Balancing Development and Environmental Protection in a Rural Commuter Belt: The 2006 Halifax Regional Plan

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Abstract

This paper provides a case study of growth management policies in the newly approved Halifax Regional Municipal Planning Strategy (RMPS), with emphasis on how the plan reconciles or balances urban expansion with rural conservation. This plan is unique in Canada and perhaps North America, in being both a regional and municipal policy document, and is likely to be more effective than 2-tier planning approaches. Earlier plans promoted planned suburbs in geologically suitable areas close to Halifax, but failed to control large-lot development with on-site services in rural areas beyond the urban service boundary. The RMPS explicitly controls commuter sprawl to minimize its negative environmental and fiscal impacts, through several innovative growth-management policies designed to reduce and redirect rural subdivision. Growth will be encouraged in district and local growth centres and strongly discouraged on intervening lands. The plan also promotes compact and orderly extensions to serviced urban areas, with emphasis on transit-oriented development and maximum use of urban infrastructure.

KEYWORDS: growth management, urban containment, regional planning, sprawl, environment, Halifax

1.0 Introduction and Aims

There is now much agreement that leapfrogging, low-density exurban sprawl causes a host of environmental, social, and fiscal problems in the metropolitan commuter belts of North America (Burchell, Lowenstein, Dolphin, and Galley, 2002; Ewing, 1997; Johnson, 2001; Kunstler, 1993; Millward, 2006a). Increasingly, metropolitan regional planning aims to curb sprawl and minimize urban extensions into the countryside in order to maximize use of municipal infrastructure and place minimum stress on the environment. This blended approach to the twin goals of fiscal prudence and environmental stewardship is termed *growth management* (GM), or *urban containment*, and requires "close and

long-term coordination between land-use controls on the one hand and capital investment on the other" (Levy, 2003, p. 226).

Although GM policies can be employed at the local level as a cloak for exclusionary and no-growth purposes, long-term coordinated management of development patterns is clearly beneficial at the regional scale (Brower, Godschalk, and Porter, 1989) and fits well with many of the environmental and livability aims of smart growth (Daniels, 2001; Pim and Ornoy, 2005). Indeed, GM may be viewed as one component of the broader set of policies loosely grouped under the rubric of smart growth (Millward, 2006a). Smart growth, however, has many aims at a variety of spatial scales, whereas GM is specifically targeted at urban containment and requires a regional strategic approach to be effective.

Since it is hardly ever the case that a single municipality encompasses the entire commutershed of a metropolitan region, planning for such regions is typically plagued by lack of cooperation or participation among adjoining municipalities (Hodge and Robinson, 2001). Effective GM policies, therefore, have been devised and implemented at the provincial or state level, or through a regional umbrella agency with strong jurisdictional powers mandated by the province or state (Downs, 1989; Gayler, 1990; Nelson and Duncan, 1995; Rothblatt, 1994). Both in Canada and the United States, there are few examples of such strong growth control mechanisms. Some exceptions are provincial or statewide programs in British Columbia, Oregon, Hawaii, and Florida, and metropolitan programs for Greater Vancouver (Tomalty, 2002), Ottawa-Gatineau, Ontario's Golden Horseshoe, Greater Portland, and Minneapolis-St. Paul. In general, however, metropolitan regional planning and associated GM have been either absent or fairly weak, with municipalities able to override or ignore regional policies.

This paper reports on GM policies in the newly approved Halifax Regional Municipal Planning Strategy (RMPS) (French and Millward, 2007; HRM, 2006). This plan is unique in Canada and perhaps North America, in being both a regional and municipal policy document (in Nova Scotia, municipal plans are legally termed planning strategies). The Halifax Regional Municipality (HRM) is a single-tier regional government (though community councils work as subcommittees of the main council) and is thus free to implement a unified vision for both suburban growth management and rural resource stewardship over its vast and potentially unwieldy territory (5,577 km^2, with a population of 380,000). The thinly settled eastern half of HRM is truly rural: It lies beyond commuting range of the city, contains only 10,000 people, and is in demographic and economic decline. In contrast, the urban and suburban areas focused on Halifax harbour currently have 285,000 people (growing at 1% per year), and the surrounding rural commuter-sheds have 85,000 (growing at 2% per year). Urban containment is the main concern in suburban and fringe areas, and hence in the regional plan as a whole.

Our aim in this paper is to provide a detailed case study of GM strategies and policies within a single-tier regional government, with emphasis on how those policies play out in the rural areas of the commuter belt. Since the authors took leading roles in the development of the plan—as project manager (French) and chairperson of the steering committee (Millward)—we feel well qualified to provide background and rationale for the policies and to comment on how the plan reconciles urban expansion with rural conservation. To be approved and successful, a regional plan must balance urban development needs against protection of environmental assets, while recognizing the rights and concerns of

landowners, developers, and the general public. Throughout the discussion, we make reference to the particular environmental, cultural, and political circumstances of HRM, but we also try to set Halifax policies within the broader context of planning theory and best practices related to GM. Though the Halifax plan contains little that is genuinely new, it contains an unusually broad range of policies for a varied set of environments, and some of its policy approaches may be highly transferable to other jurisdictions.

The physical setting of Halifax is important to an understanding of the issues. The Halifax city region is unusual in having very little farming or preexisting settlement, owing to poor soil capability. Much land remains forested in public ownership (see Figure 1), land prices are low, and development controls in rural areas have been minimal until recently. On the urban fringes, hard igneous and metamorphic bedrock presents severe difficulties for the extension of roads, city sewers, and water lines. Developers and planners have therefore sought to develop those few areas covered by deposits of glacial till, and to avoid others. In rural areas, water and sewer services must be provided on-site for each lot, through the use of wells and septic fields. However, bedrock conditions often lead to poor quality and quantity of groundwater, and large lots are required to avoid contamination of wells.

