

MUNICIPAL REVENUE GENERATION AND DEVELOPMENT IN THE CALGARY AND EDMONTON METROPOLITAN REGIONS[†]

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SUMMARY

Municipal reliance on property taxes and the competing priorities of municipalities—in terms of where they plan and approve land development within their boundaries—in order to capture new property taxes, has led to political conflict between adjacent municipalities.¹ Nowhere in Alberta is this more evident than in the Edmonton and Calgary metropolitan regions, where sustained high-levels of growth has led to the expansion of the core-cities, rapid residential development rates in peripheral urban centres and the rise urban-scale development in the rural municipal districts – spurring intra-metropolitan competition, harsh words and hurt feelings amongst municipalities.² In response to this ongoing conflict, the province and at times the municipalities themselves have developed successive regional planning frameworks over the past 60 years³ to guide development and encourage—and at times enforce—intermunicipal collaboration.

In an exploration of the contemporary relationship between municipal finance and development patterns in the Calgary and Edmonton metropolitan regions, we use municipal property tax and building-permit data for new residential, commercial and industrial development to track the incidence of development since 1983 and the property tax rates for municipalities in both regions from 2001 to 2015. In looking at the tax data there is evidence of increasing competition among municipalities, in particular for non-residential development; however, the trends could also be consistent with collusion. In looking at the building permit data, although there has been a lot of development in the peripheral urban and rural municipalities, proportionately, growth and development has occurred overwhelmingly in the core-cities. Our findings point to a system where local development considerations in both metropolitan regions, and the municipal prerogative to set municipal tax rates to attract development, take precedence over the regional planning frameworks in place.

[†] We would like to thank Mukesh Khanal for his invaluable research assistance and the Alberta Land Institute for financial support of this research project and the accompanying paper “Municipal Revenue Generation and Sprawl: Implications for the Calgary and Edmonton Metropolitan Regions Derived from an Extension of ‘Causes of Sprawl’ (Technical Paper)” by Mel McMillan.

¹ For past examples see, for Edmonton, T.J. Plunkett and James Lightbody, “Tribunals, Politics, and the Public Interest: The Edmonton Annexation Case,” *Canadian Public Policy* 8, 2 (Spring 1982): 207-221; and for Calgary, Geoff Ghitler and Alan Smart, “Mad Cows, Regional Governance, and Urban Sprawl: Path Dependence and Unintended Consequences in the Calgary Region,” *Urban Affairs Review* 44, 5 (May 2009): 617-644.

² For examples see Bailey Hildebrand, “Battle brewing as Chestermere attempts to annex land to block development,” *Calgary Herald*, December 20, 2015, <http://calgaryherald.com/news/local-news/development-battle-brewing-as-chestermere-attempts-to-annex-land-to-block-development>, accessed June 15, 2015; and Elise Stolte, “We’re being undercut in the region,” *Edmonton Journal*, April 2, 2013, <http://edmontonjournal.com/news/local-news/were-being-undercut-in-the-region>, accessed February 15, 2016.

³ Voluntary District Planning Commissions were established in the 1950 Town and Rural Planning Act; however, it was the 1956 Report of the Royal Commission on the Metropolitan Development of Calgary and Edmonton (also known as the McNally Commission Report) that outlined a series of metropolitan problems that framed the establishment of 10 mandatory Regional Planning Commissions (RPCs) across Alberta in the 1963 Planning Act; the RPCs directed development in their regions until they were disbanded in 1995.

INTRODUCTION

Alberta's municipalities generate local revenue through property taxes, user fees for services, licensing systems, and a host of discretionary tax tools and development-related levies afforded to them by the Municipal Government Act (MGA). The most important of these are property taxes, which for Alberta's largest cities, Calgary and Edmonton, accounted for 31.6 per cent and 39.0 per cent of their respective total revenue in 2014.⁴ What makes property taxes unique compared to the many other tax tools available under the MGA is that they are intrinsically linked to the present use and, by extension, the value of land. This spatial quality, and the relative importance of property taxes to a given municipality's bottom line, has influenced many municipalities in Alberta as they focus on physical growth as a means to increase their revenue base. This growth takes the form of land-use intensification—turning undeveloped, agricultural, or brownfield land into a more “profitable” use—which is either promoted through a municipality's development policies or in some instances undertaken by the municipality itself. In this paper, we explore the relationships between municipal finance and development patterns in the Calgary and Edmonton metropolitan regions. In particular, we seek to better understand whether the source of local government revenues and reliance on property taxes takes precedence over regional planning in the development decisions of municipalities.

The paper is organized into four sections. In Section 1, we introduce our study areas, which are a hybrid of municipalities within Calgary's and Edmonton's Census Metropolitan Areas and regional planning frameworks, and discuss the growth and distribution of the metropolitan population. In Section 2, we describe metropolitan planning in Alberta, with special attention paid to the regional planning frameworks that direct development in the Calgary and Edmonton Regions. In Section 3, we describe trends in property taxation, the largest own-source revenue for the municipal governments in the Calgary and Edmonton Regions. In Section 4, we describe the location of residential, commercial, and industrial development in the Calgary and Edmonton Regions. To conclude, we summarize our observations on the implications of municipal revenue generation on metropolitan development. Before we explore this issue, however, it is important that we review two prominent economic models on the impact of property taxation on the extent and timing of land development in urban areas.

Literature on Municipal Revenue Generation and Land Development

Land development is fundamentally driven by market forces arising from population increase, rising incomes and low(er) commuting/travel costs. As Brueckner notes,⁵ development may not be welfare maximizing because of market failures such as:⁶

- commuters do not pay the marginal social costs of congestion and pollution or the construction and maintenance costs of roads and freeways, leading to pressures to make excessive investment in road infrastructure;

⁴ In 2014, Calgary was less reliant on property taxes than Edmonton because Calgary received a larger share of its revenues from sales and user charges and provincial transfers than Edmonton. For a general discussion of the current and prospective revenue sources of Calgary and Edmonton, see Melville McMillan and Bev Dahlby, “Do Municipal Governments Need More Tax Powers? A Background Paper on Municipal Finance in Alberta,” University of Calgary School of Public Policy Research Paper 7, 33 (November 2014).

⁵ Jan K. Brueckner, “Urban Sprawl: Lessons from Urban Economics,” *Brookings-Wharton Papers on Urban Affairs* (2001): 65-97.

⁶ See Brueckner, “Urban Sprawl,” for an empirical study, based on 40 small to modest-sized urban areas, on the forces underlying urban expansion, which he identifies as population growth, household income, agricultural land value/rent, and commuting costs.

- new development on the periphery may be subsidized with developers paying less than the marginal cost of roadways, utilities and other infrastructure; and
- the externalities generated by agricultural land and open space may not be properly reflected in land prices.

The basic problem (at least from the economist's perspective) is to get the prices right so the market allocates land to its most valuable uses from a broad social perspective. Given the often-expressed concerns over perceived inefficient development of land, i.e., sparse residential densities referred to as "sprawl," a range of possible causes and potential solutions has been considered, including the way municipalities generate revenue.

Economists have developed models of the effect of municipal revenue generation on land development, two of which are of particular importance to this paper. In the first model, Brueckner⁷ develops a spatial model of a city, with a fixed number of residents, to analyze of the effect of property taxes on population density. Residential development involves investments of capital on land to produce dwellings of a fixed size (a given number of square feet). More capital invested per unit of land results in taller structures, more dwellings per unit of land, and higher population density. Commuting costs vary with distance to the centre of the city. As a result, housing prices are higher the closer the dwelling is to the centre of the city and land rents decline with distance from the centre. The geographic area of the city is determined by the condition that land rent from residential development at the city's boundary is equal to the rent obtained from agricultural land use. In the context of this model, a property tax increase has an income effect and a capital-intensity effect on land use. An increase in the property tax, by reducing residents' disposable incomes, changes the slope of the land-rent gradient, lowering land rent near the centre of the city and increasing it at the existing boundary. This induces an expansion of residential development on existing agricultural property and the population density of the city declines. This income effect is not unique to property taxes and would be generated by any local tax increase, including a local sales tax or a local income tax. However, the property tax also has a capital-intensity effect because it raises the cost of capital, and this reduces the amount of capital invested per unit of land, i.e., it becomes relatively more costly to build taller residential structures. This reduces the number of dwellings per unit of land and induces an increase in the area of the city and, in turn, sprawl.

Thus, the Brueckner model predicts that a higher property tax will increase sprawl, perhaps more than other taxes, because of the capital-intensity effect that is not present with sales or income taxes. However, Brueckner notes that this conclusion is conditional on a key assumption of the model: that dwelling sizes are fixed. If this assumption were relaxed, a property tax increase would create an incentive to reduce dwelling sizes, which would increase population density at any given location, reducing the area of the city and increasing overall population density. With this caveat, Brueckner draws the rather weak conclusion that "property taxation may belong on the list of factors causing inefficient spatial expansion of cities..."⁸

In the second model, Arnott⁹ develops a model of the timing and intensity of investment in land development. The model assumes that a landowner has a unit of vacant land, and that the rent per unit of floor area of a structure is known and will increase over time. Once a structure is

⁷ Jan K. Brueckner, "Property Taxation and Urban Sprawl," in *Property Taxation and Local Government Finance*, ed. Wallace E. Oates (Cambridge: Lincoln Institute of Land Policy, May 2001), 153-172.

⁸ Brueckner, "Property Taxation," 13.

⁹ Richard Arnott, "Effects of Property Taxation on Development Timing and Density: Policy Perspectives," *Brookings-Wharton Papers on Urban Affairs* (2006): 189-230.

built, it does not depreciate and cannot be redeveloped. The owner maximizes the present value of the income from the property by deciding when to develop it and how much capital to invest, which will determine the density of the development. The model is sufficiently complex that the effect of a property tax increase has an ambiguous effect on the timing, and the amount, of capital invested. However, for reasonable parameter values, a property tax increase is shown to reduce the amount of capital invested and to delay the timing of the investment.¹⁰

The models of taxation and land use developed by Brueckner and Arnott provide interesting insights, but the interactions of the key variables—housing prices, land rents, dwelling sizes, the timing of development—are complex, and the consequences for land use are difficult to predict, especially in the United States where local governments have access to a variety of revenue sources. While the property tax is a mainstay of local government finance in the United States, many municipalities also impose sales taxes and even local income taxes. In this environment, more or less reliance on property taxes implies less or more reliance upon sales or income taxes if tax revenues are to be constant. Thus, there is a trade-off, or balance, among two or three sources of local tax revenues in most states. The choice may be a significant determinant of land use because property taxes impose a cost on holding land—a cost that may be particularly significant for undeveloped land. Where local sales and/or income taxes substitute for property taxes, the cost of holding property is reduced as the cost of financing local services is shifted from property owners to consumers and income earners.

In Alberta, the anticipated adoption of the Modernized Municipal Government Act in the fall of 2017, with specific legislation tied to a “Big City Charter” for Edmonton and Calgary, would open the door to a more complex mix of local tax levers for the councils of both cities. The implications for land use due to varying reliance on different tax bases is complicated, but we suspect that a greater reliance on property taxation should discourage sprawl. For example, reliance on sales taxation may encourage sprawl if new commercial developments occur on the fringe of the metropolitan area due to municipalities in the urban hinterland imposing lower sales tax rates than the core city.¹¹ The impact of municipal revenue generation on sprawl, in particular, is analyzed in detail in the accompanying paper: “Municipal Revenue Generation and Sprawl: Implications for the Calgary and Edmonton Metropolitan Regions Derived from an Extension of ‘Causes of Sprawl’ (Technical Paper).”

1. ALBERTA’S METROPOLITAN REGIONS & THEIR POPULATIONS

In defining both metropolitan regions, we have chosen to integrate the list of municipalities within the Statistics Canada Census Metropolitan Areas (CMAs) with the municipalities in the regional planning frameworks in place around Calgary (the Calgary Regional Partnership) and Edmonton (the Capital Region Board), as shown in Table 3. Importantly, for the Calgary Region we have included the four municipal districts that withdrew from the planning framework in 2012 and the three peripheral urban municipalities of Banff, Canmore and Nanton that withdrew earlier in 2016.

Municipalities in each metropolitan region, illustrated in Figures 1 and 2, have been organized into three categories: 1) the core-cities of Calgary and Edmonton, 2) the peripheral urban

¹⁰ See Arnott, “Effects of,” 202, Table 1.

¹¹ For example, see Daria Burnes, David Neumark and Michelle J. White, “Fiscal Zoning and Sales Taxes: Do Higher Sales Taxes Lead to More Retailing and Less Manufacturing?” *National Tax Journal* 67, 1 (2014): 7-50.

municipalities, which includes the smaller cities, towns and villages, and 3) the rural municipal districts (MDs)—many of which have branded themselves as Counties—in which we have grouped the specialized municipality of Strathcona County. Federally administered Indian Reserves, Summer Villages (a form of urban secondary residence municipality) and the Townsite of Redwood Meadows have been excluded in this analysis.

While the planning frameworks incorporate municipalities that at first glance may seem peculiar—either in terms of distance between the core-city and the peripheral urban municipality, such as Edmonton to Lamont (74 kilometres) or Calgary to Nanton (92 kilometres), or population, with Wabamun at 661 residents and Beiseker at 785—the CMAs, in particular Calgary’s, do not account for municipalities that are important players in the regional economy, such as the MD of Foothills and the Town of Okotoks.

