

## THE RISE AND FALL OF CONCERN ABOUT URBAN SPRAWL IN THE UNITED STATES: AN UPDATED ANALYSIS

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**ABSTRACT**—An indicator of public concern about urban sprawl is presented, based on computer content analysis of public discussion in the news media from 1995 through 2004. More than 50,000 news stories about sprawl were analyzed for expressions of concern. Overall concern about sprawl grew rapidly during the latter half of the 1990s. Concern about the environmental impacts of sprawl was most salient, followed by loss of farmland and traffic problems. Attention to urban sprawl began to decline in 2000 and has leveled off in recent years.

Urban sprawl may be characterized as relatively low-density, noncontiguous, automobile-dependent, residential and non-residential development that converts and consumes relatively large amounts of farmland and natural areas (Burchell *et al.* 1998). Concern about sprawl is not new, but the intensity and the nature of the discussion has evolved over time. In recent years, urban sprawl has been linked to an array of economic and social costs, including higher costs for providing public infrastructure such as roads and utilities, more vehicle miles traveled and less cost-efficient transit, as well as a variety of negative quality of life and social impacts (Burchell *et al.* 1998). The environmental costs of sprawl are becoming increasingly clear. Of particular concern to natural resource professionals, sprawl has been identified as the most significant factor affecting forest ecosystems in the southern United States (Wear and Greis 2002). In North Carolina, for example, forest cover has declined by more than 1.0 million acres (about 5 percent) since 1990, and urban development is the predominant cause of the net loss (Brown 2004). Further, sprawling development has been implicated as the leading cause of habitat loss and species endangerment in the mainland United States (Czech *et al.* 2000).

Public concern about the social and environmental impacts of sprawl has grown in recent years, as shown by a variety of indicators. For example, a series of five surveys commissioned by the Pew Center for Civic Journalism (2000) indicated that the negative effects of sprawl and growth are now edging out more traditional issues, such as crime, in terms of overall impact on the quality of life in local communities. This was a significant increase from a 1994 Pew Center poll. The increase in referendum and ballot measures on growth management, preservation of open space, and retention of farmland and historic resources is another indicator suggesting a surge in attention to sprawl and

interest in managing growth (Myers 1999, Myers and Puentes 2001). Finally, mounting interest in Smart Growth and other approaches to land management in the United States (Chen 2000, Weitz 1999), the rising number of local, regional, and national land trusts, and increases in the acreage conserved in land trusts (Land Trust Alliance 2001) also signal a shift in attitudes toward sprawl.

The focus on sprawl is germane to planners, managers, and policymakers involved in protecting urban, rural, and interface forests and other natural resources from urban encroachment. The level of public concern will influence the social and political acceptance of policies and programs such as the USDA Forest Service Forest Legacy Program (USDA FS 2002) aimed at protecting forests, including state forests (Williams *et al.* 2004). In the absence of data highlighting sprawl, planners will be hard pressed to develop politically acceptable management plans.

This paper describes an indicator of concern about the impacts of sprawl that allows policymakers and planners to monitor change in attitudes about sprawl.<sup>5</sup> This social indicator is based on computer content analysis of news media discussion about sprawl. Sprawl has sparked an extensive public debate in the United States in recent years. Analysis of news media content allows us to take the pulse of ongoing public debate about sprawl and to track change in the debate over time.

The role of the media in both shaping and reflecting public opinion on a wide range of social issues has been well documented (Fan 1988, 1997; Fan and Cook 2003; McCombs 2004; Page *et al.* 1987). Related studies have found that the news media also strongly influence agenda-setting for public policy issues, i.e., there is a relationship between the relative emphasis given by the media to issues and the degree of

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<sup>5</sup> This indicator of sprawl concern was first reported in Bengston, *et al.* (2005), which analyzed discussion about sprawl in the news media through the first quarter of 2001. This paper updates the sprawl time trends through the end of 2004.

salience these topics have for the public and political agendas. Dearing *et al.* (1996) and McCombs (2004) reviewed hundreds of published studies on media agenda-setting, the vast majority of which support the agenda-setting hypothesis. Therefore, analysis of the public debate about urban sprawl contained in the news media is not mere “media analysis” – it is a window onto the broader social debate and an indirect means for gauging public attitudes and concerns about sprawl.

