Therefore, we have focused on projected future costs in this report. The highlights of the findings are:

Total Net Costs of Sprawl: Over the next twenty years (2000–2020), sprawl development will cost approximately $1.43 billion ($71.6 million per year) more than the Compact Core development option. The costs are summarized and compared in Table 11.

Less Property Tax Revenues: Most of these costs are potential property tax losses to Rhode Island communities. Estimates are that the five urban core communities in Rhode Island stand to lose $782 million in property tax revenues due to urban decay while the twenty-nine suburban and rural communities could lose $212 million in property taxes over the next twenty years if they do not redirect their growth into a compact core development pattern.

Table 11
Summary of Costs of Sprawl in Rhode Island
(Costs of adding 25,000 housing units in 20 years)
(In 1998 dollars)

Cost Items	Net Cost of Sprawl (20 Yrs.) $ Million	Net Cost of Sprawl per Year $ Million
A. Capital Cost of Infrastructure		
Local roads (Table 9.3)	78	3.9
Schools (Table 9.9)	32	1.6
Utilities (Table 9.10)	133	6.7
Subtotal	**$243**	**$12.2**
B. Operating Cost of Infrastructure		
Local roads (Table 9.13)	14	0.7
State roads (see p. 9-4)	*	*
School Facility Management (Table 9.15)	19	0.9
School Transportation (Table 9.17)	6	0.3
Utilities (Table 9.18)	142	7.1
Subtotal	**$181**	**$9.1**
C. Value of Agricultural Products Lost due to disappearing Farmlands (T.8.5)	$**14**	**$0.7**
D. Decaying Urban Centers: Tax Revenue Loss due to Depreciated Properties (Table 10.21)	$**782**	**$39.1**
E. Tax Revenue Loss due to Sprawl in Non-Urban Areas (Table 11.7)	$**212**	**$10.6**
F. Total Expenditure (A+B)**	424	21.2
G. Total Revenue Loss (C+D+E)***	1,008	50.4
H. Total Costs (F+G)	**$1,432**	**$71.6**

* Considered insignificant; ** Includes capital and operating costs of infrastructure. Minor part of these costs may be considered as private costs. For example, part of local roads may be constructed by private developers; *** Potential tax revenue losses from urban and non-urban areas.

More Expenditures for Redundant Infrastructure: While suburban sprawl could cost Rhode Island huge potential property tax losses, suburban sprawl and urban decay could also result in $243 million in additional capital expenditures to finance redundant school expansions, road construction, and utility installation, costs which should not be necessary if the state develops in a compact core pattern. Communities could also incur an additional $181 million in costs to operate this redundant infrastructure.

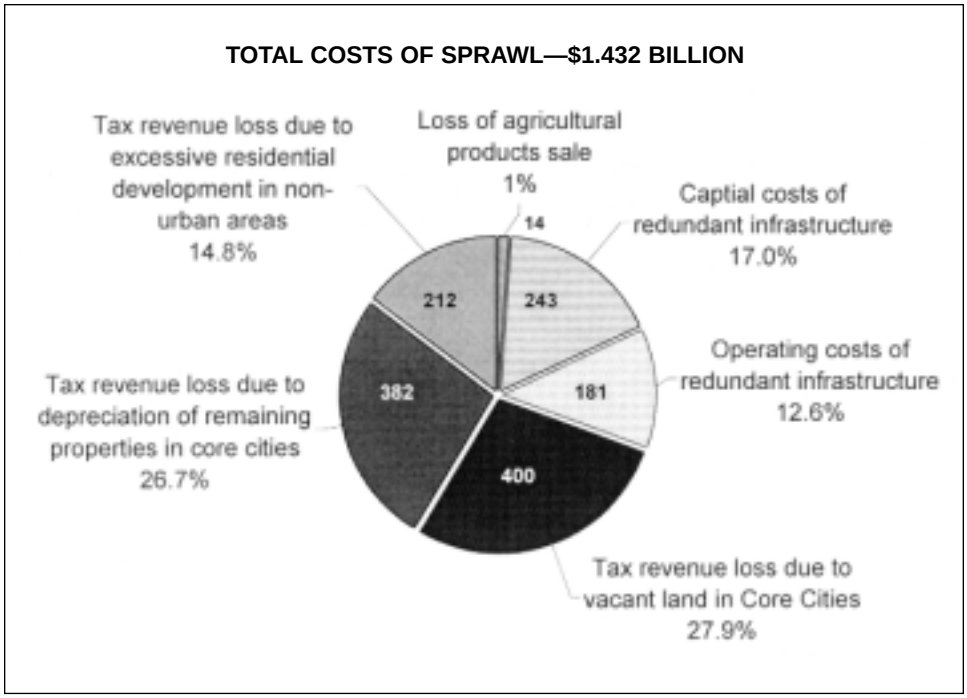
Higher Property Tax Rates: Between 1988 and 1998, effective tax rates increased by 44% in urban core, 31% in urban ring, 19% in suburban, and 15% in rural/emerging communities in Rhode Island. Under sprawl development, many communities are likely to experience significant losses in their property tax base and/or a rise in municipal property taxes.