TABLE 1 MUNICIPALITIES WITHIN ALBERTA’S METROPOLITAN REGIONS BY POPULATION IN 2011

Calgary Metropolitan Region (19 municipalities)					Edmonton Metropolitan Region (25 municipalities)				
Name	Status	CMA (8)	CRP (14)	Pop.	Name	Status	CMA (23)	CRB (24)	Pop.
Calgary	City	Y	Y	1,096,833	Edmonton	City	Y	Y	812,201
Airdrie	City	Y	Y	42,564	Strathcona County	SM	Y	Y	92,490
Rocky View County	MD	Y	F	36,461	St. Albert	City	Y	Y	61,466
Okotoks	Town	N	Y	24,511	Parkland County	MD	Y	Y	30,568
Foothills No. 31	MD	N	F	21,258	Spruce Grove	City	Y	Y	26,171
Cochrane	Town	Y	Y	17,580	Leduc	City	Y	Y	24,279
Chestermere	Town	Y	Y	14,824	Sturgeon County	MD	Y	Y	19,578
High River	Town	N	Y	12,920	Fort Saskatchewan	City	Y	Y	19,051
Strathmore	Town	N	Y	12,305	Stony Plain	Town	Y	Y	15,051
Canmore	Town	N	F	12,288	Leduc County	MD	Y	Y	13,541
Wheatland County	MD	N	F	8,285	Beaumont	Town	Y	Y	13,284
Banff	Town	N	F	7,584	Morinville	Town	Y	Y	8,569
Crossfield	Town	Y	F	2,853	Devon	Town	Y	Y	6,510
Black Diamond	Town	N	Y	2,373	Lamont County	MD	N	Y	3,872
Turner Valley	Town	N	Y	2,167	Gibbons	Town	Y	Y	3,030
Nanton	Town	N	F	2,132	Calmar	Town	Y	Y	1,970
Bighorn No. 8	MD	N	F	1,341	Redwater	Town	Y	Y	1,915
Irricana	Town	Y	Y	1,162	Lamont	Town	N	Y	1,753
Beiseker	Village	Y	N	785	Bon Accord	Town	Y	Y	1,488
					Legal	Town	Y	Y	1,225
					Bruderheim	Town	Y	Y	1,155
					Thorsby	Village	Y	Y	951
					Warburg	Village	Y	Y	789
					Wabamun	Village	Y	Y	661
					Spring Lake	Village	Y	N	533

Legend
Y=Yes
N=No
F=Former

FIGURE 1 THE CALGARY METROPOLITAN REGION

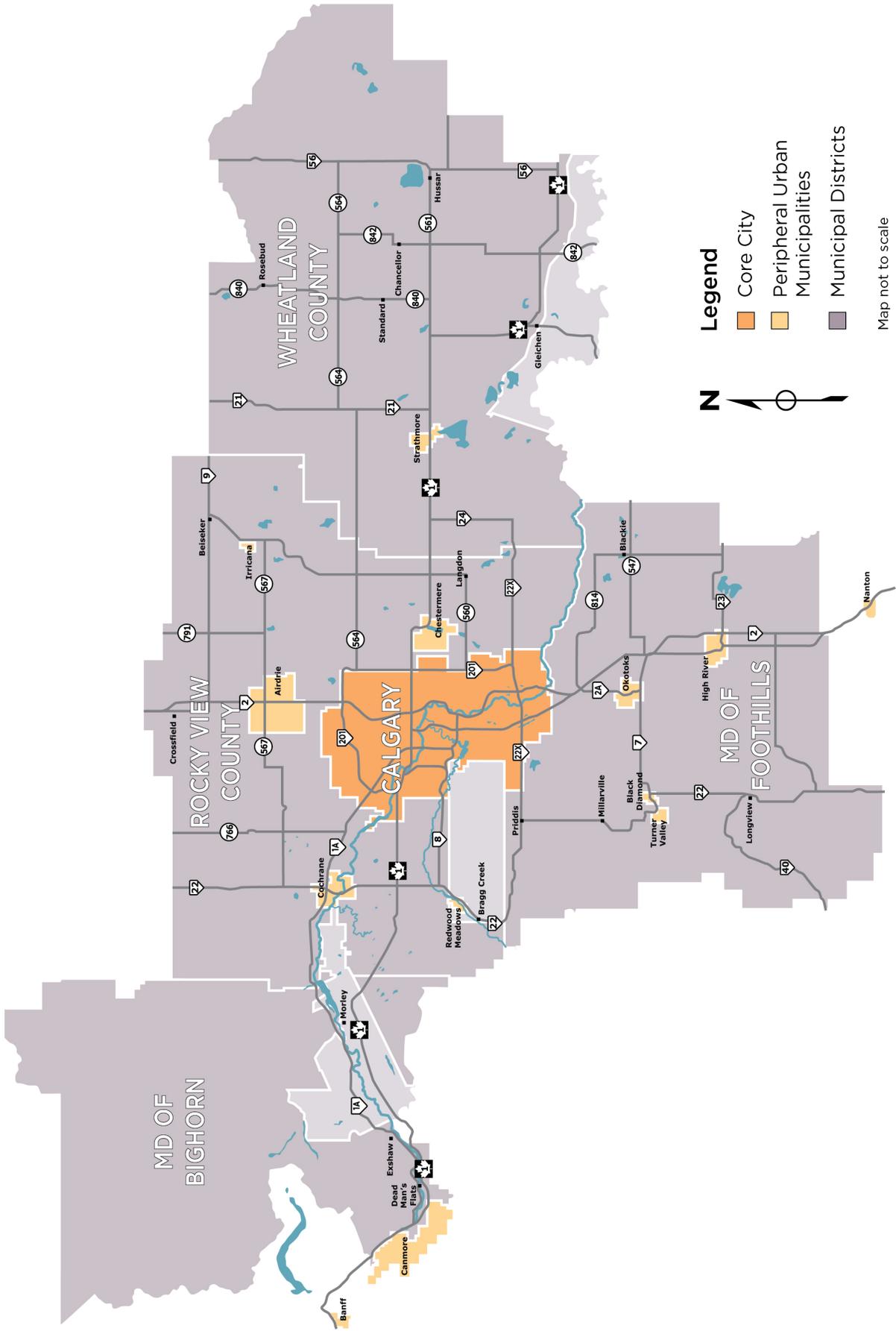
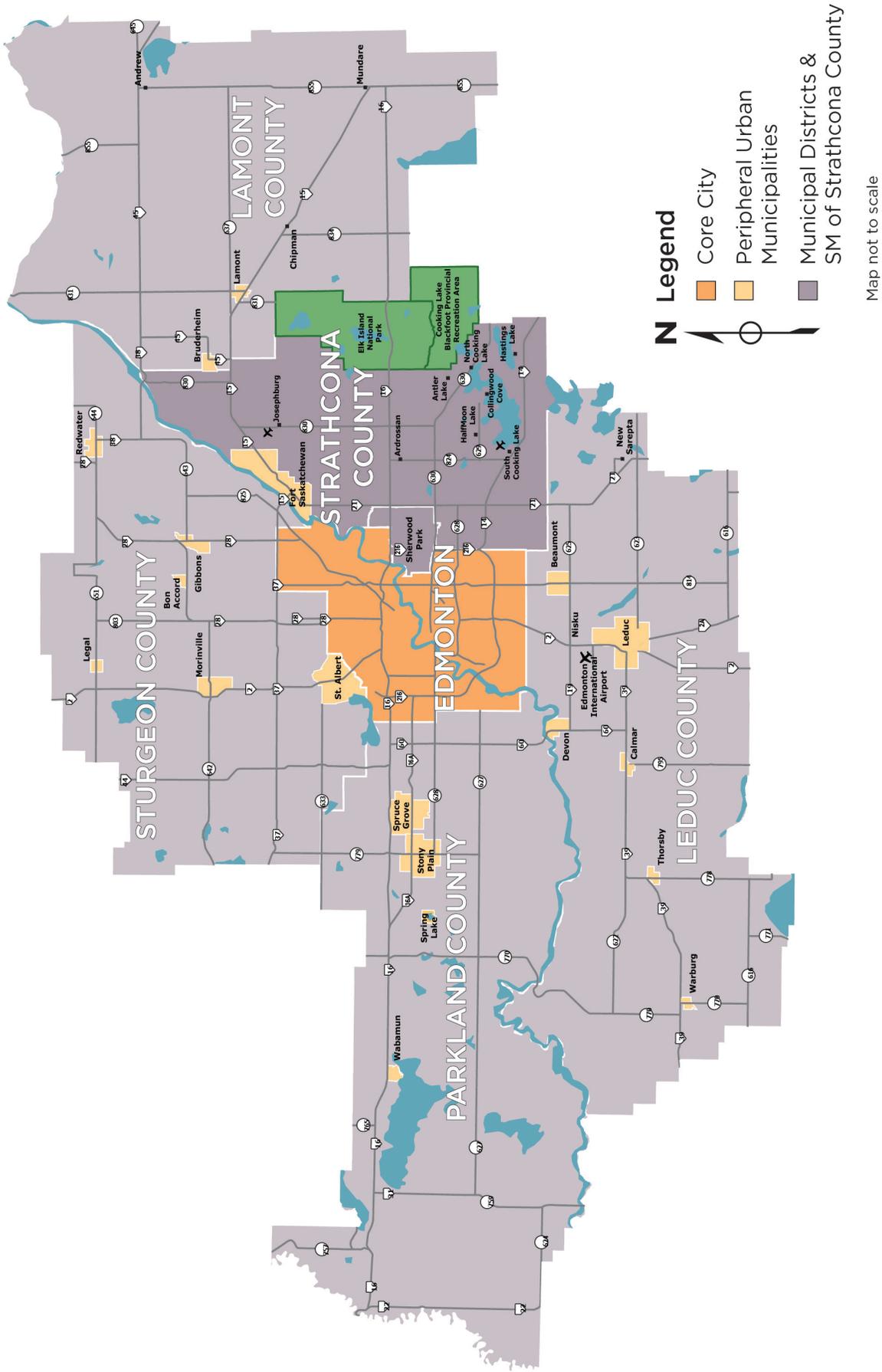


FIGURE 2 THE EDMONTON METROPOLITAN REGION



Population Concentration

Key to understanding Alberta's metropolitan regions is the fact that the population in each is overwhelmingly concentrated in its respective core-city. As shown in Table 2, in 2011 Calgary had 83.1 per cent of the region's population, while the remaining 14 peripheral urban municipalities accounted for 11.8 per cent and the four municipal districts accounted for 5.1 per cent. Likewise, Edmonton accounted for 69.9 per cent of the region's population, while the remaining 19 peripheral urban municipalities accounted for 16.3 per cent and the municipal districts, along with Strathcona County, accounted for 13.8 per cent.

TABLE 2 SHARE OF POPULATION IN ALBERTA'S METROPOLITAN REGION MUNICIPALITIES IN 2011

Metropolitan Region	Metropolitan Population	Percentage in the Core-City	Percentage in Peripheral Urban Centres	Percentage in Municipal Districts
Calgary	1,320,226	83.1	11.8	5.1
Edmonton	1,161,568	69.9	16.3	13.8

When comparing the Calgary and Edmonton Regions, there is a major difference in the degree of concentration in the respective core-cities. In the Calgary Region, this concentration of 83.1 per cent is largely the result of incremental annexations that have allowed Calgary to maintain control over its immediate environs. As noted by Sancton:

The official position of the City of Calgary is to maintain at least a 30-year supply of developable land within its boundaries. Having this land supply allows for the long-term planning necessary to accommodate Calgary's high rate of growth and to facilitate the planning and budgeting of infrastructure (sewers, roads). Periodic annexations are proposed to maintain a long-term land supply. The City claims that its annexation policy is a key part of Calgary's growth management strategy.¹²

As argued by The City of Calgary, its approach to annexation:

helps ensure that sprawl does not occur, that is, haphazard development, often at very low density. Calgary's planned suburban communities now achieve densities of 6 to 8 dwelling units per acre. This is almost 40% denser than communities built in the 1970's and 1980's, and some 12 to 16 times more land efficient than existing rural residential development outside Calgary's borders.¹³

Calgary's approach has been made easier due to the absence of large urban municipalities directly adjacent to its boundaries since major annexations in the 1960s absorbed the towns of Bowness and Forest Lawn, and the village of Montgomery. As a result, annexations by The City of Calgary over the last 50 years have consisted primarily of agricultural lands along with the rural hamlets of Midnapore and Shepard.

Edmonton's lower share of the metropolitan region's population, at 69.9 per cent, is largely because there are several significantly sized municipalities that are immediately adjacent, including Strathcona County (92,490), and St. Albert (61,466). The City of Edmonton tried

¹² Andrew Sancton, "The Governance of Metropolitan Areas in Canada," *Public Administration and Development* 25 (2005): 321.