The next section briefly describes the online data and computer content analysis method used in this study. The sections that follow describe the main concerns we identified and the variation in overall sprawl concern over time. We conclude with a discussion of the policy implications of these findings, and the relevance of this approach to planners, managers, and policymakers.

## DATA AND METHODS

News media stories about urban sprawl were obtained from the LexisNexis™ commercial online database. The following search command was used to identify news stories about sprawl: (sprawl! w/p (urban! or suburb!)), where w/p means “within the same paragraph” and the exclamation point means that all trailing letters are permitted. This search turned up more than 51,000 stories, all of which were downloaded. Only text within 100 words of the search terms was downloaded. This greatly reduced the amount of irrelevant text that would have been retrieved from stories that mentioned sprawl only in passing.

The search resulted in 36,787 stories retrieved for the original analysis (Bengston *et al.* 2005) from January 1, 1995, through March 31, 2001, from 111 news sources: 94 local newspapers, 5 national newspapers, 6 national and regional newswires, and 6 television and radio news transcripts. Among these news sources, four local newspapers were omitted in the present update from April 1, 2001, through December 31, 2004, due to non-availability through the LexisNexis database. This loss of 3.6 percent of the news sources was likely to have a negligible effect on the results of the update. The update included an additional 14,684 stories for a total of 51,471.

Irrelevant stories that were not about urban sprawl were filtered out of the database using the InfoTrend™ software. The InfoTrend software can discard paragraphs that do not fit user-specified criteria. After we removed the irrelevant text, the final database included 50,688 stories.

The news stories were then examined to identify the most frequently expressed concerns about urban sprawl. Categories of concerns were not predetermined but emerged from analysis of the textual data. Given the large volume of text, we did not examine each story in the database. A random sample of about 500 stories was examined to identify specific concerns about sprawl. The specific concerns are described in the Findings and Discussion section.

Scoring the news stories for expressions of concern about sprawl was done with the InfoTrend computer content analysis method using the Filtskor computer language. An algorithm was developed to code the news stories for the number of paragraphs expressing each of the specific concerns about urban sprawl. If a paragraph contained more than one expression of the same sprawl concern, it was counted as only one expression

of the concern. If a paragraph contained expressions of several different sprawl concerns, however, each of the concerns was counted once. A detailed description of the method used to code sprawl concerns is given in Bengston *et al.* (2005).

With traditional human-coded content analysis involving more than one coder, intercoder reliability is often a problem due to ambiguous coding instructions, cognitive differences among the coders, or random recording errors (Weber 1990). With the computer-coded approach used in this study, however, the computer always applies the coding rules consistently and therefore intercoder reliability is not an issue. But it is important to ensure that the computer instructions accurately code the concepts of interest. We examined a random sample of 500 stories that were coded using our computer instructions to determine whether the instructions were able to accurately identify expressions of each of the individual concerns about sprawl. After final refinements, the accuracy rates for the specific sprawl concerns ranged from 85 to 96 percent, and the overall accuracy rate for all nine concerns was 92 percent. Krippendorff (1980) suggests a minimum acceptable reliability of 80 percent as a rule of thumb in content analysis.

## FINDINGS AND DISCUSSION

The public debate about sprawl has been lively and dynamic in recent years. News media accounts express a diversity of concerns about sprawl put forth by a wide range of stakeholders, and sprawl is clearly framed as a significant social and environmental problem. Sprawling patterns of development also have supporters, whose arguments are often based on private property rights and consumer sovereignty: consumers know what they want and should be free to exercise their choice in the marketplace. But the public discussion of sprawl has been largely opposed to it (Gillham 2002), and we found this to be true of the news media debate. Therefore, this analysis focuses on negative perceptions.

