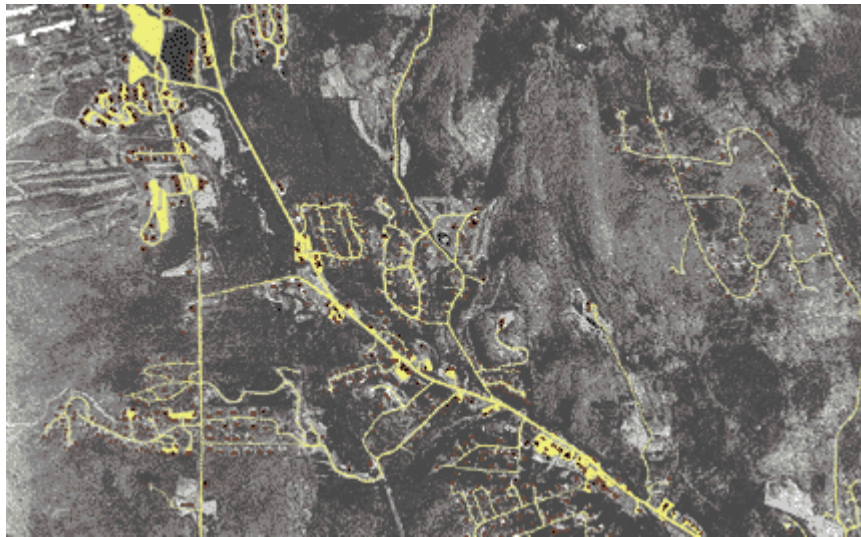


Exploring Sprawl

2nd Issue in a Series

Researchers:

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What is Sprawl in Vermont?

Figure 1
**Building & Street Pattern -
Dover/Mt. Snow area 1992**

Concern about the pattern of development that is often called sprawl

has come to the forefront in Vermont. Over the past year, more and more Vermonters have called this issue one of the most pressing that we face. Governor Howard Dean recently cautioned: *"If we dissolve into the anonymity of the great suburban rings around our cities, then we are also going to dissolve our sense of community, our sense of who we are, our sense of neighbors caring for neighbors."*

Concern over this issue, of course, is not new. For the past 30 years, Vermonters have struggled to encourage growth in jobs and economic opportunity while protecting the pattern of compact settlements and open, productive land that is this state's historic and distinctive feature. Today, with development pressures continuing and 65 million people living less than six hours' drive from Vermont, a key question is still the one that former Governor Deane Davis asked in 1970:

"How can we have economic growth and help our people improve their economic situation without destroying the secret of our success, our environment?"

Most Vermonters today appear to believe this question can have positive answers. A recent poll of over 2,300 Vermonters, conducted by Macro International for the Vermont Forum on Sprawl, found that 72% of those polled believe sprawl and growth are not the same. Among those who see a difference, 90% believe it is possible to have growth without sprawl.

The Vermont Forum on Sprawl is working with a broad cross-section of Vermonters to develop strategies and solutions that can respond to these hopes and concerns. First, though, it is vital to define what sprawl is to Vermont - and to examine closely what has been happening in Vermont communities. *Only when we clearly understand the issue can we frame workable, practical solutions.*

Defining Sprawl

The Vermont Forum on Sprawl has developed this definition:

Sprawl is low-density development outside compact urban and village centers along highways and in rural countryside.

To find out how well this definition fits, both with Vermonters' perceptions and with the realities of growth in communities, in 1998 the Forum carried out these projects:

Gathered Vermonters' views, through the poll, on sprawl and community character.

Studied growth in eight sample communities through interviews, examination of town records, and other means of collecting information.

Visually assessed sprawl in these case-study communities by looking at and comparing maps, aerial photography, and ground-level photography from different stages of local growth.