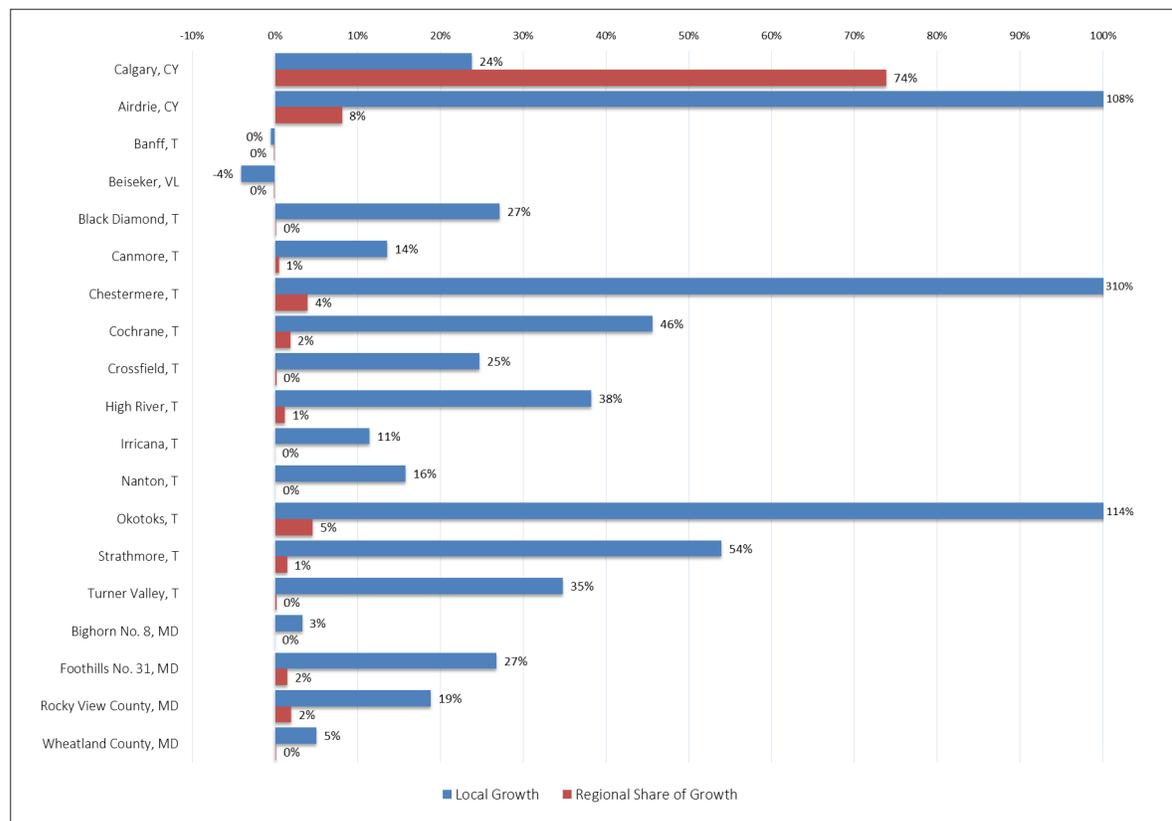
¹³ Calgary City of 2004. Annexation frequently asked questions in Andrew Sancton, "The Governance of Metropolitan Areas in Canada" *Public Administration and Development* 25 (2005): 321.

to annex both Strathcona County and St. Albert in 1979; however, the application was highly contentious and was rejected by the approval authority of the day, the Local Authorities Board, after 106 days of testimony.¹⁴

Population Growth

Looking first at the Calgary Region (Figure 3), the population of the core-city of Calgary grew by 24 per cent between 2002 and 2012, a growth rate that was much lower than peripheral urban municipalities such as Chestermere (310 per cent), Okotoks (114 per cent), and Airdrie (108 per cent). However, the larger base population in Calgary (904,987 in 2002) has meant that the city's growth represents 74 per cent of the total population growth in the region. The other three municipalities were responsible for four, five and eight per cent of regional population growth respectively. The populations of the MD of Foothills and Rocky View County grew by 27 per cent and 19 per cent respectively, but these municipalities accounted for only two per cent of the total regional population growth.

FIGURE 3 POPULATION GROWTH WITHIN THE CALGARY METROPOLITAN REGION FROM 2002 TO 2012

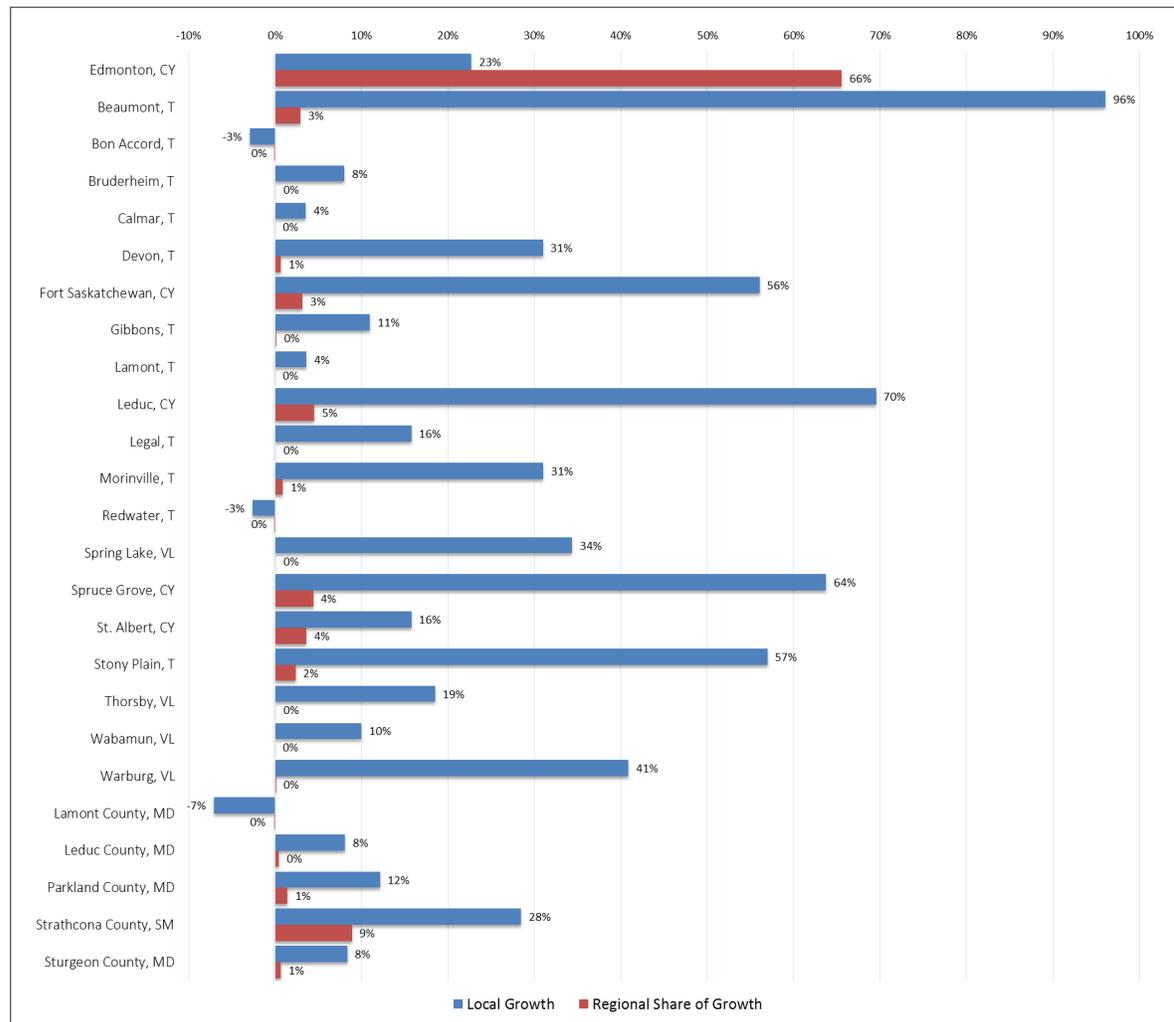


The same pattern can be seen in the Edmonton Region (Figure 4). The towns of Beaumont (96 per cent) and Stony Plain (57 per cent), and the cities of St. Albert (64 per cent) and Leduc (70 per cent) show rapid growth, but respectively account for only three, two, four and five per cent of the regional share in population growth. Whereas, while the core city of Edmonton grew at 23 per cent, it represented 66 per cent of the total population growth in the region.

¹⁴ Plunkett and Lightbody "Tribunals, Politics" 207.

Strathcona County grew 28 per cent between 2002 and 2012, representing nine per cent of regional population growth. Growth within the rural municipalities—Leduc County (eight per cent), Lamont County (negative seven per cent), Sturgeon County (eight per cent) and Parkland County (12 per cent)—was negligible from a regional perspective. In sum, the core-cities in both metropolitan regions have been the sites of the majority of the population growth over the period 2002 to 2012.

FIGURE 4 POPULATION GROWTH WITHIN THE EDMONTON METROPOLITAN REGION FROM 2002 TO 2012



2. METROPOLITAN PLANNING IN ALBERTA

In order to understand development within the Calgary and Edmonton Metropolitan Regions, it is important to start with a review of the contemporary legislative framework in which municipalities in Alberta function – one that, while set to change with the forthcoming Modernized Municipal Government Act, has been the status quo for over 20 years. The enactment of the 1995 Municipal Government Act and disbandment of the system of 10 urban-

oriented Regional Planning Commissions,¹⁵ which had exercised subdivision approval in their hinterlands for almost 40 years, effectively eliminated longstanding functional differences between urban and rural municipalities. For the first time in decades, municipal districts gained the ability to direct development in their own jurisdictions and, importantly, “taxation revenue derived from local development, which under regional planning had flowed to cities (as the primary provider of regional urban infrastructure), was redirected to local government.”¹⁶ This means that today, the primary intermunicipal governance mechanism in Alberta is the voluntary system of statutory local-to-local Intermunicipal Development Plans originally developed in 1977 in recognition that “while development on or near the boundaries (between municipalities) often had regional dimensions, the real stake-holders were the neighbouring municipalities themselves.”¹⁷ While this bilateral system functions well in many areas of the province, it was seen to be inadequate to address the needs of Alberta’s largest cities, Calgary and Edmonton, and the complex intermunicipal relationships in their metropolitan regions. And it wasn’t long until municipalities in both regions began rebuilding regional-planning areas.

Calgary Regional Partnership

The Calgary Regional Partnership is a voluntary association of urban municipalities, currently with 11 members, created in 1999 in anticipation of rapid growth in the metropolitan region. The regional planning framework put forth by the Calgary Regional Partnership is the Calgary Metropolitan Plan, which contains a 62-year planning horizon (from 2014 to 2076) designed to direct development throughout the region. Participants of the Calgary Regional Partnership must align their statutory plans to the Calgary Metropolitan Plan; however, the regional partnership does not have jurisdiction on local land-use decisions, statutory plan approvals, annexations, nor intermunicipal negotiations. The planning philosophy adopted by the Calgary Regional Partnership focuses on urban containment and growth management, as stated within the Calgary Metropolitan Plan:

If our planning process revealed one thing, it’s that the status quo is not sustainable. If development continues at its current pace, without coordinated regional planning, our region’s urban development footprint is sure to increase dramatically. In fact, our modelling suggests that our development footprint could grow by 125,000 hectares or more over the next 50 to 60 years. The fiscal impacts associated with this type of unmanaged growth are unsustainable for governments, municipalities and future taxpayers, not to mention the impacts of the status quo on the land, water and quality of life in the region.

With its regional approach to planning, the Calgary Metropolitan Plan represents an opportunity to ensure development can be more efficient and compact. By implementing the goals in the Plan, we can expect to see a 70 per cent reduction in land used for urban development in the future. Infrastructure costs will decrease proportionately, benefitting us all.¹⁸

¹⁵ It should be noted that several of the RPC’s continued to function as independent planning firms such as the Oldman River Regional Services Commission based in Lethbridge, and Parkland Community Planning Services based in Red Deer.

¹⁶ Ghitter and Smart, “Mad Cows,” 625.

¹⁷ Frederick Laux, *Planning Law and Practice in Alberta* (3rd ed.), (Edmonton: Juriliber Ltd., 2010), 1, 42-43.

¹⁸ Calgary Regional Partnership, *Calgary Metropolitan Plan* (2014): 11.

The Calgary Metropolitan Plan was approved by Calgary Regional Partnership members in the summer of 2012 after several years of contentious negotiations that saw all four rural municipal districts—the MD of Foothills, Rocky View County, Wheatland County and the MD of Bighorn—withdraw. Their withdrawal was followed by the towns of Crossfield and High River, and the Townsite of Redwood Meadows (an autonomous town situated on land leased from the Tsuut’ina First Nation); High River and Redwood Meadows have since rejoined.

In light of the loss of its rural members, the Calgary Regional Partnership, and in particular Calgary Mayor Naheed Nenshi, have taken the position that the Calgary Metropolitan Plan should be legislated, thereby forcing mandatory membership on all municipalities within the Calgary Metropolitan Plan’s planning area.¹⁹ In 2013, the Calgary Regional Partnership entered mediation over potential membership with the municipal districts directly adjacent to Calgary—Rocky View and Foothills. However, the mediation process hit a dead end when the working group was unable to reach consensus with respect to a new voting structure for critical decisions.

As it currently stands, each of the partnership’s member municipalities holds a seat at the General Assembly from where they are entitled to appoint one person to sit on the Board of Directors. These members of the Board have the task of selecting five members among themselves to fill the roles of the Executive Committee. This Executive Committee is tasked with the day-to-day governance of the Calgary Regional Partnership. Decision-making at the executive committee level is consensus based wherever possible, and when a vote is required it is based on a simple majority. However, in instances where there are proposed amendments to the Calgary Metropolitan Plan or decisions on the planning, co-ordination and governance of the regional water, wastewater and transit systems, a vote is required that must be supported by “not less than two-thirds (2/3) of the Directors that represent Member Municipalities that collectively have not less than a majority of the population of all the Member Municipalities.”²⁰ This effective monopoly on all regional decision voting by the City of Calgary, because of its share of the regional population, was the main reason the 2013 mediation process was unsuccessful.

Capital Region Board

Metropolitan planning in the Edmonton Region began in the same vein as the Calgary Regional Partnership, as a voluntary association of municipalities known as the Alberta Capital Region Alliance, formed in 1998 under the moniker “A Community of Communities.” However, unlike the Calgary Regional Partnership, the provincial government initiated a governance review of the capital region “...for the purposes of developing a vision for its future, identifying partnerships or initiatives, and establishing a role for the province in attaining that collective vision.”²¹ As detailed by LeSage and Stefanick:²²

¹⁹ Richard Cuthbertson, “Calgary Mayor and Municipal Affairs Minister Exchange Barbs Over Growth Plan,” *Calgary Herald*, February 11, 2013, <http://www.calgaryherald.com/news/Calgary+mayor+ municipal+affairs+minister+ exchange+barbs+ over+growth+plan/7946269/story.html#ixzz2KktBVbwN>, accessed June 15, 2015.

²⁰ Calgary Regional Partnership, *Board of Directors Handbook October 2015* (2015), 71.

²¹ Gerald Hodge and Ira M. Robinson, *Planning Canadian Regions* (Vancouver: University of British Columbia Press, 2002), 259.

²² Edward C. LeSage Jr., and Lorna Stefanick, “New Regionalist Metropolitan Action: The Case of the Alberta Capital Region Alliance” (presented at the Canadian Political Science Association meetings, Winnipeg, Manitoba, June 2004).