Intangible Costs: Finally, the most important cost of sprawl is what we cannot easily measure in monetary terms: the loss of what we value a great deal such as natural resources, rural character, cultural heritage, environmental quality, and the freedom to choose from a wide variety of living environments.

It is important to note that costs were calculated assuming that 25,000 housing units will be added in Rhode Island over the next twenty years.

This assumption is consistent with the modest population growth projections prepared by the Rhode Island Statewide Planning Program. If the actual growth in the state turns out to be greater than the projections, the benefits and advantages of compact core development will be proportionately greater than those from sprawl and conversely, the net costs of sprawl will be far greater.

Figure 7 Projected Costs of Sprawl, Rhode Island, 2000–2020
In Millions of Dollars



MUNICIPAL CASE STUDIES

This study focuses mainly on the results of redirecting a significant portion of the future growth projected for Rhode Island's non-urban communities into the state's urban communities. Nevertheless, a significant amount of growth is still anticipated for suburban and rural communities. What approaches can urban ring, suburban and rural communities take within their own boundaries to accommodate growth while conserving natural resources and preserving traditional community character?

To begin to answer this question, three municipalities—Cranston, an urban ring community, Smithfield, a suburban community, and South Kingstown, a rural/emerging suburban community —were chosen to serve as case studies. These communities were chosen because they are at differing stages of their development and still have substantial areas of vacant land.

The strategies illustrated in each of the case studies are as follows:

Cranston—Accommodate a significant portion of projected growth by directing growth to existing higher density areas in Eastern Cranston that are under-utilized or are in need of re-development and by creating a new higher density node (section) in Western Cranston.

Smithfield—Expand and re-establish historic village areas to accommodate a significant portion of projected growth.

South Kingstown—Expand existing multi-use, higher density areas so that they can accommodate a significant portion of projected growth while ensuring that their village character is preserved and land conservation efforts are accelerated.

The development patterns resulting from these "smart growth" strategies were mapped for each of the communities, as were the patterns that are currently being followed. When the two alternative development patterns were compared in each town, significant differences were noted as follows:

Cranston

- Both scenarios accommodate Cranston's build-out population of 84,282 people. The smart growth scenario uses substantially less land area to do so.
- Growth concentrated in higher density nodes creates opportunities to preserve areas for open space. Growth directed to urbanized areas of the city provides opportunities for revitalization.
- RIGIS data indicated that portions of undeveloped land were critical habitats in 1995. A significant portion of this land could be compromised under the trend (sprawl) build out scenario. Conversely, a significant amount of this land could be preserved using an alternate smart growth strategy

Smithfield

- Both scenarios accommodate the build-out population of 30,140. The smart growth scenario uses substantially smaller areas of land to do so.
- Growth concentrated in the areas of Greenville, Georgiaville, and Esmond will maximize the use of existing community facilities and provide for the continuation of a village pattern of development as recommended in the Comprehensive Plan.
- Less development in the northern and western areas of town will permit preservation of rural landscapes, roads, and scenic vistas, all of which are recognized in the Comprehensive Plan as important cultural and economic resources.
- Smithfield has 930 acres of land suitable for agricultural use. Growth at build out, as illustrated by Map GS-8, could consume this resource.

South Kingstown

- Both scenarios accommodate the build-out population of South Kingstown. The smart growth scenario uses significantly less land area.
- Growth concentrated in the areas of Wakefield, Kingston, and URI enhances opportunities for a greater variety of housing within the town. Density levels and compact development patterns offer realistic opportunities for more affordable housing. The provision of more affordable housing is a stated goal in the Comprehensive Plan
- The Comprehensive Plan notes that South Kingstown is the most important single town in Rhode Island for rare species and natural communities. The compact growth scenario permits opportunities to preserve areas needed to support such natural resources.
- The compact growth scenario would result in ample areas of undeveloped land suitable for defining a system of greenways to complement the core and periphery pattern of development. These greenways and the reinforcement of desirable patterns of development are goals expressed in the Comprehensive Plan.