2.0 Preamalgamation Planning: Centrally Serviced Development

Prior to amalgamation in 1996, the four municipalities of metropolitan Halifax (the cities of Halifax and Dartmouth, Town of Bedford, and Municipality of the County of Halifax) competed for development and tax dollars. The term "growth management" was barely applicable, since a strong regional planning authority was absent. However, two major attempts at regional/metropolitan planning were made in the 1960s and 1970s. These shaped the location and extent of central sewer and water services and hence molded suburban development patterns, but they had little impact in the commuter belt beyond the service boundary.

The first regional infrastructure and land-use plan was the Halifax Region Housing Survey (RHS), conducted between 1960 and 1963 and funded jointly by federal, provincial, and municipal governments (Coblentz, 1963). Despite this project's title, its director was a firm believer in Thomas Adams' doctrine of regional planning and couched the urgent need for adequate housing in the framework of a regional plan. Central water and sewer services for suburban development were recommended only for areas where bedrock was overlain by sufficient glacial till to avoid the need for expensive blasting. Only two large areas met this condition—the Sackville area in the north and Cole Harbour in the east—and planned satellite communities were urged for these locations.

Although only an advisory plan, the RHS had significant and continuing consequences. With provincial assistance, Halifax County municipality was encouraged to develop sewage treatment plants to serve these two areas, and the provincial government rapidly acquired large land-banks for the first two satellite communities. Both Sackville Lakes (Lower Sackville) and Forest Hills (Cole Harbour) were designed to accommodate 20,000 people each—a tremendous number in relation to the 1971 CMA population of 251,000—and both were largely complete by 1990. They filled a need not addressed by the private market

at the time and reflected the interventionist philosophy of the federal and provincial Liberal governments of the 1970s.

The Liberal government's 1969 Planning Act established the primacy of regional over municipal planning and prompted creation of the Metropolitan Area Planning Committee (MAPC) (Grant, 1989; Lang, 1972; Millward, 2002). This was an intermunicipal advisory body, but it commanded considerable financial and technical resources. For at least a dozen years its studies and reports guided regional development, by virtue of the statutory requirement that municipal plans be in conformity to the MAPC-prepared regional development plan (RDP).

The MAPC almost inevitably repeated RHS recommendations for urban expansion, since it was faced with the same physical conditions and needed to utilize infrastructure already in place for those projects, notably the two sewage plants, each of which had spare capacity for an additional 45,000 people (MAPC, 1975, p. 17). To avoid a costly South Harbour bridge within the plan's 1991 time horizon, the preferred scenario "placed major growth in satellite communities in Bedford-Sackville and Dartmouth, and secondary growth in Spryfield-Herring Cove." In simplest terms, this strategy sandwiched most new residential development on either side of an expanded Burnside industrial park, so that additional journeys to work would not cross the harbour. A key feature of the plan was the "development boundary" (see Figure 1), which was specifically created to "control urban sprawl" and "protect the rural environment."

The MAPC plan was approved in April 1975 and remained legally in force until December 1998. Because it was designed to accommodate an enormous population increase, there was little need for subsequent revision. In practise, too, the RDP was not as binding on the municipalities as originally envisaged, since the primacy of regional over municipal planning was withdrawn in the Conservative government's 1983 Planning Act (Grant, 1989, pp. 276–7; Millward, 1996, pp. 5–6). Nevertheless, the central portion of the Halifax region has been strongly shaped by the RDP over a period of 30 years, and its legacy is still embedded in municipal planning strategies and land use bylaws.

3.0 Preamalgamation: Insufficient Control in the Commuter Belt

Although the 1960–63 Housing Survey defined a planning region of 1,800 km^2, stretching from Tantallon to Porters Lake (see Figure 1), in practise it concerned itself only with the central harbour-focussed area, within which central water and sewer services could be provided. It specifically cautioned against "suburban scatteration" and "sprawl" on unserviced lots (Coblentz, 1963, p. 24) but left the remedy to the three municipalities of the day. The county, however, lacked the resources or will to inhibit or control such development and continued to allow as-of-right development ("general building zone") within 500 feet of almost all roads.

The 1975 MAPC regional plan dealt more forcefully with the issue, since municipal plans and zoning had to conform, in general terms, to its policies. The committee felt it essential that "strong measures be taken to control and direct development in the region" (MAPC, 1975, p. 28) and included specific policies "to control urban sprawl outside the development boundary…to protect the rural environment" (p. 36). The Municipality of the County was encouraged to prepare a municipal plan specifying areas for development; in the meantime interim controls restricted development on each parcel to one lot per year, with a minimum area of.