In December 1998 the Minister of Municipal Affairs announced the creation of the Alberta Capital Region Governance Review (Alberta Capital Region Governance Review 2000) [known as the Hyndman Review]. Even though the policy problem or problems behind the review were never fully articulated, the minister was adamant that the “status quo will not do.” In all likelihood the problem was the total absence of rural municipal participation in the Forum and the general lack of any development control or (at that time) convincing regional economic development initiative in the region. The Capital Region was unfavourably compared in the press with Calgary, with suggestions that the southern city was more economically dynamic and competitive owing to its de facto “unicity” status.²³

Eight years passed between the publication of the Hyndman Review and passing of the Capital Region Board Regulation (Alta Reg 38/2012) on April 15, 2008.²⁴ The resultant Capital Region Board is a corporation, deemed to be a regional services commission per Section 15.1 of the MGA consisting of 24 member municipalities (urban, rural and specialized) over an area of 11,933 square kilometres. As outlined in the Capital Region Board Regulation, the Board’s responsibilities include the preparation and implementation of the regional planning framework, known as the Capital Region Growth Plan, in addition to co-ordinating cost-sharing policies for municipalities that participate in regional projects. Per Section 2(4), each member municipality must appoint a councillor as representative to the board.²⁵ Each representative has one vote, and if a decision is made by a vote it must be “supported by not fewer than 17 representatives from participating municipalities that collectively have at least 75% of the population in the Capital Region,” meaning that the City of Edmonton has to vote in favour of a given item for it to succeed; however, smaller municipalities can prevent Edmonton from controlling the region by voting against an item.²⁶

The Capital Region Growth Plan is a 35-year growth strategy based on coordinated decision-making across the region along four priority areas: land use, intermunicipal transit, housing, and geographic information services. While the Capital Region Growth Plan does not replace existing intermunicipal development plans within the Edmonton metropolitan planning region, it is the “prevailing document” meaning that all statutory plans and bylaws of member municipalities must conform to the plan. The ‘2010 Capital Region Growth Plan: Growing Forward,’ was recently updated with a new plan entitled ‘2016 Edmonton Metropolitan Region Growth Plan: Re-imagine. Plan. Build.’ 2010’s Growing Forward remains in effect until provincial approval of the new plan, delivered to the Government of Alberta for its approval on October 13, 2016, is granted.

A Series of Acts Concerning Metropolitan Planning

Ongoing concerns of the bilateral nature of the majority of regional planning across Alberta—primarily conducted through intermunicipal development plans—led to the introduction of the highly controversial Bill 28, the Modernizing Regional Governance Act, in 2013. The Bill, which would have given the province the power to set up regional growth boards, appoint members, and set mandates while retaining the final word on all decisions, received immediate criticism from municipalities over fears it would destroy local autonomy. An

²³ *ibid.*, 13.

²⁴ Much of this delay rested on disagreement between municipalities on an appropriate voting structure, as detailed in LeSage and Stefanick., “New Regionalist.”

²⁵ Canada. Alberta, “Capital Region Board Regulation, Alta Reg 38/2012,” s.2(4), <http://canlii.ca/t/lft6>, accessed July 15, 2015.

²⁶ *ibid.*

amended version, renamed the Enabling Regional Growth Boards Act, was passed on Dec. 11, 2013 and incorporated into the MGA (Part 17.1). The key amendment to this act was Amendment AIC, which added a purpose statement noting the voluntary nature of municipal participation; as it reads in Section 708.011 of the MGA: “The purpose of this Part is to enable 2 or more municipalities to initiate, on a voluntary basis, the establishment of a growth management board to provide for integrated and strategic planning for future growth in those municipalities.” When the new Part 17.1 came into force, the Capital Region Board was recognized as a growth-management board (see MGA s. 708.25). The passing of Bill 20, the Municipal Government Amendment Act, 2015, on March 14, 2015, saw legislation brought forward on how growth-management boards should conduct meetings.

The idea of growth management boards has evolved under the Notley government with the commitment on Sept. 25, 2015, by then minister of municipal affairs, Deron Bilous, to create new growth management boards as part of revised Municipal Government Act legislation.²⁷ In response to the announcement, Banff, Canmore, Nanton, and Irricana withdrew from the Calgary Regional Partnership in early 2016, with Irricana rejoining the same year in late-November.

The legislation referred to by Bilous is now known as Bill 21, the Modernized Municipal Government Act, which received first reading on May 31, 2016. The draft legislation outlines a future of enforced intermunicipal collaboration province-wide. In fact, Section 3, which details the purpose of a municipality, has been amended to include “to work collaboratively with neighboring municipalities to plan, deliver and fund intermunicipal services.”²⁸ As seen in Section 129 of the draft Bill 21, Calgary will be required to establish a growth management board, meaning that Calgary and its surrounding municipalities will be forced to collaborate on planning issues within the metropolitan region. Just which municipalities will be mandated to join a new Calgary Region growth management board is not clear at the time of writing.

3. PROPERTY TAXATION IN ALBERTA’S METROPOLITAN REGIONS²⁹

Alberta’s municipalities can set a different property tax rate (in mills) on the assessed value of residential property from the tax rate on non-residential property, principally machinery and equipment, linear property, railways and other commercial and industrial property.³⁰ Machinery and equipment property includes materials, devices, fittings, installations, appliances, and apparatus that form an integral part in manufacturing, processing, coal and oilsands excavation and/or transportation, telecommunications, and electric power systems. Linear property includes electric power systems whose rates are controlled or set by the Alberta Utilities Commission, street lighting and telecommunications systems, and

²⁷ Government of Alberta, “Municipal Government Act to Change How Municipalities Work Together,” <http://www.alberta.ca/release.cfm?xID=385783474FDD3-FEE1-EF33-B2FA06E96AF4B33F> accessed October 15, 2016

²⁸ Legislative Assembly of Alberta, “Bill 21 Modernized Municipal Government Act,” http://www.assembly.ab.ca/ISYS/LADDAR_files/docs/bills/bill/legislature_29/session_2/20160308_bill-021.pdf accessed October 15, 2016

²⁹ All of the municipal revenue and property tax rate data in this section were obtained from the Alberta Municipal Affairs website, http://municipalaffairs.alberta.ca/municipal_financial_statistical_data

³⁰ The Alberta Municipal Affairs data on property taxation refer to other commercial and industrial property as “land and improvements excluding machinery and equipment,” but we will use the more descriptive term “commercial and industrial” property. In some municipalities, the tax rate on farmland is different rate from the residential rate.

pipelines.³¹ For assessment purposes, railways, farmland, machinery and equipment, and linear property are defined as “regulated” property and valued using regulated rates provided annually in the Municipal Affairs Minister’s Guidelines. For all other types of properties—residential, commercial, and industrial properties—market value is the basis for assessments. Municipalities are responsible for preparing assessments for all property, with the exception of linear property assessments, which are the responsibility of Municipal Affairs.

The effective property tax rate in a municipality depends on the assessment ratio or standard as well as on the municipal tax rate. Since assessment practices can vary from municipality to municipality, a given mill rate can represent a different effective property tax rate. To make the mill rates comparable across municipalities, we have adjusted them according to variations in the education mill rate, which is set by the province, and which varies from municipality to municipality, presumably because of variations in assessment ratios. In the Calgary Region, we have standardized the municipal tax rates to Calgary’s assessment standard, which is reflected in the education property tax rate in the city of Calgary. To illustrate how the effective mill rates are calculated, Airdrie’s non-residential mill rate is 8.0333, but its effective non-residential mill rate is 7.4495, because its assessment ratio appears to be 92.7 per cent of Calgary’s ratio as reflected in their respective education property tax rates (3.3047 and 3.5637). The same procedure is used for Edmonton Region municipalities, but using the Edmonton’s education mill rate to calculate the effective mill rates.

Sources of Revenue for Municipal Governments in the Calgary Metropolitan Region

Table 3 shows the composition of municipal revenues in the Calgary Region in 2014. On average, property taxes represented 32 per cent of municipal revenues, and were the largest single source of revenue for most municipal governments. Sales and user charges were the second-largest source of revenues for most of the urban municipalities, but they were a relatively small contributor to revenues in the four municipal districts. Business taxes, which represented 4.6 per cent of the city of Calgary’s revenues in 2014, were not a significant source of revenues for the other municipalities. Reliance on provincial transfers varied considerable across municipalities in part because of provincial programs to alleviate the 2013 flood damage in High River, Black Diamond, Turner Valley, Canmore, and the MD of Bighorn. Because of the wide variation in federal and provincial transfers, in part due to the flood relief, property taxes as a percentage of own-source revenues is a better measure of municipal reliance on property taxes. For Calgary, property taxes were 38.2 per cent of own-source revenues. In the peripheral urban municipalities, property taxes were 43.6 per cent of own-source revenues. The four municipal districts were the most dependent on property taxes, averaging 69.7 per cent of own-source revenues.

³¹ Not included in this analysis are franchise fees, which are charges against utilities for use of public land within a given municipality; generally speaking, they are levied on electricity, gas, and water service providers separate from linear property taxes.

TABLE 3 COMPOSITION OF MUNICIPAL GOVERNMENT REVENUE IN THE CALGARY REGION IN 2014³²

MUNICIPALITY	Municipal Property Taxes	Sales and User Charges	Franchise and Concession Contracts	Contributed and Donated Assets	Federal Government Conditional and Unconditional Transfers	Provincial Government Conditional and Unconditional Transfers	Other
CALGARY	31.6%	25.1%	4.7%	5.2%	1.2%	16.0%	16.2%
AIRDRIE	27.7%	22.6%	3.4%	16.0%	2.6%	3.5%	24.2%
BANFF	38.2%	25.5%	1.9%	0.0%	0.5%	14.9%	19.0%
BEISEKER	51.2%	26.9%	1.4%	0.5%	0.1%	5.3%	14.6%
BLACK DIAMOND	20.9%	9.7%	1.3%	0.0%	0.0%	58.2%	9.8%
CANMORE	28.8%	21.1%	2.3%	2.1%	0.0%	34.5%	11.2%
CHESTERMERE	39.4%	9.1%	0.0%	13.7%	0.0%	23.4%	14.5%
COCHRANE	23.1%	17.2%	2.5%	26.7%	1.4%	10.9%	18.2%
CROSSFIELD	37.4%	27.5%	1.6%	10.6%	0.0%	13.0%	9.9%
HIGH RIVER	11.4%	9.3%	1.7%	11.6%	0.5%	44.4%	21.0%
IRRICANA	45.0%	21.1%	1.1%	0.0%	17.4%	5.1%	10.3%
NANTON	43.5%	19.8%	2.5%	0.1%	0.0%	13.3%	20.9%
OKOTOKS	32.4%	32.0%	2.2%	7.4%	1.5%	12.9%	11.8%
STRATHMORE	41.6%	43.6%	0.0%	0.0%	0.0%	8.5%	6.3%
TURNER VALLEY	16.8%	10.8%	1.2%	0.0%	0.0%	66.1%	5.1%
Unweighted Average	32.7%	21.2%	1.6%	6.3%	1.7%	22.4%	14.1%
BIGHORN NO. 8, M.D. OF	21.7%	4.8%	0.0%	0.0%	0.0%	61.1%	12.4%
FOOTHILLS NO. 31, M.D. OF	37.1%	2.7%	0.0%	3.5%	1.4%	48.2%	7.1%
ROCKY VIEW COUNTY	50.5%	8.3%	0.0%	6.3%	0.0%	16.0%	18.9%
WHEATLAND COUNTY	70.1%	2.2%	0.0%	0.1%	0.0%	19.0%	8.6%
Unweighted Average	44.9%	4.5%	0.0%	2.5%	0.4%	36.1%	11.7%

The median per capita property tax revenue in the 19 municipalities in the Calgary Region in 2014 was \$957, but the range was very large. Two municipal districts had the highest per capita property tax revenue in 2014: Wheatland collected \$3,527 and Bighorn collected \$3,129, the result of significant amounts of property taxes levied on machinery and equipment and linear property discussed further below. By contrast, Black Diamond only collected \$297 in per capita property tax revenue, whereas Calgary collected \$1,162 per capita.

Residential property taxes make up about 60 per cent of total property tax revenues collected by Calgary, with the remaining 40 per cent from commercial and industrial property. In the other urban municipalities in the Calgary Region, residential property taxes are a larger share of total property tax revenues, ranging from around 70 per cent in Canmore to 95 per cent in Chestermere.

The composition of property tax revenues varies among the four municipal districts. Residential property taxes are less than 20 per cent of Wheatland County's total property tax revenues and less than 30 per cent of Bighorn's. Property taxes on machinery and equipment and linear

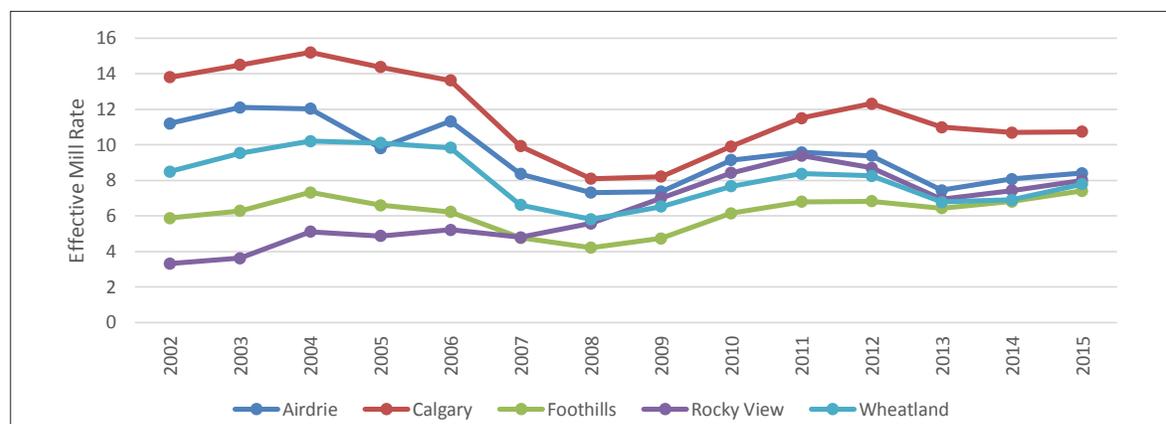
³² Business taxes, a significant source of revenue for Calgary but not for Edmonton, are included in the Other category of revenue.

property contributed 65 per cent of Wheatland’s property tax revenues and 36 per cent of Bighorn’s property tax revenues. On the other hand, residential property taxes have been the largest source of property tax revenue in Rocky View (60 per cent) and in Foothills, where the share of residential property taxes has increased from 51 per cent in 1994 to 72 per cent in 2014. In all of the municipal districts, property taxes on farmland have fallen as a share of total property taxes, representing only six per cent of property taxes in Wheatland, three per cent in Foothills and Rocky View, and less than one per cent in Bighorn.