### Nine Concerns About Sprawl

The following nine concerns about sprawl emerged most frequently in the news media analyzed. These nine concerns are the concepts that were coded and counted in this analysis. Each concern is followed by a quotation from a news story in our database expressing the particular concern.

**1. Unspecified Concern** is the view that sprawl is a problem, is undesirable, and should be avoided or stopped. This passage indicates that sprawl should be fought but gives no specific reasons:

As policy director, Rowen focused on issues that made up Norquist’s agenda, “primarily transportation, land use and fighting urban sprawl” (Nichols 1998: A3).

**2. Environmental Impacts** is the concern that sprawl causes a wide range of environmental damage, such as loss of wildlife habitat, forest fragmentation, decreased air and water quality, and loss of biodiversity.

The painful concept of urban sprawl has become increasingly poignant as we witness the despoiling of countless acres of local forest in the name of “progress and prosperity” (Indianapolis Star 2000: D4).

**3. Loss of Farmland** is the concern that sprawl is responsible for the loss of farmland or is a threat to farmland. This concern also encompasses the loss of rural character and way of life.

The dilemma is a common one facing farmers in northern Illinois, where urban sprawl is gobbling up choice farmland at an unsustainable rate and encroaching on the agricultural way of life for those who remain (Parisi 1998: B5).

**4. Loss of Open Space** is the view that sprawl is responsible for the conversion of open space to developed uses or is a threat to open space. This concern may be related to *loss of farmland*, but was coded separately because it was often expressed as a distinct concern. In this study, open space is broadly defined to include all types of undeveloped land, such as fields, forests, farmland, parks, and wetlands.

I've lived the uncontrolled city planning (urban sprawl) and have seen acres of open land paved over. I've seen multiple cities become a blur because their city limits butt up against each other. And I've seen the friendliness of the people turn into a bare tolerance of others because everyone is elbow to elbow (Des Moines Register 1997: 7).

**5. Traffic Problems** is the concern that sprawl contributes to traffic congestion, longer commutes, road rage, and other traffic problems.

Sprawl has resulted in lengthier commutes, worsening traffic congestion and air pollution (Ibata 2000: 9D).

**6. Urban Decline** is the view that sprawl contributes to the decline of core cities due to public and private financial resources being dedicated to growth at the periphery instead of redevelopment and revitalization of urban centers.

The note of caution reported from the consultants that such improvements "might contribute to urban sprawl" and "might counter redevelopment efforts in the urban core" are brushed aside. Experience in city after city has shown, without any doubt, that these undesirable effects will in fact occur... The urban core is a wasteland of vacant lots, abandoned buildings and surface parking lots. (Kansas City Star 2000: B6).

**7. Taxpayer Subsidy** is the view that sprawl does not pay its own way, is subsidized by taxpayers, and entails hidden costs. Sprawl subsidies include the cost of providing roads, municipal water, and sewer services; hidden costs include increased demand for schools, longer response times for police, fire, ambulance services, and so on.

Increased funding to preserve undeveloped land, to build parks in urban areas and to improve air quality are a good start, but they still don't address the fundamental cause of urban sprawl: the provision of a high quality of life at subsidized prices. (Barrett 1999: 3).

**8. Loss of Community** is the concern that sprawl destroys sense of community and sense of place, and fosters social isolation.

Polet believes neighborhood butcher shops are disappearing because of urban sprawl and zoning which discourage mixing

small shops and homes in a neighborhood... "They really need to re-evaluate their restrictions because there's no sense of community anymore" (Seelig 1998: F1).

**9. Loss of Historic Sites** is the view that sprawl threatens historic and culturally significant sites such as historic buildings, historic downtown areas, historic districts, and prehistoric sites.

It is not that change is bad, per se, but rather that Madison is experiencing so much change so very rapidly—in the form of population growth, new residential and commercial development and suburban sprawl—that some controls must be administered in order to preserve not just the past but the present. That is why any move that significantly weakens protections for historic structures must be seen as a wrongheaded assault on Madison's character (Capital Times 1997: 10A).