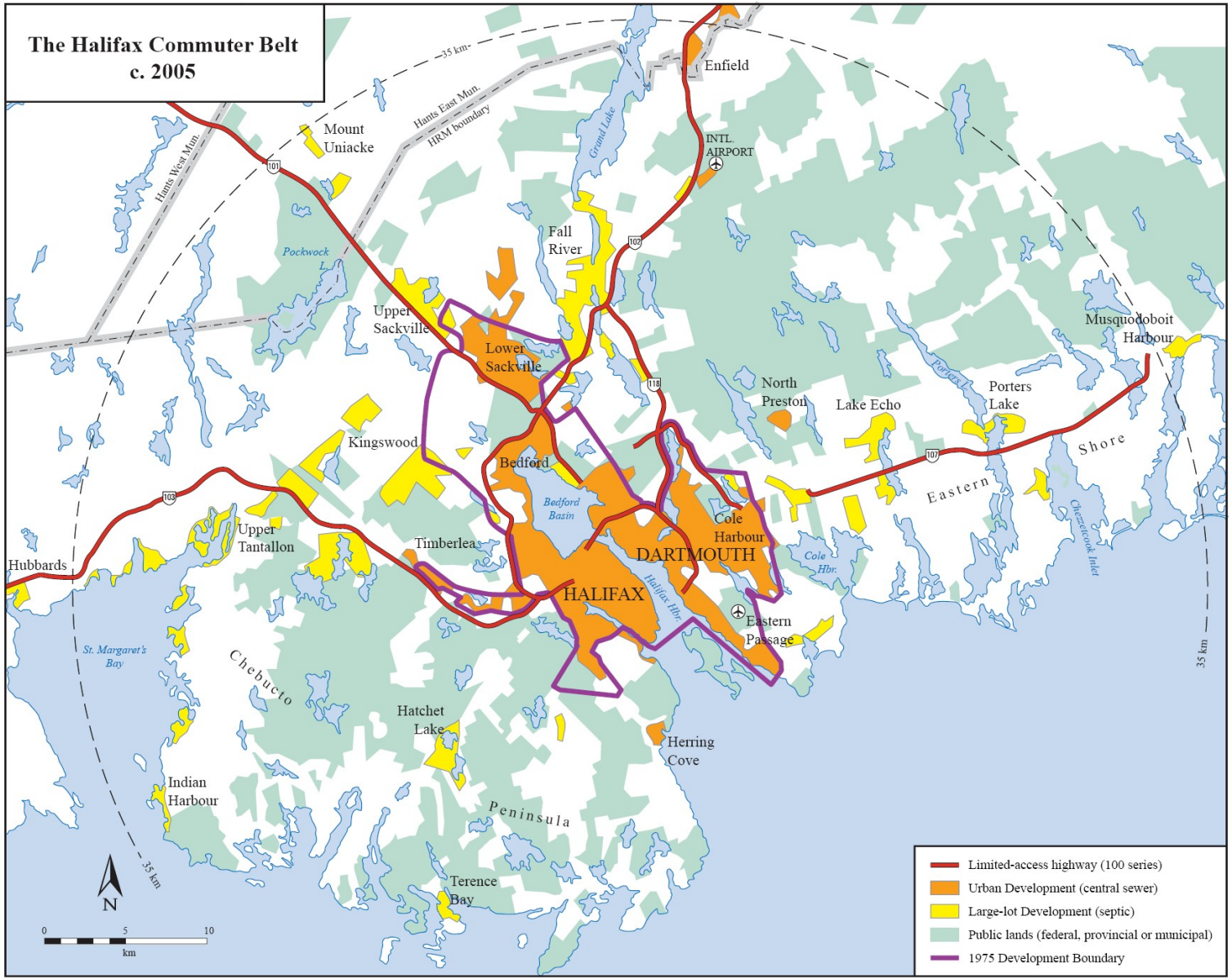

Figure 1. The Halifax commuter belt c. 2005

20,000 ft.^{2} (0.5 acre) and minimum road frontage of 150 feet. Some exceptions were allowed, however; most notably, infilling was permitted along existing roadways where existing uses (buildings) were less than 300 feet apart

The county proceeded to prepare a comprehensive municipal plan for its entire jurisdiction (much of which lay beyond the commuting zone). By 1978 three major consultant's reports had been prepared, laying out the rationale for a bold plan to preserve environmental and agricultural assets from sprawl. The two-pronged approach encouraged development in existing communities, while proposing strong controls on development outside such centres. In rural areas beyond the MAPC development boundary, a hierarchy of "development districts" was proposed. *Growth centres* (e.g., Porters Lake, Fall River, Timberlea) would range in "ultimate" population from 4,000 to 10,000 and would "resemble small towns" with full municipal services (PPC, 1978, 144–9). *Development villages* (e.g., North Preston, Hatchet Lake, West Chezzetcook) would house 1,000 to 4,000, while *hamlets* (e.g., Indian Harbour, Cow Bay, Seaforth) would remain below 1,000 population. Unserviced lots in development districts were to be at least 0.5 acre (1.0 acre in hamlets). To control development outside the villages, a minimum lot size of 5 acres was proposed, which would render subdivision off existing roads impractical. In agricultural zones (the upper Musquodoboit valley), up to three lots (each of at least 1.0 acre) could be severed from the main holding to provide a "retirement fund" for the farmer.

The draft county plan was too restrictive and radical for many rural councillors, and it failed to pass. The default MAPC lot subdivision policies remained ostensibly in effect until the 1983 Planning Act, but thereafter the county prepared a series of district planning strategies, which greatly reduced minimum lot sizes, typically to either 0.5 or 1.0 acre and imposed few zoning restrictions. As examples, most of the Lawrencetown District was zoned "rural residential," with a 0.5-acre minimum, and most of Eastern Shore West was zoned "mixed use," with a 1.0-acre minimum.

Between 1983 and 2003, lot creation proceeded rapidly on all privately owned lands within the commuter zone (Millward, 2006a, fig. 21.2) but was particularly severe close to paved roads and schools and in areas with a scattering of till, such as Fall River and Hammonds Plains (see Figure 1). The number of people in the rural commutershed tripled to 76,000 by 2001, and its percentage of the regional population almost doubled, from 11% to 21% (HRM, 2003). Development thrust northward toward the International Airport, in the vicinity of Waverley, Fall River, and Wellington Station. A second tentacle of growth extends west from Halifax and Bedford to Saint Margaret's Bay, and a third growth axis follows Highway 7, along the bayheads of the Eastern Shore. Such development caters to a large demand, but its obvious private benefits (Ewing, 1997; Gordon and Richardson, 1997) must be weighed against considerable (yet often hidden) social, fiscal, and environmental costs (Carruthers, 2003; Duany, Plater-Zyberk, and Speck, 2000). In particular, municipal provision of infrastructure and services can be excessively expensive when densities fall below critical thresholds (Benfield, Raimi, and Chen, 1999; Burchell et al., 2002). Since sprawl is characterized by piecemeal development, it also leads to fragmentation of remaining habitats, farmlands, and green spaces, which downgrades their viability or functionality (Millward, 2006a, table 1).

4.0 The 2006 Regional Plan

In 1996, partly to deal effectively with the uneven and costly impacts of sprawl (though there were other reasons: see Millward, 1996), the provincial government mandated amalgamation of the four Halifax-area municipalities, thus opening the way for a new regional plan and a unified vision of where to develop and where to prevent development.