Effective Non-Residential Mill Rates in the Calgary Metropolitan Region³³

Figure 5 shows that there has been a convergence in the effective non-residential mill rates in Calgary, Airdrie, the directly adjacent MD of Foothills and Rocky View County, and nearby Wheatland County. In 2002, the non-residential mill rates ranged from 13.8 in Calgary to 3.3 in Rocky View. Subsequently, the non-residential mill rates in Airdrie and the municipal districts have converged and by 2015, the differential was less than one mill. While Calgary has maintained the highest effective mill rate for non-residential property, it has come down from 15.2 in 2004 to 10.7 in 2015.³⁴ Foothills and Rocky View have increased their non-residential mill rates since 2003, excluding the dip witnessed in all municipalities from 2006- to 2008, and Wheatland increased its non-residential mill rate between 2008 and 2015. So while tax competition may have resulted in lower non-residential mill rates in Calgary and Airdrie, the convergence of mill rates has resulted from increases in the non-residential mill rates in the three municipal districts.

FIGURE 5 SELECTION OF EFFECTIVE NON-RESIDENTIAL MILL RATES IN THE CALGARY REGION



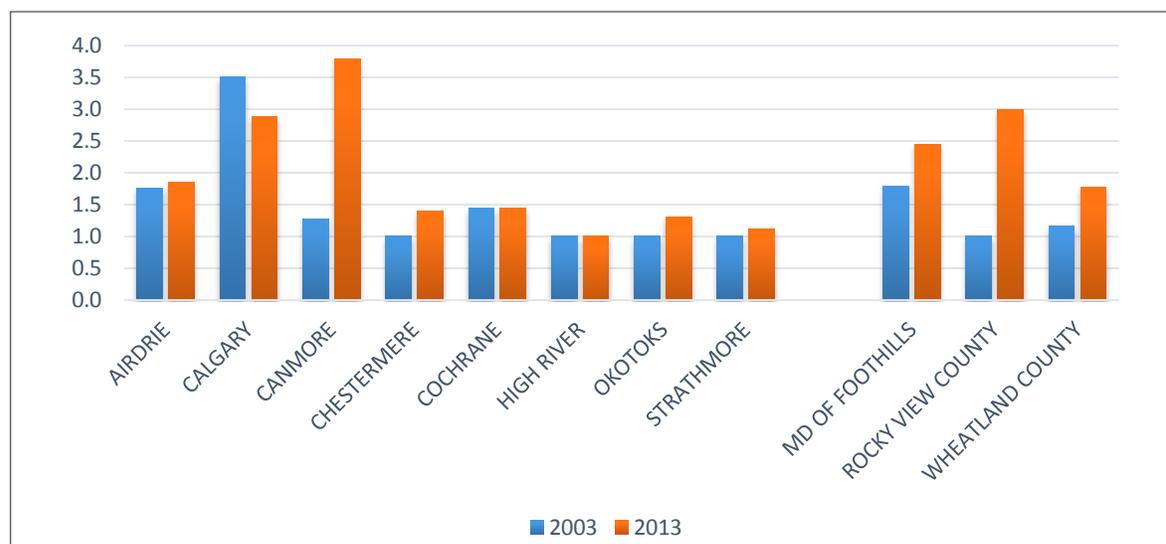
This trend in non-residential mill rates is consistent with increasing competition among these municipalities for the non-residential tax bases, especially industrial and commercial property, but it could also be consistent with collusion. It is also interesting to note that all of the municipalities (except High River) imposed a higher non-residential property tax rate than the rate on residential property in 2013. Figure 6 shows the ratio of the non-residential mill rate to the residential mill rate in Calgary, the larger peripheral urban municipalities and three municipal districts in 2003 and 2013. In all of the municipalities, except in High River, the

³³ The reported mill rates are the adjusted effective mill rates as discussed at the beginning of Section 5.

³⁴ The fact that Calgary, the dominant municipality in the region, maintains the highest non-residential mill rate is also consistent with the models of tax competition between jurisdictions of different sizes of. The Kanbur and Keen model predicts that the smaller jurisdiction will have the lower tax rate because the elasticity of its tax base with respect to its tax rate is higher and therefore it has more to gain from a lower tax rate than a larger jurisdiction would. Ravi Kanbur and Michael Keen, “Jeux Sans Frontieres: Tax Competition and Tax Coordination When Countries Differ in Size,” *The American Economic Review* 83, 4 (September 1993): 877-892.

ratio exceeded one in 2013. This ratio has also increased over the 10 years in all municipalities except Calgary, where it fell from 3.51 in 2003 to 2.89 in 2013. The increase in the ratio of non-residential to residential mill rates in the three municipal districts (and Canmore) is particularly striking. The higher relative property tax rate on non-residential property means that an additional dollar of industrial and commercial property generates more tax revenues than an additional dollar of residential property assessment, which may affect the pattern of land development in the Calgary Region.

FIGURE 6 RATIO OF THE NON-RESIDENTIAL TO THE RESIDENTIAL MILL RATE IN SELECTED CALGARY REGION MUNICIPALITIES IN 2003 AND 2013

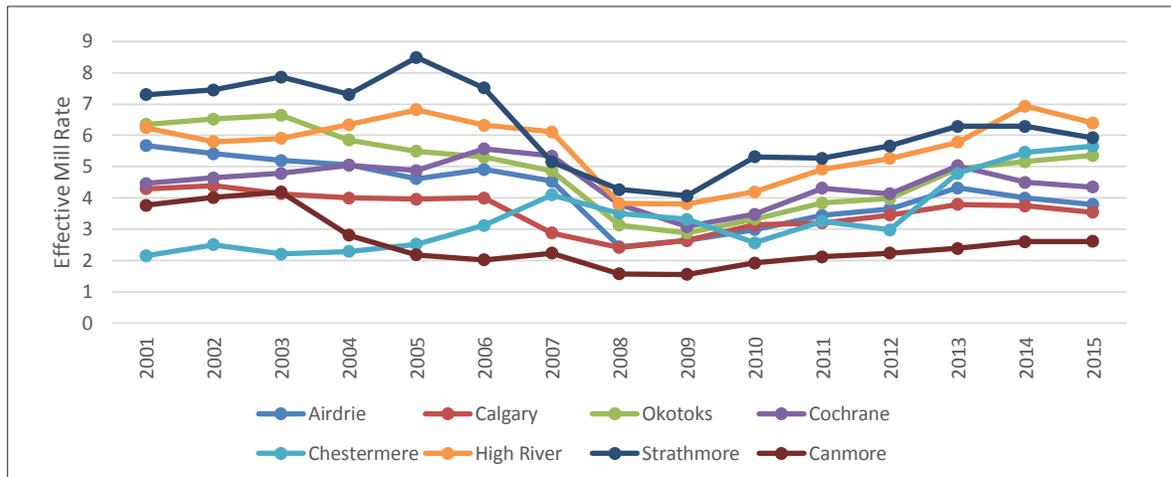


Effective Residential Mill Rates in the Calgary Region

Figure 7 shows the effective residential mill rates in selected urban municipalities in the Calgary Region from 2001 to 2015. There is some convergence in the mill rates, from a range of 5.14 mills in 2001 to 3.78 mills in 2015, but the convergence is much smaller than was observed in Figure 5 for the non-residential mill rates. Furthermore, the residential mill rates in most of the urban municipalities declined and converged in the 2005 to 2009 period, and then increased in the following six years. Note that the non-residential mill rates also declined during this period.³⁵

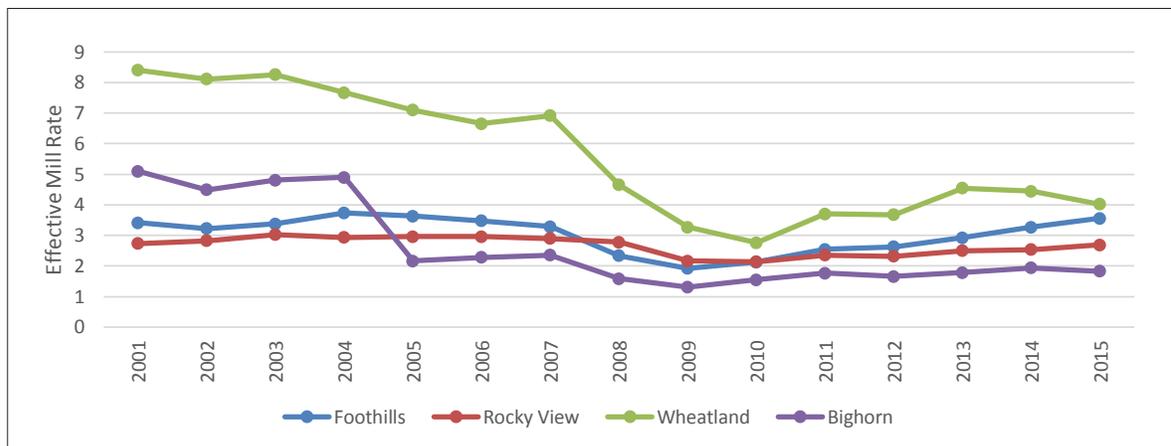
³⁵ The decline in the non-residential rates for Calgary parallels the rise and fall of non-residential equalized assessments (relative to personal income) as reported in McMillan and Dahlby (2014, Figure 1), suggesting that the growth and decline of real assessments goes some way in explaining the variation in mill rates.

FIGURE 7 EFFECTIVE RESIDENTIAL MILL RATES IN THE URBAN MUNICIPALITIES OF THE CALGARY REGION



As shown in Figure 8, the trends in the residential mill rates in the four municipal districts in the Calgary Region can be explained in terms of the composition of their property tax revenues. As previously noted, property taxes on machinery and equipment and linear property have increased over time and have become the largest source of property tax revenues in the MD of Bighorn and Wheatland County. The increase in property tax revenues from these sources has allowed those municipalities to reduce their residential property tax rates, a fiscal response that was documented in an econometric study of municipal governments’ responses to an increase in machinery and equipment assessments in Conger and Dahlby.³⁶ On the other hand, Rocky View County and the MD of Foothills, which receive relatively little revenue from property taxes on machinery and equipment and linear property, have maintained their residential property tax rates within relatively narrow ranges.

FIGURE 8 EFFECTIVE RESIDENTIAL MILL RATES IN THE RURAL MUNICIPALITIES OF THE CALGARY REGION



Sources of Revenue for Municipal Governments in the Edmonton Metropolitan Region

Table 4 shows the composition of the municipal governments’ revenues in the Edmonton Region in 2014. Property taxes were the largest single source of revenue for most municipal

³⁶ Brian Conger and Bev Dahlby, “Policy Forum: Taxation of Machinery and Equipment and Linear Property in Alberta,” *Canadian Tax Journal* 63, 2 (2015): 487-99.

governments. On average, property taxes represented 40 per cent of revenues of the 24 municipalities in the Edmonton Region, eight percentage points higher than in the Calgary Region. Sales and user charges contributed 20 per cent of revenues in Edmonton and close to 27 per cent of revenues in the peripheral urban municipalities. Sales and user charges were a relatively small source of revenues in the four municipal districts account for roughly 7 per cent; however, sales and user charges accounted for 22 per cent in Strathcona County.³⁷ In contrast with Calgary, Edmonton did not obtain revenues from business taxes in 2014.

TABLE 4 COMPOSITION OF MUNICIPAL GOVERNMENT REVENUE IN THE EDMONTON REGION IN 2014

MUNICIPALITY	Municipal Property Taxes	Sales and User Charges	Franchise and Concession Contracts	Contributed and Donated Assets	Federal Government Conditional and Unconditional Transfers	Provincial Government Conditional and Unconditional Transfers	Other
EDMONTON	39.0%	20.2%	4.2%	5.6%	1.4%	9.4%	20.2%
BEAUMONT	26.9%	17.9%	2.0%	18.0%	1.4%	9.2%	24.5%
BON ACCORD	42.5%	37.2%	5.7%	0.0%	0.0%	9.1%	5.4%
BRUDERHEIM	35.0%	30.7%	1.0%	0.0%	0.0%	14.5%	18.8%
CALMAR	41.0%	24.6%	5.4%	0.0%	0.7%	18.6%	9.6%
DEVON	28.1%	53.3%	0.0%	0.0%	1.4%	13.9%	3.3%
FORT SASKATCHEWAN	40.6%	19.7%	0.0%	14.7%	2.7%	4.6%	17.8%
GIBBONS	35.9%	30.8%	4.8%	0.0%	0.0%	21.1%	7.4%
LAMONT	31.6%	20.5%	3.7%	0.0%	0.1%	36.1%	8.0%
LEDUC	24.5%	12.6%	3.5%	29.5%	0.4%	14.4%	15.1%
LEGAL	40.2%	24.1%	1.9%	0.0%	0.0%	21.4%	12.4%
MORINVILLE	36.6%	23.2%	6.2%	7.6%	0.0%	10.6%	15.8%
REDWATER	34.5%	46.3%	0.0%	0.0%	0.0%	9.9%	9.2%
SPRUCE GROVE	26.0%	21.7%	3.6%	17.7%	0.0%	18.3%	12.8%
ST. ALBERT	44.0%	27.2%	1.0%	6.2%	3.4%	9.2%	9.0%
STONY PLAIN	33.5%	27.7%	5.3%	2.1%	0.5%	10.0%	20.8%
THORSBY	44.3%	29.7%	6.3%	0.0%	0.0%	1.6%	18.1%
WABAMUN	32.2%	22.1%	0.6%	0.0%	0.0%	27.3%	17.8%
WARBURG	33.7%	15.0%	3.5%	0.0%	0.0%	22.8%	24.9%
Unweighted Average	35.1%	26.9%	3.0%	5.3%	0.6%	15.2%	13.9%
LAMONT COUNTY	64.0%	5.2%	0.0%	0.0%	0.0%	23.2%	7.6%
LEDUC COUNTY	52.3%	6.1%	0.0%	10.9%	0.0%	11.4%	19.3%
PARKLAND COUNTY	44.3%	6.9%	0.0%	21.9%	0.0%	14.6%	12.2%
STURGEON COUNTY	61.6%	10.8%	0.0%	0.0%	0.0%	15.3%	12.2%
Unweighted Average	55.6%	7.3%	0.0%	8.2%	0.0%	16.1%	12.8%
STRATHCONA COUNTY	50.5%	22.0%	0.7%	7.3%	0.8%	8.1%	10.5%

³⁷ Strathcona County stands out from the other counties because Sherwood Park is 72 per cent of Strathcona County's population and performs similar functions to the other cities in the Edmonton region. Strathcona County website, "Population through the years," <http://www.strathcona.ca/local-government/about-strathcona-county/strathcona-county-history-and-heritage/at-a-glance/population-through-the-years/>.