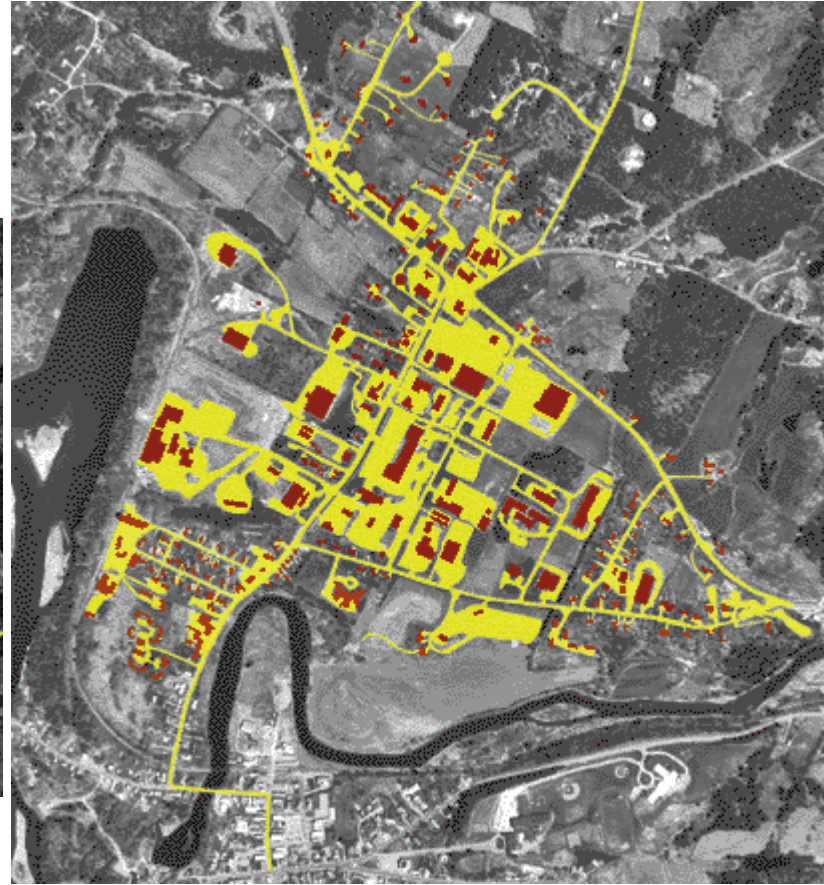
Vermonters' Impressions of Sprawl

In the Forum's poll of 2,300 Vermonters, more than 50% of those responding had heard of sprawl and agreed that it had these characteristics:

- o Commercial development strung out along a highway.....88%
- o Increased roads, paved areas and parking.....72%
- o Single-family homes spread out on former farm fields.....72%
- o Widely spaced development with a scattered appearance.....58%
- o Development that requires an automobile.....56%

The respondents said that, in their view, *over half of Vermont communities have at least some sprawl.*

Figure 2
**Building, Street & Parking Pattern -
 Morristown 1963(Below), 1994(Right)**



Asked if they had noticed any of the types of changes often attributed to sprawl, those polled mentioned:

- o New stores outside of town73%
- o Working landscape divided into house lots.....72%
- o Loss of places for hiking, hunting or fishing.....66%
- o Haphazard growth patterns.....63%
- o More stores at which to shop.....63%
- o A locally owned store going out of business.....64%

For more findings from the poll on sprawl and community values in Vermont, please see [Exploring Sprawl, Issue No. 1: Vermonters' Attitudes on Sprawl.](#)

Vermonters drive 6.3 *billion* miles per year. Since 1970, while our state's population has grown by 32%, vehicle traffic has more than doubled. From 1981-96, the annual number of miles driven by each Vermonter increased by an average of 43%.

The Case Studies: Eight Sample Communities

To seek out the patterns and key features of sprawl in a diverse cross-section of Vermont communities, the Forum focused on seven towns and one city: Barre City, Dover, Ferrisburgh, Middlebury, Morristown, Norwich, Shaftsbury and Tinmouth. The researchers sought to glimpse the unique characteristics of each town, and then to find the common traits related to sprawl. The eight communities were selected to represent "Traditional Centers," "New Growth Towns," "Outlying Towns" and "Resort Towns."

Traditional Centers: *Barre City and Middlebury*

These communities have had a long history of growth and development. They show a compact development pattern, with mixed uses - residential, commercial, and public buildings - and people of mixed incomes living relatively close together. Between 1987-92, the five-year period studied by the researchers, these communities and the resort town of Dover had the highest percentage of house lots created that were under four acres in size. The trend in these Traditional Centers is toward continuing the pattern of small lots - although many of the new lots are larger than the older ones in town.

New Growth Towns: *Morristown, Shaftsbury and Norwich*

These towns have seen recent surges of growth, with a variety of impacts. Norwich, for example, displays a pattern of homes developed on widely spaced lots on former farmland, while Morristown has seen commercial growth cover a roadside area, with wide, paved spaces between large buildings - also on former farm fields.

In the New Growth Towns, the trend in residential development is toward larger lots, especially compared with the Traditional Centers. During the five years studied, median lot sizes within new subdivisions were 10.1 acres in Norwich, 6.6 acres in Shaftsbury, and 4.1 acres in Morristown. In Middlebury, in contrast, the median new lot size was 2.7 acres, while in Barre it was just .32 acre.

Resort Towns: *Dover*

The project defined *resort towns* as communities with a major ski area in them and/or with a high share of seasonal housing units.

In Dover, the number of vacation homes grew by 385% between 1978-97. Vacation properties are now 85% of all residential properties in town, and are primarily on parcels under six acres in size. The local trend is toward relatively dense resort developments that are separate from each other and scattered over a wide area, with few of the connections found in more traditional development patterns.