As a stop-gap measure, growth-rate controls on new lot approvals were instated in three areas in 1998, as was master planning of key areas for new serviced development. However, a formal regional planning process was not approved until November 2001 (French and Millward, 2007). During Phase 1 (November 2001 to December 2002) the project team was strongly influenced by the somewhat amorphous concept of "smart growth" (Daniels, 2001; Danielsen, Lang, and Fulton, 1999; Filion and Hammond, 2003; Pim and Ornoy, 2005), as well as the more focused notion of "transit-oriented development" (TOD: see Calthorpe, 1993; Cervero and Kockelman, 1997; Dock and Swenson 2003). They thus identified four strategic areas for planning: growth management, integrated land-use and transportation planning, healthy communities, and environmental asset management.

Phase 2 of the process was approved in late 2002, and a steering committee of councillors and citizens was appointed to guide it. This Regional Planning Committee (RPC) worked with staff to solicit public input, agree upon guiding principles, goals, and objectives, and develop plan strategy and policies. A set of goals and objectives was agreed upon, which was then incorporated in three alternative growth scenarios. A preferred hybrid alternative was selected and refined with considerable public review (more than originally anticipated); it was approved by Council in June 2006. To allow full public discussion during this lengthy process, without releasing a flood of preemptive subdivision applications on the part of developers, the municipality enacted interim GM controls to freeze most private landholdings in the commutershed. Although vigorously opposed by developers, these controls were vital to the eventual success of GM.

The key impetus for the RMPS had come from the need to check unserviced sprawl and identify the best candidate areas for suburban serviced development. During Phase 1 a series of background studies was initiated to address these concerns either directly or indirectly and, in combination with GIS inventories and analyses, formed the technical basis of the plan's GM policies. Of particular importance were:

- Water Resources Management Study (Dillon, 2002), which highlighted the environmental risks of unchecked rural development
- Brownfield Site Options Paper (HRM, 2002), which revealed the potential for 10,000 new dwellings on underutilized commercial and industrial sites
- Greenfield Areas Servicing Analysis (CBCL, 2004), which assessed the economic costs of extending municipal services to 10 suburban areas and recommended rejection of three of the areas
- Settlement Pattern and Form Service Cost Analysis (HRM, 2004), which showed per-dwelling municipal service costs to be much less in high-density urban neighborhoods than in large-lot rural subdivisions

The RMPS contains many policies related to GM, which may be grouped under four interrelated strategies:

- Intensify within the current water/sewer service boundary
- Limit expansion of serviced areas through a tight *urban growth boundary* (UGB)
- Identify and encourage development nodes (*growth centres*) beyond the UGB
- Restrict and reshape development elsewhere in rural areas

Critical elements in this four-pronged approach are the tightness of the UGB and the degree of development control beyond it (see Millward, 2006b, fig. 1). The plan imposes a moderately tight boundary (particularly in North American terms) and strong development controls within the commutershed but is less restrictive in remote rural areas. Many of the key GM policies will be effected directly through the plan or its companion regional subdivision bylaw, or through amendments already made to the secondary land-use bylaws.

5.0 The Service and Growth Boundaries

Urban containment should be accompanied by a positive program to encourage infill housing and higher densities in order to avoid both excessive housing costs and premature expansion at the urban periphery (Nelson and Duncan, 1995, p. 85). Various policies in the Halifax regional plan encourage intensification and/or re-densification in existing residential and mixed-use areas, though their detailed implementation will await "community visioning" and secondary planning. It is expected that 25% of new housing will be provided in existing, serviced built-up areas.

Areas within which serviced development may be extended over the 25-year plan effectively define an interim urban growth boundary (as conceived by Nelson, 1992), although that term is not employed officially in the plan. Within the UGB, intensification will be focused on a series of transit villages, termed *urban settlement centres*, and these centres in turn are related to high-capacity transit routes (bus rapid transit and ferries). There is a single regional centre (the twin downtowns of Halifax and Dartmouth, jointly termed *the Capital District*), eight *district centres*, and 20 *local centres* (see Figure 2). They are envisaged as "mixed-use transit-oriented communities" to accommodate a mix of residential, commercial, and institutional uses at medium to high densities. Negative public perceptions of higher density and mixed land use will be countered by policies stressing improved urban design, as recommended by Alexander and Tomalty (2002, pp. 404–5).

The plan maps broad land-use designations that form the basis for growth control: *Urban settlement* and *harbour-related uses* lie within the growth boundary, while *urban reserve*, *rural commuter*, and *open space and natural resources* lie beyond, but within the commutershed (see Figure 3). Fifty percent of new housing is expected to occur on serviced greenfield sites, since extensive undeveloped areas remain within the UGB—considerably more than is likely to be required over the plan's 25-year time horizon. The plan, however, allows strong control over the location and timing of greenfield development, since the regional subdivision