The median per capita property tax revenue in the 24 municipalities in the Edmonton Region in 2014 was \$1,052, almost \$100 more than the median in the Calgary Region. The four municipal districts and Strathcona County ranked among the top six in terms of per capita property tax revenues. The only urban municipality among the top six was Fort Saskatchewan, and it receives a significant portion of its property tax revenues from the taxation of machinery and equipment. Lamont County collected \$3,379, Leduc County collected \$3,139, and Strathcona County collected \$2,076 per capita. Lamont County's largest source of property tax revenue is from the taxation of machinery and equipment and linear property, and the largest source of property tax revenue for Leduc County is industrial and commercial property. By contrast, Warburg only collected \$658 per capita. Edmonton collected \$1,409 per capita in 2014, almost \$300 more than the per capita property taxes for Calgary.

In 2014, residential property taxes represented 56 per cent of the total property tax revenues collected by Edmonton, with commercial and industrial property contributing 42 per cent, and linear property the remaining two per cent. In the peripheral urban municipalities in the Edmonton Region, residential property taxes are a larger share of total property tax revenues than in Edmonton, and as high as 83 per cent in St. Albert, but are only 47 per cent of total property tax revenues in Fort Saskatchewan where property taxes on machinery and equipment contributed 25 per cent of the property tax revenues in 2014. Property taxes on machinery and equipment and linear property are an important source of revenue for the three municipal districts north and east of Edmonton, an area that bills itself as "Alberta's Industrial Heartland."³⁸ Strathcona County and Sturgeon County received 37 per cent of their property tax revenues from these sources, and these sources contributed 63 per cent of Lamont County's total property tax revenues. Even Parkland County, which is west of the city of Edmonton and outside Alberta's Industrial Heartland, received 24 per cent of its property tax revenues from machinery and equipment and linear property.

Leduc County's non-residential property tax revenues are also significant, but come from a different source. Over half of Leduc County's property tax revenues were received from commercial and industrial property, mainly in the Nisku Industrial Park. Farmland was a negligible source of tax revenue for all of the municipal districts, except Lamont County where it contributed nine per cent of total property tax revenues in 2014.

Effective Non-Residential Mill Rates in the Edmonton Metropolitan Region

In analyzing the trend in the effective non-residential mill rates in the Edmonton Region, it is useful to focus on two sub-regions: firstly, the municipalities that make up the 'Industrial Heartland' to the north and east of Edmonton, where competition (if it occurs) is for the property tax base associated with petrochemical projects; and secondly the peripheral urban municipalities and two counties that lie to the south and west of Edmonton—Leduc County and Parkland County—where the competition is for commercial and other industrial developments, what we will call the 'Southwestern Commuter Shed'. Turning first to the Industrial Heartland, Figure 9 shows that Edmonton, and especially Lamont County, have maintained much higher

³⁸ Alberta's Industrial Heartland is an association of five municipalities—the City of Fort Saskatchewan, Lamont County, Strathcona County, Sturgeon County and the City of Edmonton—that promote industrial development in a region northeast of Edmonton through the co-ordinated provision of infrastructure, services, and land-use zoning. For a map of Alberta's Industrial Heartland, see <http://industrialheartland.com/images/stories/maps/alberta%20capital%20region%20-%202010.pdf>.

non-residential mill rates than the other three municipalities.³⁹ In all five municipalities, the non-residential mill rates declined between 2005 and 2009, a pattern that was also observed in the Calgary Region. Between 2009 and 2014, the median non-residential mill rate has increased by 3.12 mills or 46 per cent. In broad terms, the trend in non-residential mill rates of the five municipalities that make up the Industrial Heartland differs from that in the Calgary Region: that is, non-residential mill rates have tended to increase, especially since 2009. The dispersion in mill rates in 2001 was much lower than in the Calgary Region, especially among Strathcona County, Sturgeon County and Fort Saskatchewan, and there has not been the convergence of non-residential mill rates that was observed in the Calgary Region from 2001 to 2015.

FIGURE 9 EFFECTIVE NON-RESIDENTIAL MILL RATES IN THE INDUSTRIAL HEARTLAND SUB-REGION

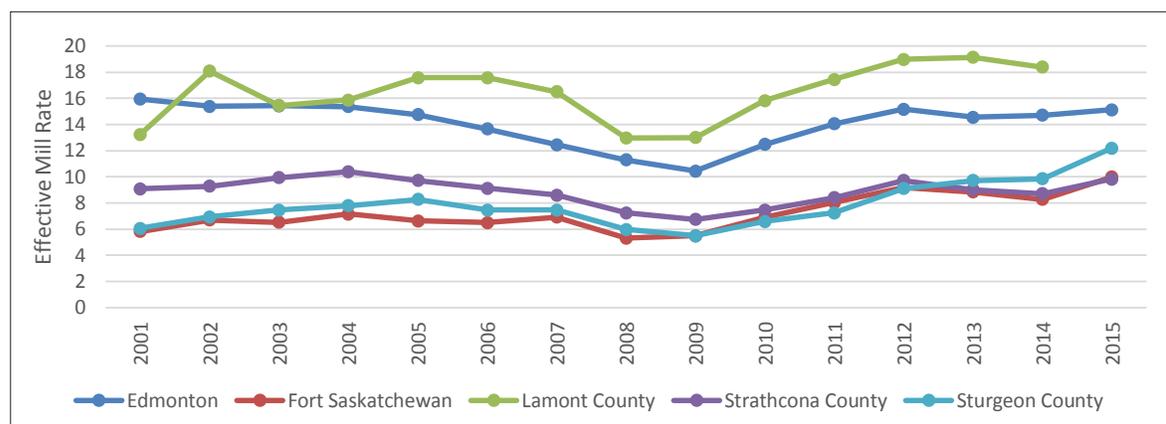
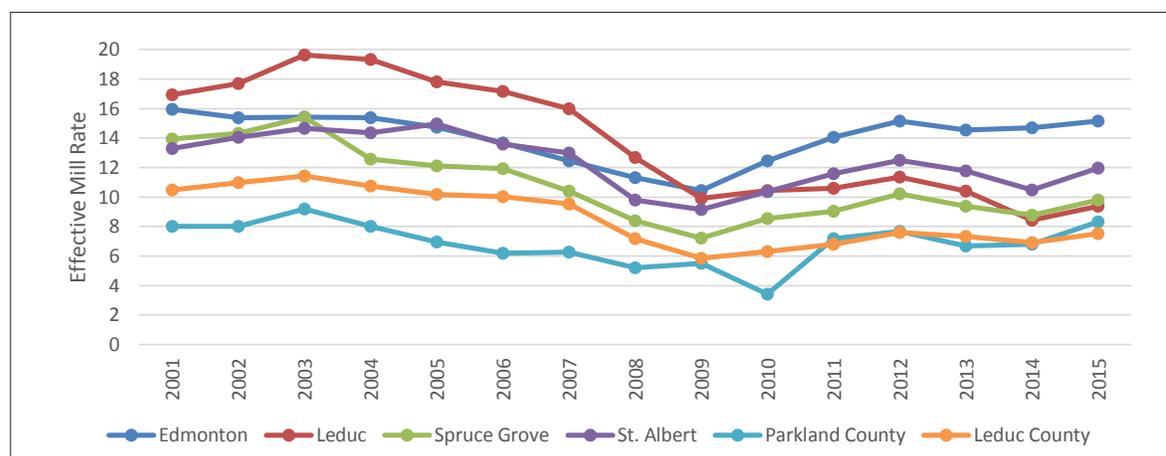


Figure 10 shows the trend in the effective non-residential mill rates for Edmonton, municipalities in the Southwestern Commuter Shed. In these municipalities, the non-residential mill rates also declined from 2004 to 2009, as in the Calgary Region and the Industrial Heartland, but the subsequent increase in the non-residential mill rates to 2015 is much smaller than in the Industrial Heartland to the north and east. As well, there has been a substantial convergence of the non-residential mill rates of the five municipalities, excepting Edmonton; a convergence that is similar to that which occurred in the Calgary Region as illustrated in Figure 5.

FIGURE 10 EFFECTIVE NON-RESIDENTIAL MILL RATES IN THE SOUTHWESTERN COMMUTER SHED SUB-REGION



³⁹ We have not computed the effective non-residential mill rate for Lamont County for 2015 because of a suspected coding error in the reported data on the Alberta Municipal Affairs website.

Although drawing conclusions based on these few observations is problematic, the determination of the non-residential mill rates seems to be different in the different sub-regions. In the Industrial Heartland, the non-residential tax base is the machinery and equipment and linear property associated with the petrochemical industry and pipelines that are tied to specific locations because of agglomeration effects. This probably reduces the pressures on the municipalities in the Industrial Heartland to compete for the non-residential property tax base. On the other hand, among the municipalities in the Southwestern Commuter Shed there seems to be stronger competitive forces determining the non-residential mill rates for commercial property and other industrial developments that are less tied to specific locations.

Effective Residential Mill Rates in the Edmonton Metropolitan Region

Figure 11 shows that the effective residential mill rates in the larger urban municipalities in the Edmonton Region also declined from 2001 to 2008 and then increased by one to two mills by 2015. There has also been a convergence of the residential mill rates, from a range of 3.55 mills in 2001 to 2.52 mills in 2015. St. Albert imposed the highest effective residential mill in 2015, followed by Edmonton. Fort Saskatchewan had the lowest.

FIGURE 11 RESIDENTIAL MILL RATES IN THE PERIPHERAL URBAN MUNICIPALITIES OF THE EDMONTON REGION

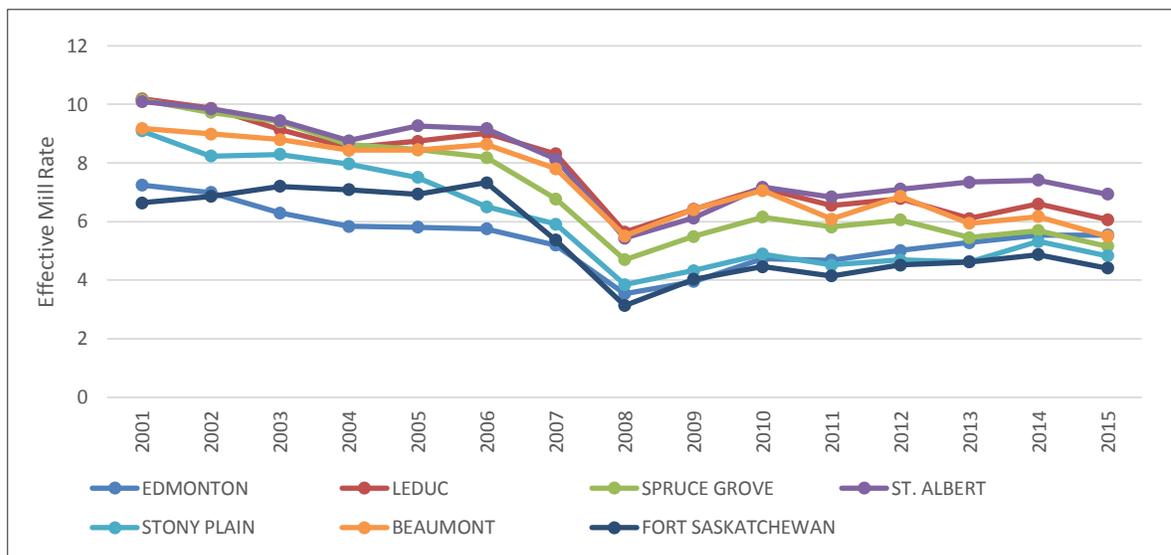


Figure 12 shows the effective residential mill rates in the five municipal districts in the Edmonton Region and Edmonton itself. The trend is broadly similar to what was observed for the peripheral urban municipalities in the Edmonton Region, but with a steeper decline and much greater convergence of the non-residential mill rates in the five municipal districts. Edmonton's mill rate in 2015 was highest and 2.22 mills or 40 per cent higher than the median effective residential mill rate in the four municipal districts and Strathcona County.