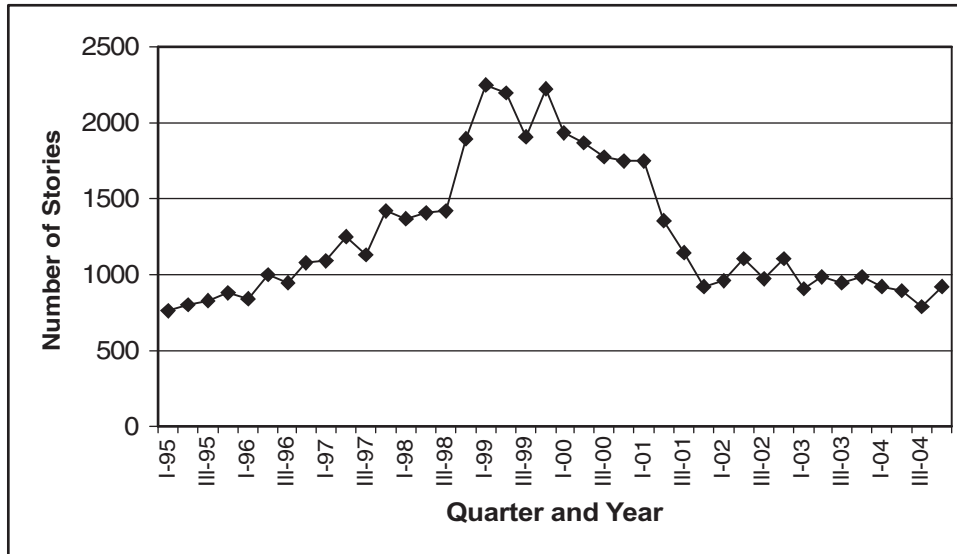
These nine concerns about sprawl are the most commonly expressed in the public debate contained in the news media. In addition, a variety of additional, infrequently mentioned concerns about sprawl were also expressed. Examples include the view that automobile-dependent development contributes to sedentary living habits and adversely affects human health; the view that subdivisions pushing farther out into wildlife habitat have contributed to increased incidence of rabies, rattlesnake bites, and other adverse human-wildlife encounters in some parts of the country; and the concern that sprawl complicates wildland fire management. But, to date, these concerns have been a small part of the overall discussion, and they were not included in this analysis.

### Volume of Discussion About Sprawl

Figure 1 shows the number of news media stories about urban sprawl in our database from the first quarter of 1995 through the last quarter of 2004. News media discussion of sprawl concern grew from about 800 to 900 stories per quarter in 1995 and early 1996 to peaks of more than 2,200 stories each in 1999 (2,244 in the first quarter, and 2,220 in the fourth quarter). These peaks in sprawl discussion were due in part to Vice President Al Gore's championing a "livability agenda" and Smart Growth concepts. Gore officially launched the Livable Communities initiative on January 11, 1999, in a speech to the American Institute of Architects. A White House Task Force on Livable Communities was created in August 1999 to coordinate livable community policies across 18 executive branch agencies (Livable Communities 2000). Gore's strong support and frequent public discussion of smart growth and related concepts in late 1998 and 1999 appear to have intensified the national debate on sprawl.

Beginning in 2000, the number of stories about sprawl began a gradual decline, but remained at more than twice the volume of just 6 years earlier. In the second quarter of 2001, however, the volume of discussion began to drop significantly, falling to about 1,000 stories per quarter by the fourth quarter of 2001. News media discussion about the issue has remained close to this level in recent years, with about the same number of stories as were found in 1995 and 1996.