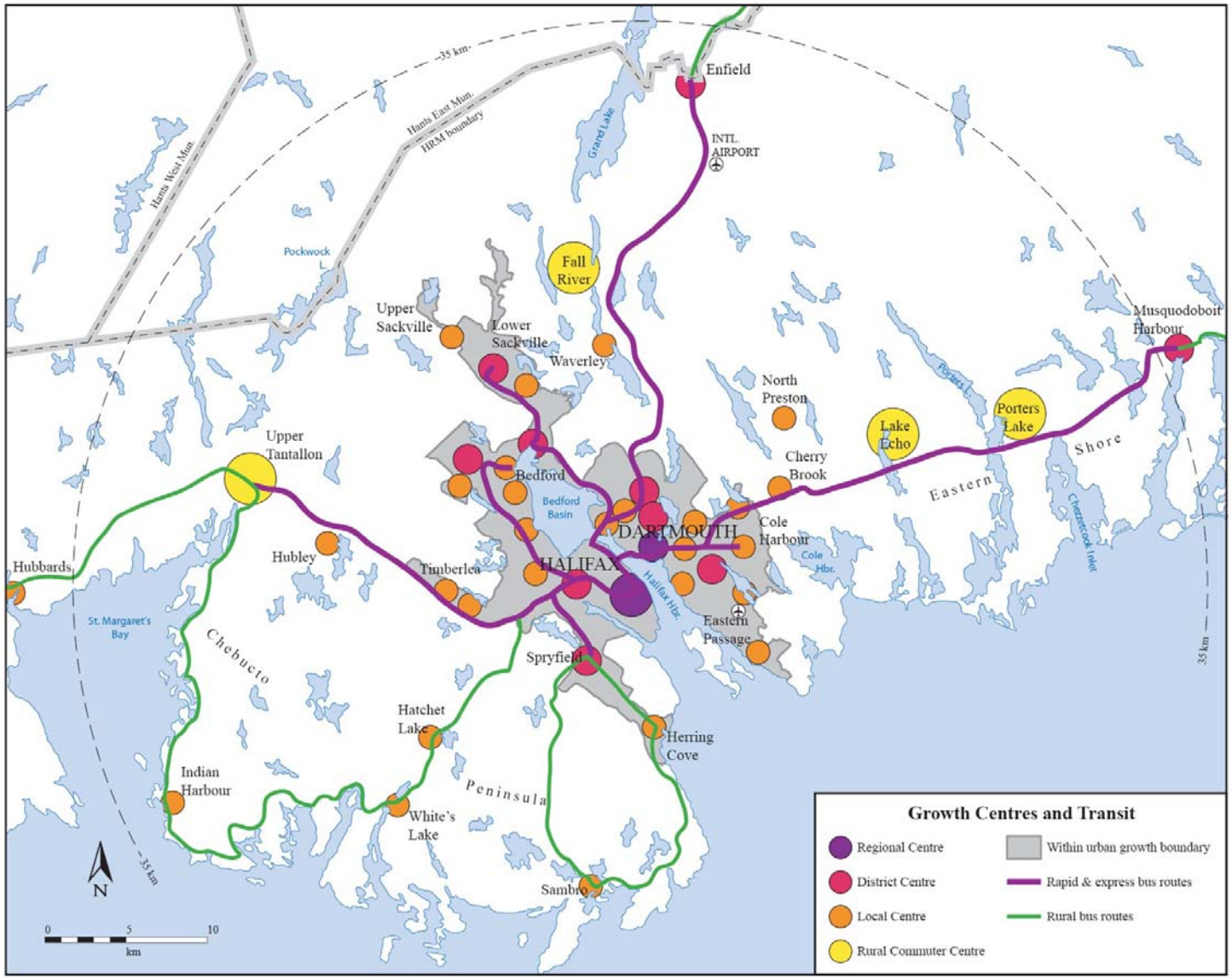

Figure 2. Growth centres and proposed rural transit routes in the 2006 Regional Plan

bylaw defines an *urban service area*, which in effect constitutes a second and tighter form of growth boundary (see Nelson and Duncan, 1995, pp. 73–5, for a discussion of growth versus service boundaries). In order to bring their lands within the service area (i.e., share costs with the municipality to extend sewer and water lines), developers are required to demonstrate that sufficient sewage capacity exists, development will "protect the fiscal health of HRM," sufficient community services exist, and environmental impacts will be minimal. New greenfield districts will be focused on new mixed-use transit centres, such as Bedford West and Russell Lake.

By-right development is severely restricted within the UGB, although legally some development rights must remain. The plan foresees most development proceeding by development agreement, within comprehensive development districts. Such contracts will normally require a mix of housing types, at neighborhood densities ranging upward from 25 units per hectare. Between the service boundary and the UGB, zoning requires a minimum lot size of two hectares for lots lacking municipal services: This option is deliberately unattractive, so that developers will prefer to lobby for extension of the service boundary, through the mechanism detailed above.

Urban Reserves (Nelson, 1992) are set aside for future expansion of the UGB, beyond the period of the plan. These seven zones cluster adjacent to the urban settlement area (see Figure 3) but were judged in the Greenfield Analysis to be inferior candidates for serviced development in the near future. To avoid large-lot subdivisions that will preempt or hinder higher-density serviced development later, development in these zones can occur by right only on existing lots fronting existing roads. Again, this restriction is likely to be so unattractive that landholders will prefer to wait for later inclusion within the UGB. There should therefore be no need for shadow platting (as outlined by Nelson and Duncan, 1995, pp. 81–2).

The Halifax urban reserves, while based on Nelson's conceptual logic, do not necessarily define on their outer edges an ultimate or permanent UGB, since additional reserves or reserve extensions may be identified in future plan revisions. They do, however, provide ample room for extension of the interim UGB, as envisaged by Nelson (1992, fig. 5).

6.0 Growth Management Policies beyond the UGB

Concern to protect environmental and cultural assets is paramount in the RMPS for areas beyond the UGB and is the focus of Chapter 2 (Environment) and Chapter 6 (Cultural and Heritage Resources). The RMPS establishes development practices designed to minimize impacts on water, land, and air through strategic location, compact community design, and strong buffering around watercourses. Polices protect water supplies, wetlands, and riparian buffers and foster development of an integrated system of parks and natural corridors to maintain ecosystem health. Over the long term, watershed studies and water-quality monitoring programs will be undertaken to support integrated environmental planning at the local level through secondary planning processes.

Property ownership is an important consideration relating to environmental protection. Fortunately large tracts of unsettled land remain in provincial

government hands (as Crown lands, some of which are designated wilderness areas and game sanctuaries) or are owned in large blocks by forestry companies. All such lands were designated *Open Space and Natural Resources* and have very restrictive development controls: No new roads can be built, and new houses on existing roads must have lot areas of at least 20 ha. Further, no housing is allowed in regional parks and protected areas.

The commutershed was defined as all road-accessible land within 50 km (straightline) of downtown Halifax. About half of this area is in small private landholdings and is designated *Rural Commuter*. About 25% of housing growth is expected to occur here, but the plan will encourage most development to cluster in and near growth centres, while severely restricting by-right development in intervening rural areas. The 22 rural centres (7 of which lie north or east of Figure 2) were identified by their population size, the presence of existing services (particularly elementary schools), and the size and spacing of their catchment areas. The intention was to ensure that all populated localities, even in remote eastern areas, be within 20 road km of a centre, and most within 10 km.