FIGURE 12 EFFECTIVE RESIDENTIAL MILL RATES IN EDMONTON AND THE MUNICIPAL DISTRICTS IN THE EDMONTON REGION

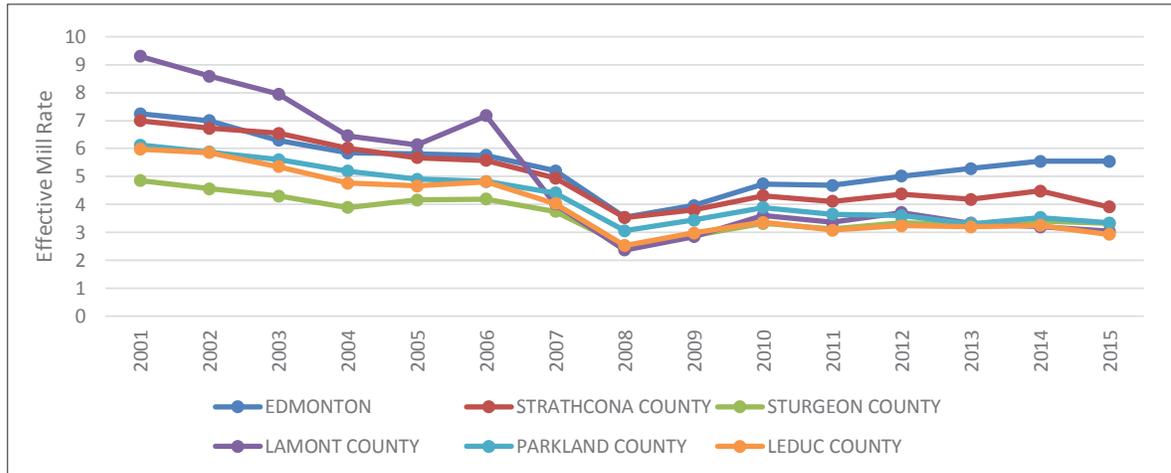
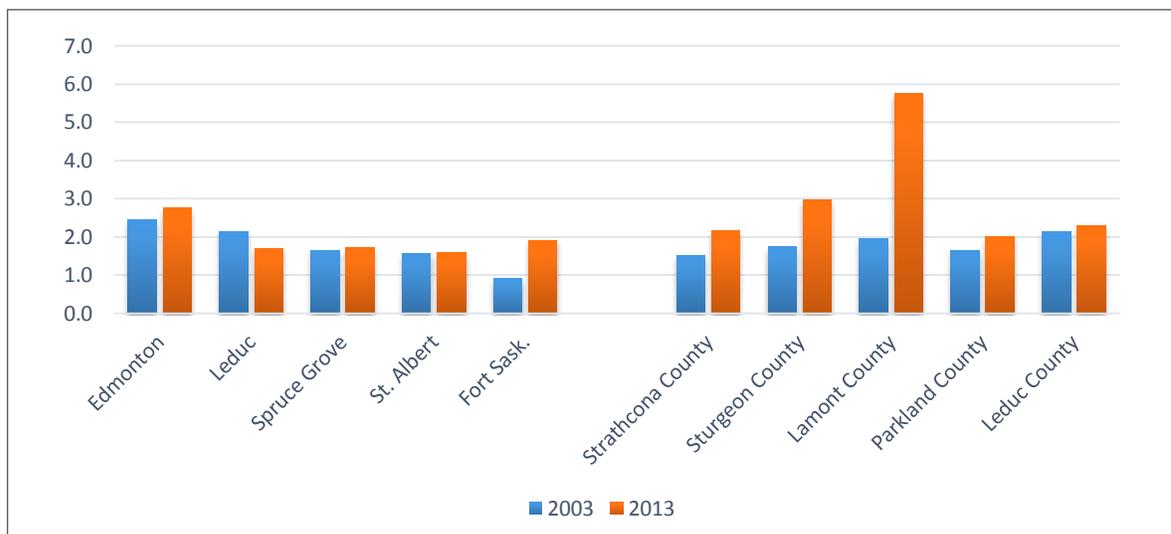


Figure 13 shows the ratio of the non-residential mill rate to the residential mill in selected urban municipalities, the four municipal districts and Strathcona County in 2003 and 2013. In all of the municipalities, the non-residential rate exceeded the residential rate in 2013. In Edmonton, the ratio increased from 2.45 to 2.75, but among urban municipalities the largest increase was in Fort Saskatchewan, where the ratio increased from 0.90 to 1.91. Only in the city of Leduc was there a reduction in the ratio of non-residential to residential mill rates.

In the four municipal districts and Strathcona County, the ratio of non-residential to residential mill rates exceeded two, and in Lamont it increased from 1.94 in 2003 to 5.76 in 2013. This increase is a reflection of the trends shown in Figures 9 and 12 where the non-residential mill rates have increased over time and the residential mill rates have decreased.

FIGURE 13 RATIO OF THE NON-RESIDENTIAL TO THE RESIDENTIAL MILL RATE IN SELECTED EDMONTON REGION MUNICIPALITIES IN 2003 AND 2013



4. DEVELOPMENT IN ALBERTA'S METROPOLITAN REGIONS

Both the Calgary Metropolitan Plan and the Capital Region Growth Plan contain policy concerning the nature of development in their respective planning areas. For example, The CMP contains nebulous policy around the creation of a Regional Open Space Strategy (1.b.5) and encourages industrial and commercial development to established areas across the region (2.A.4), as well as clear policies around minimum residential densities (3.a.5) and the intensification of existing developed areas (3.a.7). Likewise, in the Edmonton Region it is the Capital Region Land Use Plan (which is Appendix 2 of the CRGP) that contains land use policy that discourages natural resource extraction (I.C.(i)), directs most new growth to within priority growth areas (II.B.(i)); however, with regards to densification, the Land Use Plan takes the approach of supporting the expansion of medium and higher density residential housing forms (II.D.(i)) over the minimum densities approach of the CMP.⁴⁰ Also different from the CMP the Capital Region Land Use Plan, as a result of having rural municipal districts within the planning area, contains policy in support of cluster country residential development (II.E.(i)). Both plans contain high-level, or regional-scale, policy on regional public transit networks.

Even with comprehensive regional planning frameworks in place in the majority of the Calgary and Edmonton Regions, the plans do not effectively address the underlying competition for property tax revenue between municipalities, nor the ability of municipalities to compete for development by manipulating their property taxes as examined in Section 3. This is increasingly important in the interface between urban and rural municipalities, known as the rural-urban fringe. The rural-urban fringe is a unique geography within rural municipalities where industrial and commercial development “often gravitate(s) ... because land prices, cost of servicing, and property taxes tend to be much lower there than in the nearby urban centre.”⁴¹ Furthermore, this development benefits from proximity to potential markets and a large labour pool in the adjacent urban centres. A common criticism of land-use intensification on the rural-urban fringe is that while “the rural host municipality will of course enjoy the tax base that will be generated ... the neighbouring urban local government unit may be forced to improve its roadway infrastructure to accommodate increased traffic generated by the project, not to mention providing all the urban services and amenities for project staff residing within (the rural municipality’s) boundaries.”⁴²

In order to examine trends in the patterns and locations of development within the Calgary and Edmonton Regions, we use building permit data from Statistics Canada to review the location of residential, commercial and industrial development occurring in each metropolitan region.⁴³ The development figures in this study are limited to new constructions only.

⁴⁰ Capital Region Growth Board “Capital Region Land Use Plan, Appendix 2 March 2009” http://www.assembly.ab.ca/lao/library/egovdocs/2009/alma/172916_02.pdf, accessed November 15, 2016.

⁴¹ Laux, *Planning Law*, 5-27.

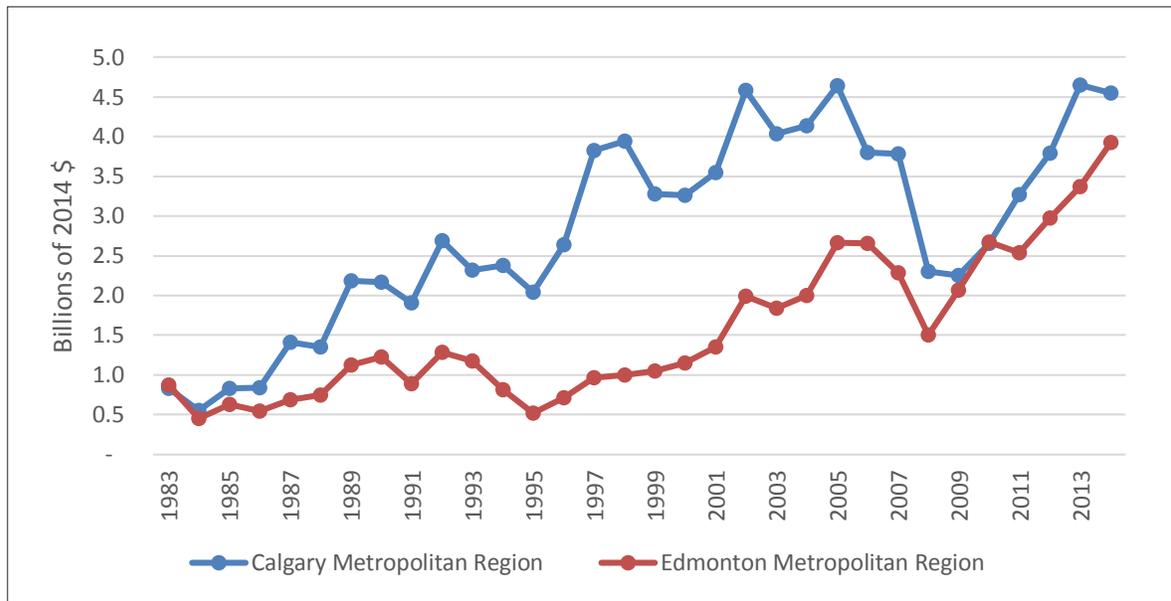
⁴² *ibid.*

⁴³ Statistics Canada, *Building Permits*, Publication 64-001-XWF. The original currency figures were in thousands of dollars, and have been manipulated for ease of presentation. All dollar figures were converted to 2014 dollars for ease of calculation and analysis. Residential permit values were converted using the new housing-price index obtained from CANSIM Table 327-0046. Industrial permit values and commercial permit values were converted using the non-residential building-construction-price index for industrial structures and commercial structures obtained from CANSIM Table 327-0043.

Residential Development

We begin by examining the residential building permits issued from 1983 to 2014 in both metropolitan regions. Figure 14 shows the total value (in 2014 dollars) of residential building permits issued for new construction. Starting from less than \$1 billion in 1983, the value of residential building permits increased and peaked at \$4.6 billion in 2005. The financial crisis of 2008 to 2010 was the backdrop to the sharp drop in residential construction in the Calgary Region, before it recovered back to \$4.6 billion in 2013. A different pattern of growth is observed in the Edmonton Region. Starting from almost the same level as the Calgary Region in 1983, the value of building permits in the Edmonton Region fluctuated around \$1 billion per year until 2000, after which a rapid increase occurred reaching a total value of \$3.9 billion in 2014. As in the Calgary Region, the financial crisis and the resulting impact on international oil prices caused a downturn in the value of building permits throughout the Edmonton Region, but the downturn was smaller and the rebound was more rapid than in the Calgary Region.

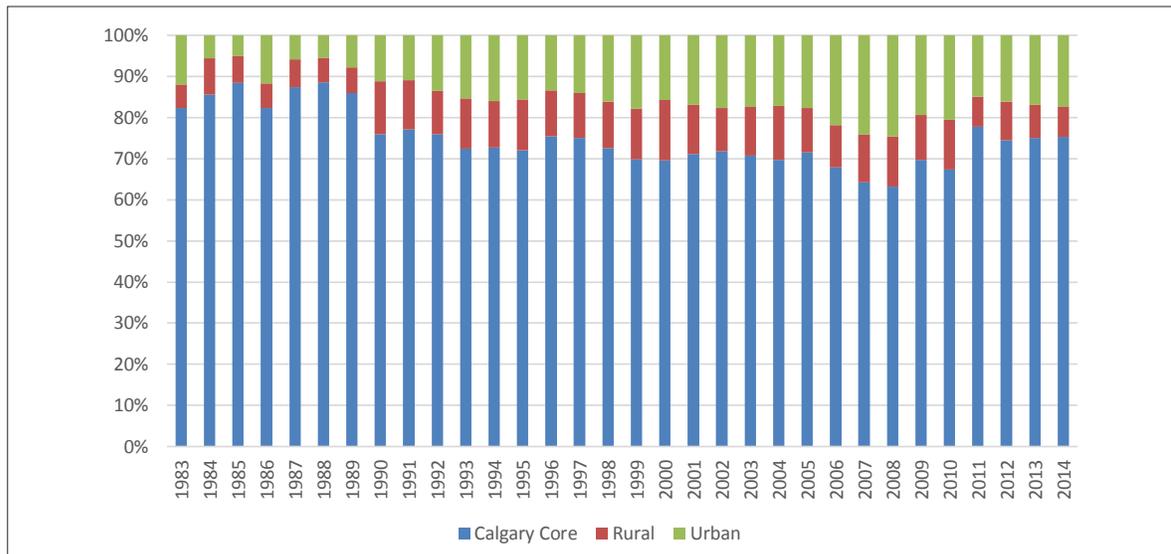
FIGURE 14 VALUE OF RESIDENTIAL BUILDING PERMITS IN THE CALGARY AND EDMONTON REGIONS



Where has the new residential construction occurred? Figures 15 and 16 show the shares of the value of the building permits in the core-cities, peripheral urban areas and municipal districts within the two metropolitan regions. Calgary's share of new residential construction declined from almost 90 per cent in 1988 to 68 per cent in 2008. Since then, it has rebounded to 75 per cent of the regional total in 2014. Figure 15 also shows that the peripheral urban areas—such as Airdrie, Cochrane, and Chestermere—have substantially increased their overall share of new residential construction over this period. By contrast, the share of new construction occurring in the municipal districts—Rocky View County, MD of Foothills, Wheatland County, and MD of Bighorn—has remained relatively constant. However, one interesting aspect of the pattern of new residential construction is that the average values of the new units constructed in Rocky View County and the MD of Foothills are substantially higher than the values in either Calgary or Airdrie. Over the entire period, 1983 to 2014, the average value of the new residential construction per unit was \$593,239 in Rocky View County and \$493,493 in the MD of Foothills, and since 2008, the average value of the building permits in Rocky View County was over \$750,000 and over \$640,000 in the MD of Foothills. In contrast, the average value

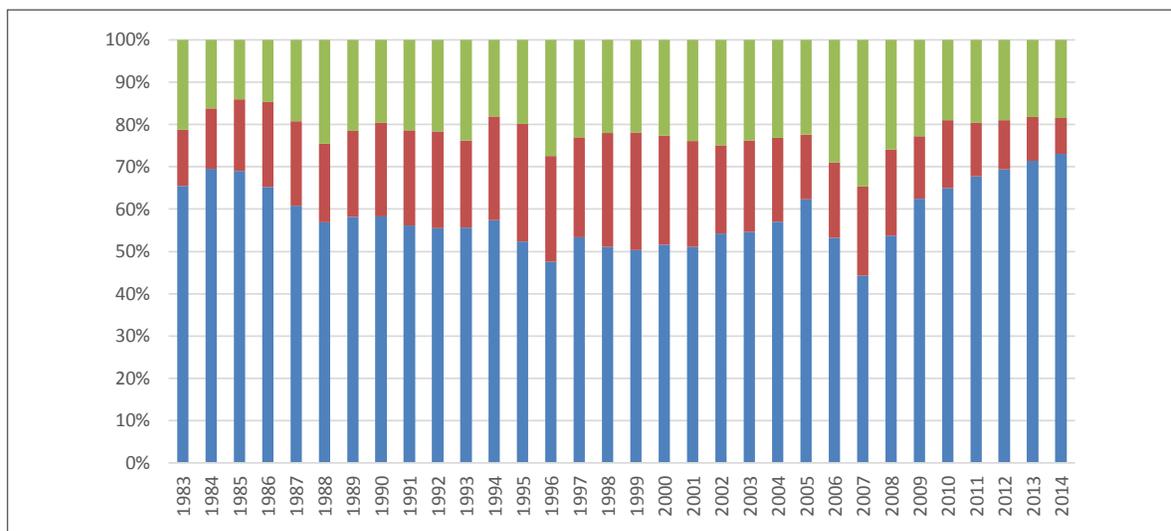
of new construction from 1983 to 2014 was \$265,294 in Calgary and \$231,254 in Airdrie, and the values in recent years are similar to these long-term averages. Thus, per unit residential property tax bases of Rocky View County and the MD of Foothills appears to have increased faster than in Calgary and the peripheral urban areas.