**Figure 1.—Number of news media stories about sprawl, 1995-2004.**



**Ranking Concerns About Sprawl**

About 46 percent of all the expressions of concern about sprawl were of general or *unspecified concern*. When the general category is excluded, the debate about sprawl in the United States has been dominated by concern about *environmental impacts* (fig. 2), accounting for 36 percent of all specific concerns over the entire time period. The prominence of press concern about environmental impacts is consistent with a national survey carried out in 2000 in which “loss of green spaces, forests and farmland” was ranked as the most significant problem (Penn, Schoen, and Berland Associates 2000).

Although environmental concerns are most prominent, other sprawl concerns also are important components of the public debate (fig. 2). In order of their frequency of expression, the other specific concerns were as follows: *loss of farmland* (19.3 percent), *traffic problems* (13.3 percent), *loss of open space* (12.8 percent), *urban decline* (7.1 percent), *taxpayer subsidy* (6.7 percent), *loss of community* (2.5 percent), and *loss of historic sites* (2.2 percent). Concern about *loss of farmland* has long been significant, particularly in smaller metropolitan areas in predominantly rural states. For example, farmland was number one on a list of the “Top ten things adversely affected by urban sprawl” compiled by 1000 Friends of Iowa.<sup>6</sup> A recent literature synthesis found consensus about the link between sprawl and loss of agricultural land (Burchell *et al.* 1998). This synthesis also found general agreement—albeit based on scant literature—about reduced regional open space in sprawl-dominated areas. Growing concern about traffic problems was indicated in a survey conducted in 2000 for Smart Growth America, which found that 54 percent of Americans believe traffic worsened over the previous 3 years in the area in which they live (Beldon, Russonello & Stewart, 2000). Concern about urban decline has been an important part of the debate about sprawl in certain large cities, although Downs (1999) found no statistically significant relationship between sprawl and urban decline.

**Variation in Specific Concerns Over Time**

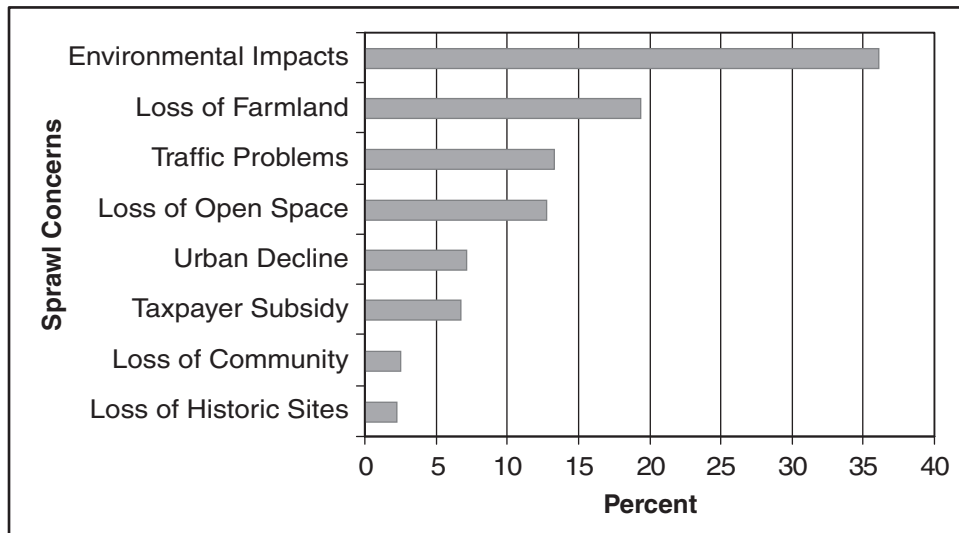
We also analyzed shifts in the discussion about sprawl over time, i.e., changes in the relative emphasis of concerns. Figure 3 displays time trends for five of the eight specific concerns: *environmental impacts*, *loss of farmland*, *traffic problems*, *loss of open space*, and *urban decline*. The share of concern about *environmental impacts* gradually declined from 1995 through 1998 and then began to increase, peaking at 47 percent of all expressions of specific sprawl concerns in the second quarter of 2003. This pattern is almost the inverse of the trend in overall volume of news stories about urban sprawl (fig. 1). *Loss of farmland* gradually declined over time, except for the early volatile years. The shares of *traffic problems* and *loss of open space* followed similar patterns, rising throughout most of the first half of the 10-year time period and then gradually declining. The rise in expressions of concern about *traffic problems* and *loss of open space* during the late 1990s signaled a shift in the national debate toward these quality of life issues. Finally, concern about *urban decline* fell from 10 percent of all specific expressions of concern in 1995-96 to just 5.5 percent in 1999-2000. This may be due to the rapid economic growth of the late 1990s, in which urban economies fared comparatively well. Many large U.S. cities showed signs of renewal during this period, such as increased homeownership and decreased violent crime, unemployment, and poverty. The share of concern about *urban decline* then rose in 2001 and 2002 as the economy weakened.