Lessons for Other Communities

The Cranston case study suggests that urban ring communities may have more options for dealing with future growth than other community types. In general, urban ring communities have the infrastructure in place to support compact growth. Furthermore, they tend to have significant quantities of vacant land, and the established housing densities are high enough to permit compact development.

The Smithfield case study suggests that suburban communities typically have the infrastructure to service areas of compact development necessary to implement smart growth strategies. However, to a great extent, existing development patterns, circulation patterns, and water and sewer service areas do not encourage focused growth.

The South Kingstown case study suggests that rural/emerging suburban communities, as compared to other community types, have a better opportunity to maintain their community character. This is because their character is primarily defined by undeveloped land that is perceived as open space. This undeveloped land exists throughout the community and is not concentrated in any one area. Rural/emerging suburban communities are at the earlier stages of their development so more choices and opportunities are open to them.

CONCLUSIONS

There are several important conclusions to be drawn from this study.

(1) Sprawl development costs much more than the compact-core development option and thus leads to escalating property tax rates.

(2) In spite of the current slow economic and population growth in Rhode Island, sprawl development is consuming a significantly large amount of irreplaceable natural resources.

(3) Sprawl development diminishes rural character and relatively low-density living in suburban and rural towns. The dilemma of sprawl is that the greater the number of people who want to live in a low-density living environment, the more difficult it will become to do so. At the same time, urban decay makes it difficult for those who prefer to live in an urban environment to do so as well. Sprawl thus greatly curtails the freedom of choice.

(4) Suburban sprawl and urban decay are not two separate phenomena but are mirror images of sprawl development. We cannot solve one problem without solving the other. The circular model of sprawl and the empirical data presented in this report have demonstrated this point.

(5) Property values in core cities have been declining while property values in suburban/rural areas have been increasing. At the same time, property tax rates in urban communities have been increasing much faster than those in non-urban areas. This partly explains why people are moving out of core cities and settling in non-urban areas.

(6) The decay in urban centers has lowered housing rentals, making these areas the only residential option for many who cannot afford to live in suburban/rural areas. Thus, urban centers have attracted an increasingly large number of low-income households.

(7) Some form of compact development would be the best alternative to suburban sprawl to accomplish the twin goals of preserving open spaces/natural habitats and revitalizing urban areas.

(8) The establishment of sprawl is not accidental. It is largely the unintended effect of the government's policies to decentralize the population, encourage home ownership, and mitigate overcrowded urban centers. Reversing the trend of the past forty years of de-population in urban centers will require the concerted efforts of federal, state, and local governments, as well as businesses and industries to harness the powers of the market to the public's advantage.

(9) Transportation and tax policies are two crucial ingredients for re-establishing a market environment for individual households and businesses that will redirect these groups' locational decisions.

(10) At a minimum, the state and local governments must accelerate their land conservation and acquisition programs so that they can set aside a significant part of the state's land for the purpose of establishing a permanent preserve.

(11) Rhode Island may very well find that being a geographically small state will serve as an asset in designing effective strategies to reverse the existing sprawl trends.

(12) Rhode Island can solve its suburban sprawl problem only if it solves its urban decay problem.

Incorporated in May, 1998, Grow Smart Rhode Island was established to create a statewide voice for the many organizations working locally and regionally to combat suburban sprawl and urban decay. Our primary objectives are:

- To help citizens and officials understand the connection between land conservation efforts and urban/town center revitalization, and to make the connection between environmental health, economic vitality, and social equity.
- To provide a statewide framework for the smart growth activities that are taking place in individual cities and towns.
- To identify and advocate state policies and legislation that will promote smart growth and support local and regional efforts, with particular emphasis on improving the state's ability to perform comprehensive long range planning.
- To promote cooperative effort and information sharing among the different organizations addressing sprawl at a local or special interest level. Through cooperative effort, organizations can maximize limited resources, learn from each other's successes and failures, and identify and obtain new resources.

In less than two years, Grow Smart has established a broad statewide coalition encompassing more than 50 organizations. Constituents range from business, religious, and university leaders to builders, realtors, municipal planners, historic preservationists, environmentalists, architects lawyers, farmers, non-profit housing developers, state agency officials, civil rights advocates and land trusts. We have developed a critical mass of policy expertise and community support through recruitment of a diverse Board and Advisory Council, extensive opinion and policy research, co-sponsorship of conferences, and briefings for government officials.

A 501(c)(3) not-for-profit organization, Grow Smart Rhode Island receives funding from private foundations, government agencies, and corporate and individual supporters.

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