Though termed *growth centres* in the plan, not all rural centres have the same intended functions, and not all will grow. Those beyond the commuter belt (e.g., Tangier and Moser River) are intended primarily to concentrate services and population in the largest and most viable peripheral centres in order to minimize overall demographic and economic decline. Following Ray Green (1966), their prime function is settlement rationalization (Robinson, 1990, pp. 378–89). By contrast, centres within the commuter belt (e.g., Waverley and Hatchet Lake) will act as "key settlements" (Cloke, 1979, 1983): By concentrating growth, they will minimize the negative spatial impacts of development and allow efficient investment in services and infrastructure. Communities designated as regional and local centres in the 2006 Regional Plan are typically the same ones selected as growth centres and development villages in the county's draft 1978 plan.

Like their urban counterparts, rural growth centres will be mixed-use activity centres, with relatively high population densities, focused on existing infrastructure and services, and clustered around bus transit stations. Most have an existing historic core, within which comprehensive planning will encourage densification. However, only two rural centres (Middle Musquodoboit and North Preston) currently have both central sewer and water services, and only a handful of others are candidates for future central services. Consequently, most rural growth centres are likely to retain large minimum lot sizes (at least 0.5 acre) and will neither look nor feel like the urban centres.

Currently, there is no scheduled bus service beyond the urbanized areas (UGB), with the exception of routes to Tantallon in the west and North Preston in the east. The RMPS will rectify this problem by providing some form of bus service to all rural growth centres. Rural express services, with associated park-and-ride facilities, will be provided to Tantallon, Enfield (and the Airport), and Porters Lake (see Figure 2), while local bus services and/or paratransit will gradually be extended to smaller and more remote growth centres. Some paratransit options to be considered in the upcoming Public Transit Functional Plan include passenger vans, jitneys, rural taxis (dial-a-bus), and community car-sharing.

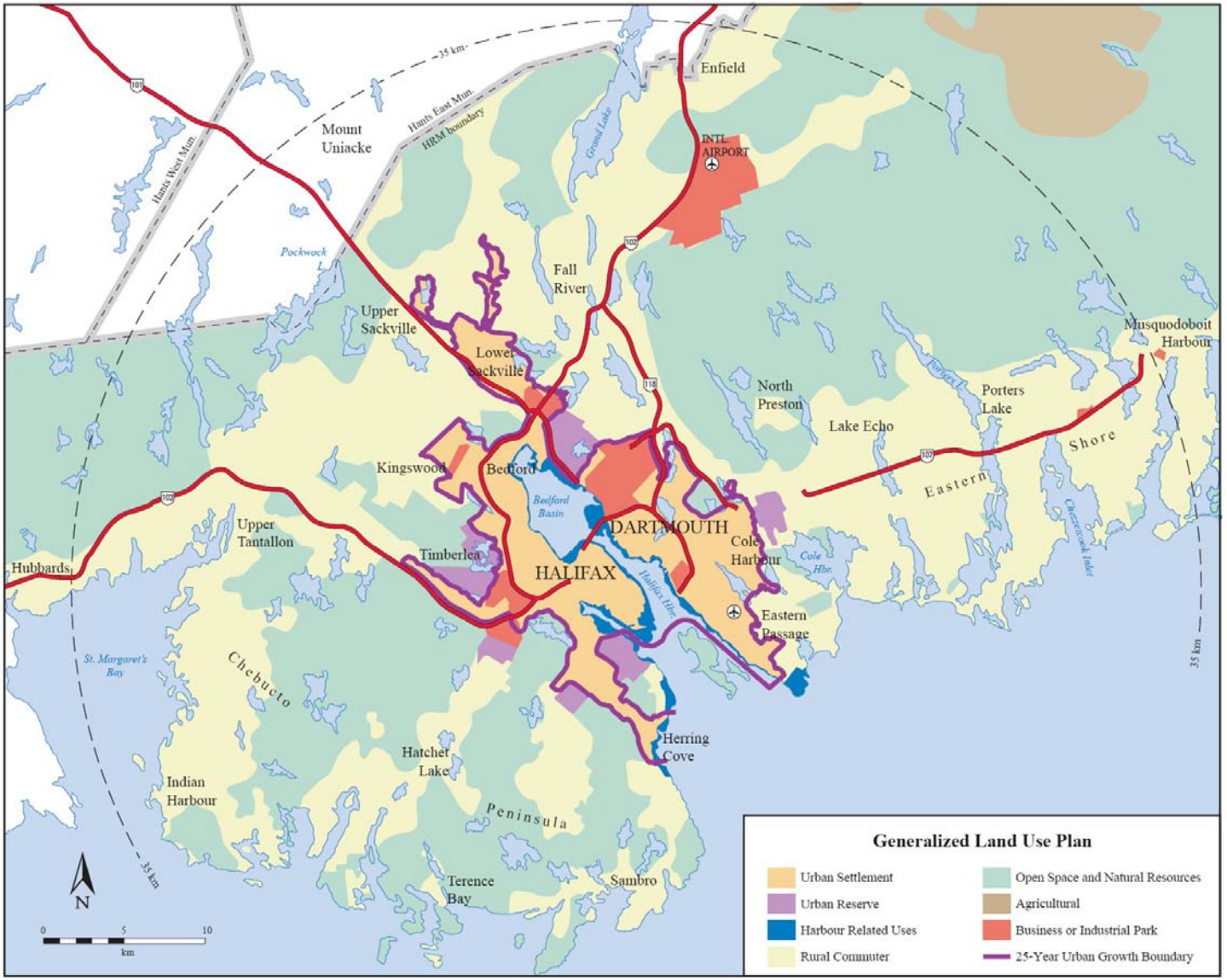

Figure 3. Urban growth boundary and generalized land use designations in the 2006 Regional Plan

The four *rural commuter centres* (Upper Tantallon, Fall River, Lake Echo, and Porters Lake) are similar in population and function to district centres but will be different in form. They have already developed as extensive auto-oriented residential exurbs and cannot easily be retrofitted into compact, multiuse centres. However, as in other centres, community visioning will aim to identify commercial/institutional nodes and opportunities for densification.