**CONCLUSIONS AND IMPLICATIONS**

In recent years, urban sprawl has sparked an extensive public debate in the United States that will shape land use policy for years to come. This debate is captured in the news media discussion of sprawl. Our findings suggest that overall concern about sprawl grew rapidly during the latter half of the 1990s. This confirms Gillham’s (2002: xiv) suggestion of a “gathering storm” of concern about the effects of urban sprawl. The

<sup>6</sup> 1000 Friends of Iowa is a nonprofit educational and advocacy organization that focuses on land use issues (www.kfoi.org).

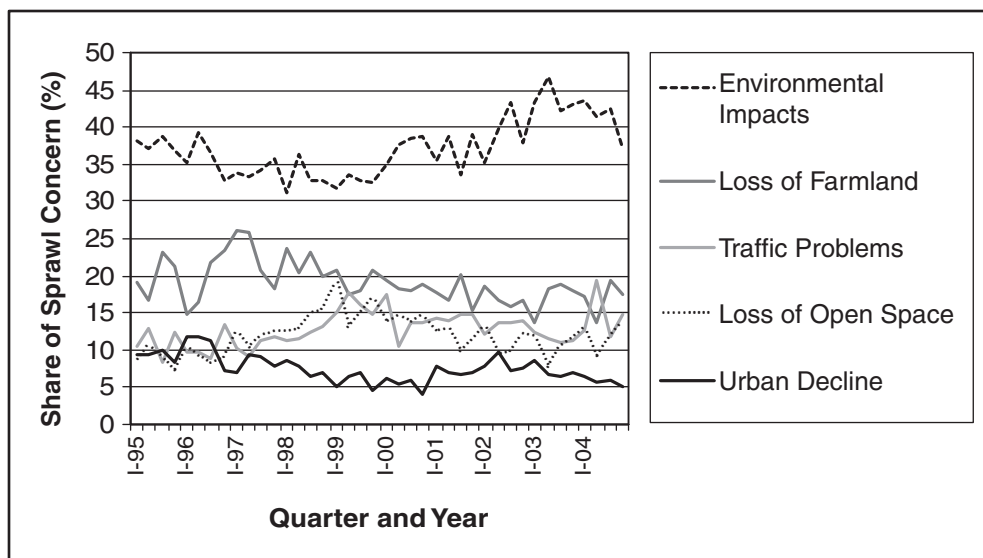
**Figure 2.—Specific concerns about sprawl as a percent of total expressions of concern, 1995-2004.**



increase in concern found in our analysis corresponds with various indicators of changing attitudes toward sprawl mentioned earlier, such as public opinion polls in which sprawl is identified as one of the top concerns among residents of local communities and the steady growth of ballot box initiatives related to growth management in the late 1990s. After reaching a peak in 1999, concern about sprawl reflected in news media discussion began to decline and has leveled off in recent years.

Understanding the evolution of concerns about sprawl over time is important in designing effective response strategies. The national debate about sprawl has shifted over time and will likely continue to shift in the future. An awareness of the dynamics of the public debate about sprawl can help policymakers develop more socially acceptable strategies for managing growth that are consistent with the changing social landscape.

**Figure 3.—Trends in expressions of selected concerns about sprawl, 1995-2004.**



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