Outlying Towns: *Ferrisburgh and Tinmouth*

These rural towns have seen less growth in recent years. Today, their situations vary. Tinmouth, a forested community in a remote location, has seen little development and still has limited growth pressure - while Ferrisburgh, a farming community along Lake Champlain and the increasingly busy Rte. 7 corridor, expects to see increased pressure for new housing. The trend in both communities is toward larger house lots: Tinmouth's five-year median size was 18.1 acres, while Ferrisburgh's was 10.1 acres.



Figure 3
Land Division of Field and Woodland, Norwich 1992



Looking at Sprawl: A Visual Analysis

Examining maps, aerial and surface photographs from various stages in the growth of the case study towns made it possible to observe the emergence of sprawl over time.

Rural Residential Sprawl

Aerial photos of Norwich from 1963 and 1992 show a striking contrast that seems typical of Vermont's rural residential development of recent years.

In 1963, homes sat close to the roads that connected different parts of the town and neighboring communities. No houses were sited in woods, and houses on open land were built on the edges of fields, to preserve farmland.

Thirty years later, a different pattern had emerged. New dead-end streets had been added; houses occupied prime locations on open fields; woodlands had been cleared for house lots. Although areas such as these are still low-density, they tend no longer to be part of working landscapes.

Commercial Development

The most-often recognized form of sprawl is commercial strip development, the linear pattern of individual commercial uses often found along rural highway stretches and outside of older commercial centers.

In Middlebury, photos from 1962 and 1996 show the change from early signs of strip development to many commercial buildings surrounded by

parking areas along Route 7, especially south of the village.

In more rural areas, a strip development pattern is often slower to emerge. A gas station/convenience store may be built along a rural highway - and that begins a major change in use. Over time, a hardware store and second gas station appear; the town fire and rescue squads relocate to the edge of the village; older roadside homes become antique stores or restaurants; the road itself is widened for the increased traffic; and the roadside's original character has been dramatically changed.

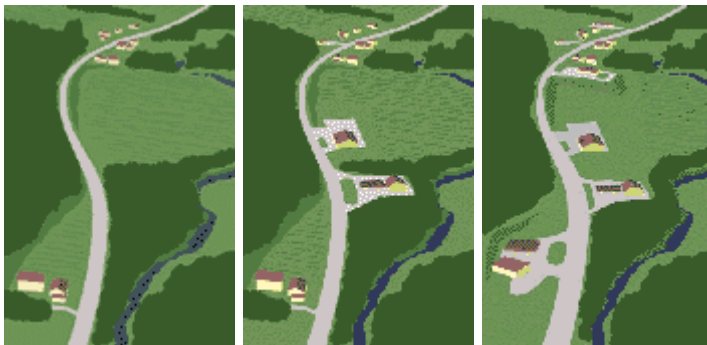


Figure 4

Sprawl Types: Incremental Strip Development Along a Rural Highway

Another form of sprawl is in new commercial centers outside of traditional centers. An example is in Morristown, near the intersection of Rtes. 15 and 100 (see Figure 2). Primarily farmland in 1963, this area is now largely covered by large new buildings, built way back from the road, widely separated and surrounded by large parking lots. The commercial growth has gobbled up space: At its densest, it features only 20% lot coverage.

Expansion of Town Centers

Sprawl can also be found in towns' expansion outside of their designated growth areas onto more rural lands. Rather than providing a mix of uses, as traditional centers do, these new growth areas are divided into industrial, commercial and/or residential zones, often distant enough from each other that to get from home to business, store, school or library, the typical resident must use a car.

Changes in the pattern of streets often point to this type of sprawl. Before World War II, most developed towns had through roads, connecting to other communities, and a network of shorter, interconnecting streets in the town center. In the post-war period, a new pattern emerged: Subdivisions and individual houses were often located off the through roads - on long driveways, cul-de-sacs, loop roads or small networks of subdivision streets. These new streets tended to spread out around the community, rather than concentrating in or next to the town center.



Figure 5

Middlebury Growth Zones & Open Space Zones, 1998

Circle indicates primary growth area in 1962.

Six Patterns of Sprawl Development

The community case studies and the visual analysis led the Forum to identify six patterns of sprawl in Vermont communities. However, each community is unique; and each situation must be looked at individually, with broad community discussion, before determining whether it represents sprawl.

Some of the questions to answer to determine whether a condition is sprawl include:

- o How big are the lots? Could they be smaller? Are land uses separated from each other?
- o Is the access designed for cars or for walking?
- o Are there plans to fill in the area and add mixed uses?
- o Do natural conditions (soils, slopes) dictate the layout of the area?