The regional plan contains many policies relating to GM on private lands outside growth centres. These policies vary depending on the land-use designation and employ a well-known suite of zoning, subdivision, and development control tools, such as minimum lot sizes, maximum rate of lot creation, agricultural reserves, density bonuses, and the like (Beesley, 1999; Daniels and Lapping, 2001; Daniels and Nelson, 1986; Nelson and Duncan, 1995, chap. 3;). The most stringent controls apply to private forestry lands designated *open space and natural resources* (see Figure 3), where new roads will not be approved and where on existing roads new dwellings not associated with forestry or agriculture require minimum 20 ha lots (but only 0.4 ha if so associated). In the *rural resource* (coastal lands east of Jeddore, not shown in Figure 3), *agricultural,* and *rural commuter* designations, there is more latitude: Lots on new roads can be approved, as-of-right, up to a maximum of eight. This allows small developers some cash flow, while precluding large new subdivisions. In addition, new lots can be created on existing roads according to current minimum sizes (typically 0.5 or 1.0 acre), except for certain traffic management zones, wherein the Traffic Authority has identified the main road to be already at capacity.

To respond to consumer demand and to reduce land-owner objections to the new controls, the plan contains provisions for a more environmentally friendly form of rural subdivision, which will be approved by development agreement only. *Open space design* (a.k.a. cluster design or conservation design—see Arendt, 1992, 1997; Nelson and Duncan, 1995, pp. 67–9) minimizes negative environmental impacts of low-density subdivision by clustering houses around shared septic systems and retaining large areas of undisturbed habitat. Such design will be permitted in lands designated *rural commutershed* where hydrogeologic and soil conditions are suitable; but these lands must retain 80% of their area undisturbed and have a maximum density of one unit per hectare. To encourage the dedication of common spaces (envisaged in the classic form of open-space design), the density may increase to 2.5 units per hectare where at least 60% of the site is in single ownership. However, the classic form requires clustering of small private lots, which may not be practicable in many HRM areas, owing to soil and groundwater conditions. In such cases, hybrid open-space designs are envisaged, with most land in large private lots, but with minimal road construction and vegetation disturbance.

7.0 Lessons and Prospects

Perhaps the most obvious lesson from this review is that thorough and forceful regional GM policies are best achieved (and we hope best administered) through a single municipal unit. The 1963 and 1975 regional plans were much shorter and narrower in scope than the 2006 Regional Plan and were not fully implemented, owing to their advisory nature. In particular, the earlier plans focused on capital projects such as sewage plants, sewer mains, bridges, and highways, and they were successful only to the extent that senior levels of government provided funding for

those projects. Their recommendations for GM and urban containment were either minimal (the 1963 plan actually exacerbated sprawl) or relied for implementation on several (eventually 18) municipal plans. Thanks to municipally imposed interim GM controls, the RMPS was also developed with full public discussion, without triggering excessive subdivision activity by developers hoping to grandfather approved or draft subdivisions ahead of new GM policies.

The RMPS leaves many details to be fleshed out in revised versions of the municipal plans (now relabeled as secondary plans), but it provides full and clear direction for the process (182 policies), and all secondary plans must conform to it. The highest priority for secondary planning is placed on the commercial core (Capital District), and a detailed urban design study in support of this process is well underway. Community visioning exercises have been initiated in three district centres (one urban, one suburban, and one rural). Visioning will provide a detailed implementation framework at the local level for both municipal service delivery and community design. To provide direction in the transition from regional planning to community planning, a standing advisory committee of community, industry, and government representatives has been established. Housing and demographic trends will be monitored, as will land supply, and it is anticipated that the regional plan will undergo a substantial review every five years.

Regarding the central concern of GM, the RMPS presents a more comprehensive and nuanced set of policies than earlier plans and demonstrates clear understanding of the different situations and needs in urban, suburban, commutershed, and remote rural areas. By use of generalized future land-use designations, different types of area are assigned to different regimes of development control. In areas intended for central sewer and water services, almost all development will be by agreement (not by right), and the location and timing of development will be managed through extensions to the service and growth boundaries. In the commutershed, by contrast, smaller developments on existing roads may still proceed by right, but there are large incentives to focus development in growth centres or to cluster it through open space design.

The RMPS received strong, though not unanimous, endorsement from HRM Council, with rural councillors being most skeptical. Somewhat surprisingly, there was strong approval from both environmentalists and the development community. The two groups were most divided on the future status of lands on the western edge of the service boundary, particularly lands recommended for the new Birch Cove Lakes regional park. In the final stages of plan preparation, several large developers successfully applied pressure to expand the UGB at the expense of the urban reserves in this area, thus loosening the UGB and potentially lessening the ability of planners to control the location and timing of new planned communities. Wrangling over these late changes highlighted the pivotal importance of both service and growth boundaries to the success of urban growth management. Planning staff will therefore need to develop and evenhandedly administer clear protocols and criteria for extensions to the service and growth boundaries.

8.0 Acknowledgments

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9.0 References

Alexander, D., & Tomalty, R. (2002). Smart growth and sustainable development: Challenges, solutions and policy directions. *Local Environment, 7*(4), 397–409.

Arendt, R. (1992). Open space zoning: What it is and why it works. *Planning Commissioners' Journal, 5*, 4–8.

Arendt, R. (1997). Basing cluster techniques on development densities appropriate to the area. *Journal of the American Planning Association, 63*, 137–145.

Beesley, K. (1999). Agricultural land preservation in North America: A review of expert opinion. In O. Furuseth & M. Lapping (Eds.), *Contested countrysides: The rural-urban fringe in North America* (pp. 57–91). Brookfield, VT: Ashgate.

Benfield, F. K., Raimi, M. D., & Chen, D. D. T. (1999, March). *Once there were greenfields: How urban sprawl is undermining America's environment, economy, and social fabric*. Washington, DC: Natural Resources Defense Council and the Surface Transportation Policy Project.

Brower, D., Godschalk, D., & Porter, D. (1989). *Understanding growth management*. Washington, DC: Urban Land Institute.

Burchell, R., Lowenstein, G., Dolphin, W., & Galley, C. (2002). *The costs of sprawl—2000*. Washington, DC: National Academy Press.

Calthorpe, P. (1993). *The next American metropolis*. Princeton: Princeton Architectural Press.