The six sprawl patterns are:

1. Scattered residential lots in outlying areas.

All the communities showed this development pattern, except for Barre City, which is an urban center and doesn't have an outlying area within its borders. Excluding Barre, the median sizes of recently created house lots ranged from 1.6 to 18.1 acres - considerably larger than the traditional, quarter-acre lots commonly found in villages and older neighborhoods.

In general, these house lots have been created away from village, downtown or growth center areas. Homes are often sited off main roads on long driveways, cul-de-sacs or loop roads. In resort areas, these homes are often vacation residences.

The size of these lots appears to be less significant than their spread-out pattern, which has tended to carve up productive farm and forestland, wildlife habitat, and other open spaces and natural areas.

2. Housing developments in or near town centers, with a suburban pattern and comparatively large lots.

Dating mostly from the 1970s and 80s, these subdivisions are usually located on town roads and on municipal water and/or sewer systems. Compared with nearby, traditional village settlements, the lots in these subdivisions are larger, their streets are wider, and their homes are set farther back from the road. The towns with the most overall development, Middlebury and Barre, have several examples of these subdivisions.



3. Multi-lot, planned housing developments on new access roads in outlying areas.

In more developed communities, these residential subdivisions of nine or more small to mid-sized lots have often been sited away from town centers, typically with a new, separate access road. They are often in isolated areas, not near commercial services, town services or local industries. In resort areas, these developments may include condominium projects that are near ski areas but not integrated into compact ski villages. The least developed towns - Norwich, Tinmouth and Ferrisburgh - have seen very little interest in this type of development.

4. Commercial strips.

Occurring outside village and town centers, generally along major connecting roadways, commercial strip development is a linear pattern of individual uses, primarily single-story buildings, each with a separate driveway or curb cut and a private parking area. Parcels tend to be as broad as possible, to take advantage of highway exposure; the "strip" is entirely developed for auto traffic, and rarely includes residential neighborhoods or accommodations for pedestrians.

The best examples of commercial strip development among the eight towns are, not surprisingly, in the more-developed areas - Barre and Middlebury, along with Dover and Morristown. These communities have extensive commercial strips, most of them not yet built out to the maximum allowed by local zoning.

Shaftsbury and Ferrisburgh have the beginning signs of commercial areas that could become sprawling strip development. The zoning is in place for this pattern, but the market is not yet there. Norwich's commercial strip is more limited, both by size and by environmental factors.

Figure 6
**Middlebury Commercial
Zone, Rt 7, 1998**

- Commercial ■
- High Density Residential ■
- Medium Density Residential ■
- Mixed use ■
- Forest / Conservation ■



5. Other commercial and industrial areas with large lots and inefficient layouts.

In the towns studied, new commercial and industrial areas have often been developed away from town centers and residential neighborhoods, either at interstate highway exchanges or along major connecting roads. These areas have large lots, with large buildings set far back from the road, surrounded by parking areas. In Middlebury's expanding industrial park, north of the town center, the average lot size is about 19 acres.

Uses in these areas may include retail, office, warehousing and industrial operations, but do not include residential. The roads are usually wide, designed for high-volume car and truck traffic.

6. Outlying location of public buildings.

Because public buildings - including schools, town offices, post offices, police and fire departments, libraries and churches - are so important to their communities and are often the focus of daily visits by a variety of people, their relocation outside of town centers in recent years can contribute to a sprawl pattern. However, there were very few recent examples of this in the towns studied. In fact, several communities had shown town involvement in actually keeping public buildings within the local centers.



Figure 7
Contrasting Settlement Patterns:
Morrisville vs. Morristown

Conclusions

The research confirms that the Vermont Forum on Sprawl's general definition of sprawl fits, both with Vermonters' impressions and with the actual changes in our communities:

Sprawl is low-density development outside compact urban and village centers, along highways and in rural countryside.

This definition can be expanded, to include the following characteristics of sprawl, contrasted with the characteristics of compact development.

Characteristics of Vermont's compact urban, town and village centers:

Characteristics of sprawl in Vermont:

- * Large-lot developments
- * Low average densities, compared to town centers

- * Higher density than surrounding areas
- * Mixed uses
- * Development with pedestrian, bike, transit and auto access
- * Public facilities, services and spaces
- * Diversity in the types and scale of housing, businesses, and industries
- * Open space, including productive farm and forestland, surrounding the town center
- * A unique cultural heritage

- * Development requiring an automobile
- * Fragmented open space, with a scattered appearance and wide gaps between development
- * Separation of uses into distinct areas
- * Extension of public services to areas before they are filled in by development
- * Lack of economic and social diversity in residential areas
- * Lack of public spaces and community centers
- * Repetitive, "big box" buildings without distinctive character
- * Large paved areas: wide roads, more roads, large parking areas