Carruthers, J. (2003). Growth at the fringe: the influence of political fragmentation in United States metropolitan areas. *Papers in Regional Science, 82*, 475–499.

CBCL, Ltd. (2004). *Final report: Greenfield areas servicing analysis*. Halifax: Halifax Regional Municipality.

Cervero, R., & Kockelman, K. (1997). Travel demand and the 3Ds: Density, diversity, and design. *Transportation Research Part D-Transport and Environment, 2*, 199–219.

Cloke, P. (1979). *Key settlements in rural areas*. London: Methuen.

Cloke, P. (1983). *An introduction to rural settlement planning*. London: Methuen.

Coblentz, H. (1963). *Halifax region housing survey 1960–63*. Halifax: Halifax Housing Survey.

Daniels, T. (2001). Smart growth: A new American approach to regional planning. *Planning Practice & Research, 16*, 271–279.

Daniels, T., & Lapping, M. (2005). Land preservation: an essential ingredient in Smart Growth. *Journal of Planning Literature, 19*, 316–329.

Daniels, T., & Nelson, A. (1986). Is Oregon's farmland preservation program working? *Journal of the American Planning Association, 52*, 22–32.

Danielsen, K. A., Lang, R. E., & Fulton, W. (1999). Retracting suburbia: Smart growth and the future of housing. *Housing Policy Debate, 10*, 513–540.

Dillon, C. (2002). HRM water resource management study. Halifax: Halifax Regional Municipality.

Dock, F. C., & Swenson, C. J. (2003). *Urban design, transportation, environment, and urban growth: transit-oriented urban design impacts on suburban land use and transportation planning*. Minneapolis: Center for Transportation Studies, University of Minnesota.

Downs, A. (1989). *The need for a new vision for the development of large U.S. metropolitan areas*. New York: Salomon Brothers.

Duany, A., Plater-Zyberk, E., & Speck, J. (2001). *Suburban nation: The rise of sprawl and the decline of the American dream* (2nd ed.). New York: North Point Press.

Ewing, R. (1997). Is Los Angeles-style sprawl desirable? *Journal of the American Planning Association, 63*, 107–126.

Filion, P., & Hammond, K. (2003). Neighbourhood land use and performance: The evolution of neighbourhood morphology over the 20th century. *Environment and Planning B-Planning & Design, 30*, 271–296.

French, A. (2007). The 2006 Halifax regional plan: process and overview. *Plan Canada, 47(1)*, 40-43.

Gayler, H. (1990). Changing aspects of urban containment in Canada: The Niagara case in the 1980's and beyond. *Urban Geography, 11*, 373–393.

Gordon, P., & Richardson, H. W. (1997). Are compact cities a desirable planning goal? *Journal of the American Planning Association, 63*, 95–106.

Grant, J. (1989). Hard luck: The failure of regional planning in Nova Scotia. *Canadian Journal of Regional Science, 12*, 273–284.

Green, R. (1966). The remote countryside—a plan for contraction. *Planning Outlook, 1*, 17–37.

Hodge, G., & Robinson, I. (2001). *Planning Canadian regions*. Vancouver: UBC Press.

HRM, Halifax Regional Municipality (2002). *Brownfield sites: An options paper.* Halifax: HRM Planning and Development Services.

HRM, Halifax Regional Municipality (2003). *Baseline report: Population, housing, employment, journey-to-work.* Halifax: HRM.

HRM, Halifax Regional Municipality (2004). *Settlement pattern and form with service costs analysis: Preliminary report.* Halifax: HRM.

HRM, Halifax Regional Municipality (2006). *Regional municipal planning strategy*. Halifax: HRM.

Johnson, M. (2001). Environmental impacts of urban sprawl: A survey of the literature and proposed research agenda. *Environment and Planning A, 33*, 717–735.

Kunstler, J. H. (1993). *The geography of nowhere: The rise and decline of America's man-made landscape*. New York: Touchstone.

Lang, R. (1972). *Nova Scotia municipal and regional planning in the seventies*. Halifax: Nova Scotia Dept. of Municipal Affairs.

Levy, J. (2003). *Contemporary urban planning* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

MAPC, Metropolitan Area Planning Committee (1975). *Halifax-Dartmouth regional development plan*. Halifax: Nova Scotia Dept. of Municipal Affairs, Community Planning Division.

Millward, H. (1996). Greater Halifax: public policy issues in the post-1960 period. *Canadian Journal of Urban Research, 5*, 1–17.

Millward, H. (2002). Peri-urban residential development in the Halifax region 1960–2000: Magnets, constraints, and planning policies. *Canadian Geographer, 46*, 33–47.

Millward, H. (2006a). Metropolitan form and the environment. In T. Bunting and P. Filion (Eds.), *Canadian cities in transition* (3rd ed., pp. 363–78). Don Mills, Ontario: Oxford University Press**.**

Millward, H. (2006b). Urban containment strategies: A case-study appraisal of plans and policies in Japanese, British, and Canadian cities. *Land Use Policy, 23*, 473–85.

Nelson, A., & Duncan, J. (1995). *Growth management principles and practices*. Chicago: APA Planners Press.

Nelson, A. C. (1992). Preserving prime farmland in the face of urbanization. *Journal of the American Planning Association, 58*, 467–489.

PPC, Project Planning Consultants. (1978). *The County and its people, report no. 3: The community and the environment.* Halifax: Project Planning Consultants for County of Halifax.

Pim, L. and Ornoy, J. (2005). *A smart future for Ontario: How to create greenways and curb urban sprawl in your community, rev. ed. Toronto: Ontario Nature*—Federation of Ontario Naturalists. Online at http://www.ontarionature.org/enviroandcons/smart_growth/index.html

Robinson, G. (1990). *Conflict and change in the countryside*. London: Belhaven.

Rothblatt, D. N. (1994). North American metropolitan planning: Canadian and U.S. perspectives. *Journal of the American Planning Association, 60*, 501–520.

Tomalty, R. (2002). Growth management in the Vancouver region. *Local Environment, 7*, 431–445.