FIGURE 15 SHARES OF THE TOTAL VALUE OF RESIDENTIAL BUILDING PERMITS IN THE CALGARY REGION



As in Calgary, Edmonton’s share of the total value of residential building permits also declined, from 69 per cent of the total in the Edmonton Region to 50 per cent in 1999. During this period, the percentage of new residential construction in the municipal districts, and in particular Strathcona County, increased rapidly to 25 per cent of the total by 1999. Since that time, and with the exception of the 2005–2008 period, Edmonton’s share of new residential construction increased to 73 per cent of the total value in 2014. Over the entire 1983 to 2014 period, the new residential units constructed in the Edmonton Region were of similar average value in all of the municipalities, but since 2005 the average value of the units constructed in Sturgeon County, Leduc County, and Parkland County have been significantly higher than those in the Edmonton and the peripheral urban municipalities.

FIGURE 16 SHARES OF THE TOTAL VALUE OF RESIDENTIAL BUILDING PERMITS IN THE EDMONTON REGION

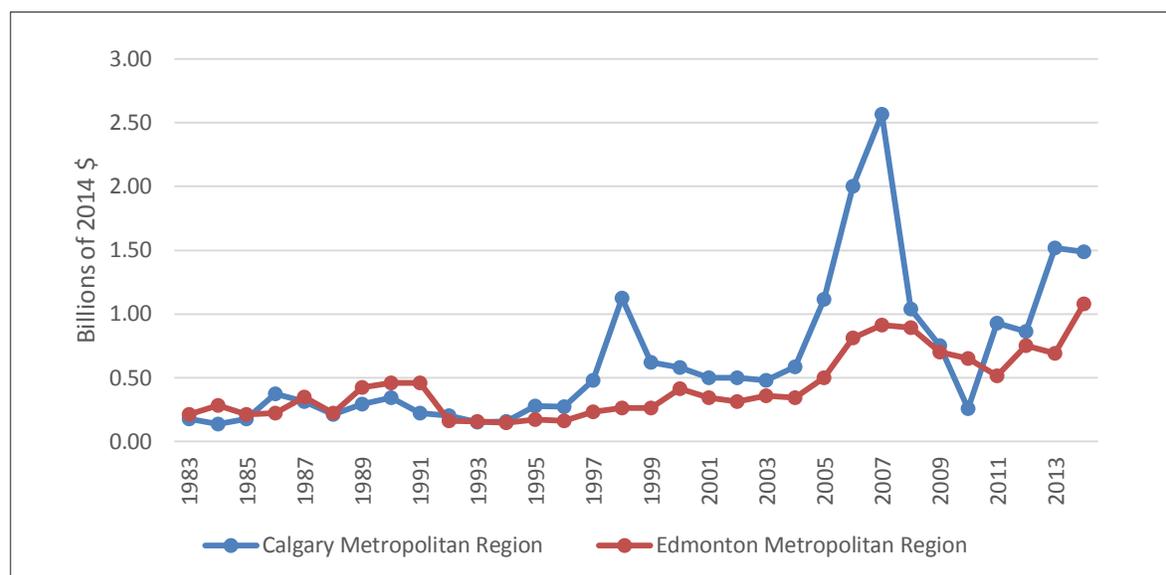


There are significant differences in the trend in residential construction in the two metropolitan regions. A higher percentage of their respective regions' total has occurred in Calgary than in Edmonton because the peripheral urban municipalities in the Edmonton Region are larger and because of the growth of the hamlet/urban service area of Sherwood Park in Strathcona County. However, since 2000, Edmonton's share has increased, and in 2014 it was 73 per cent, higher than at any other time since 1983, while Calgary's share has stabilized at around 71 per cent. Given the current volatility in the local economy, and its impacts on net in-migration, it is impossible to comment on whether these trends will continue in the future. One similar trend in both regions, however, is that the average value of units constructed in the neighbouring municipal districts has been much higher than in the core cities, indicating that the population expansions in these districts have resulted in higher per unit property tax bases.

Commercial Development

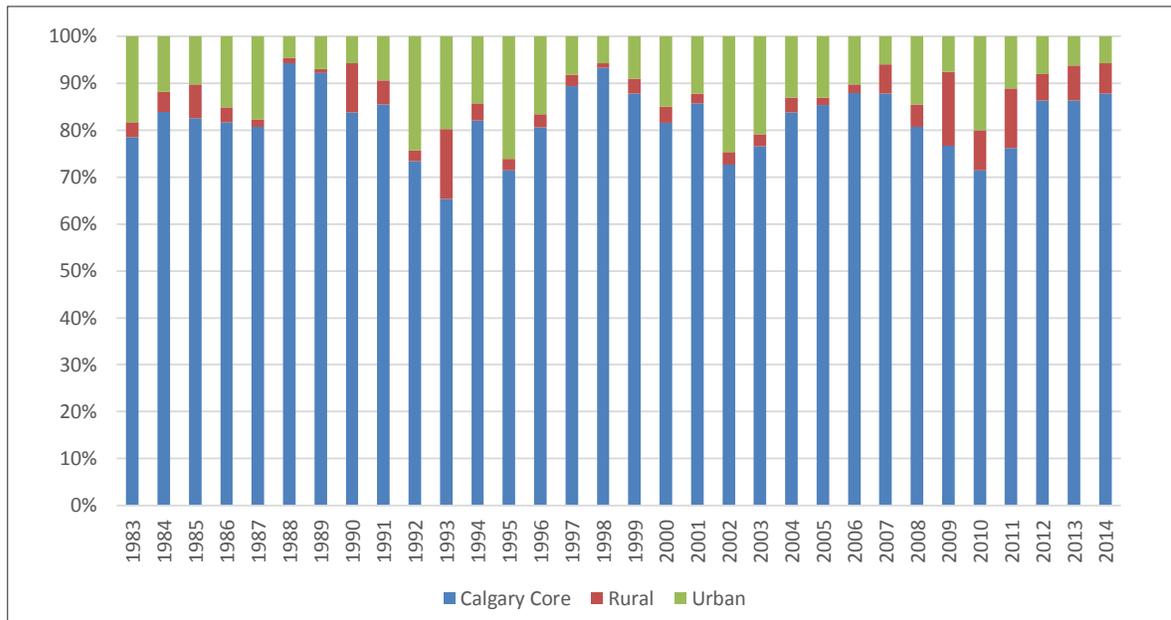
Figure 17 shows the trend in value of building permits for new commercial construction in the Calgary and Edmonton Regions from 1983 to 2014. While the Edmonton Region shows stable growth, there were extreme surges in the value of commercial building permits issued in the Calgary Region in 1998, 2004 to 2008, and 2013.

FIGURE 17 VALUE OF COMMERCIAL BUILDING PERMITS IN THE CALGARY AND EDMONTON REGIONS



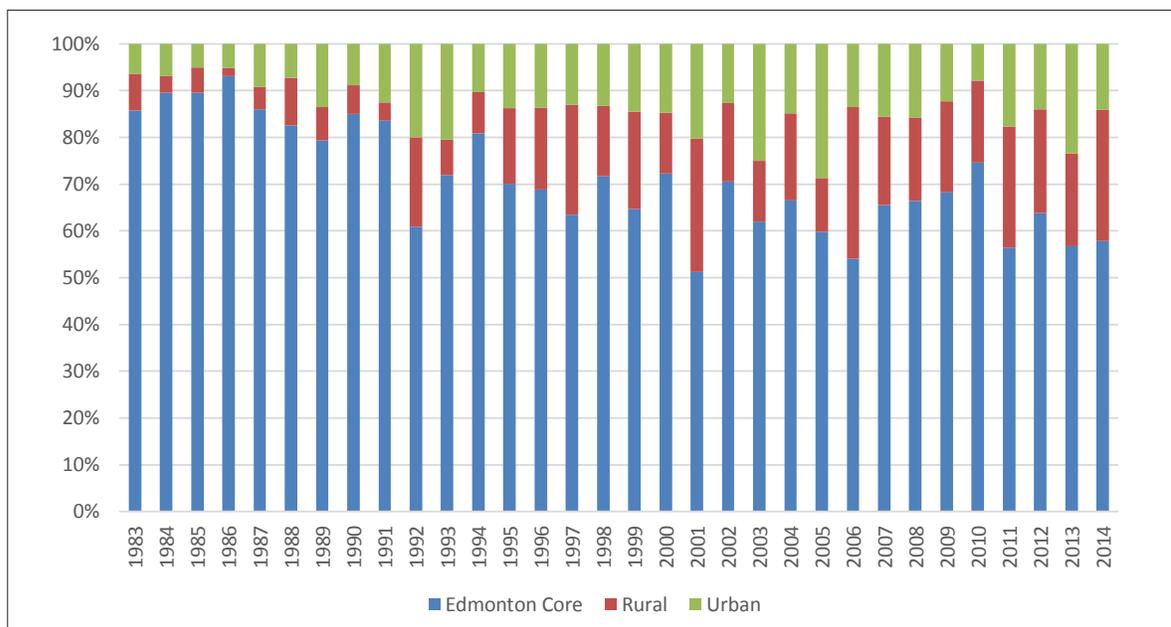
Figures 18 and 19 show the distribution of commercial building permits issued in the core-cities, the peripheral urban areas, and the municipal districts in the two metropolitan regions. Looking at the data, the spike in rural development in 2009 largely occurred in Rocky View County, which is likely related to the construction of the CrossIron Mills shopping centre that opened in August that year and ancillary development around the shopping centre. While development, such as CrossIron Mills or the Century Downs Casino and Racetrack (opened in 2015), draws attention and economic activity to Rocky View County, Calgary has retained its dominant position in its region with regard to commercial development, having averaged 82 per cent of the regional total since 1983.

FIGURE 18 SHARES OF THE TOTAL VALUE OF COMMERCIAL BUILDING PERMITS IN THE CALGARY REGION



In contrast, Edmonton has seen a long-term decline in its share of new commercial development, from 87 per cent of the regional total in the 1980s to less than 60 per cent in the 2011–14 period. There has been a remarkable increase in the share of commercial building permits in the municipal districts, especially in Leduc County with the growth of Nisku, and in Strathcona County with the growth of Sherwood Park. Over the 32-year period under study, commercial activity in the Edmonton Region has become more decentralized, to the benefit of the adjacent rural municipal districts (including Sherwood Park) over the peripheral urban municipalities.

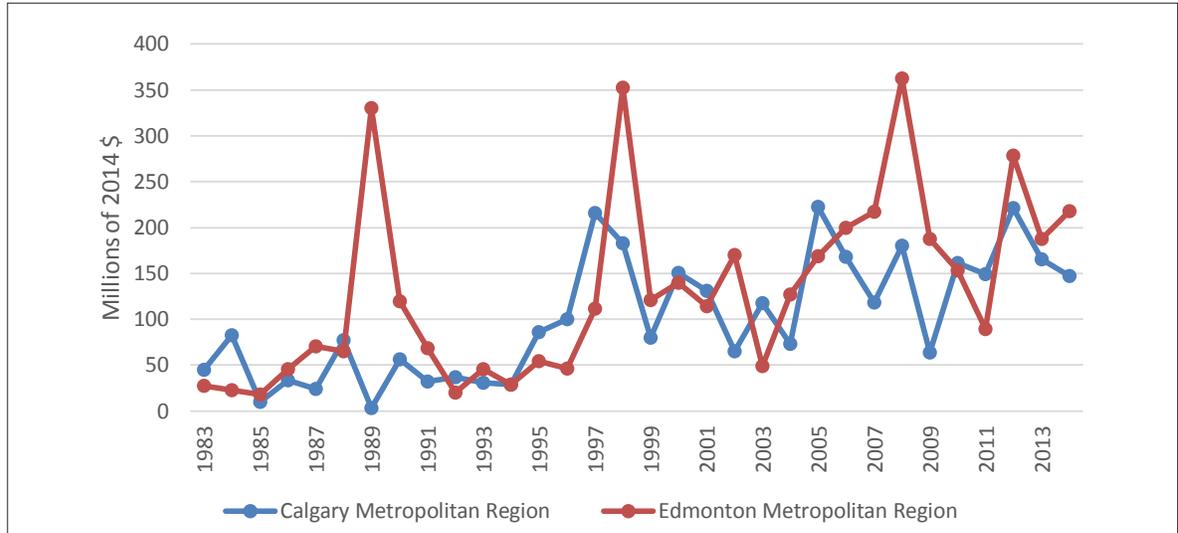
FIGURE 19 SHARES OF THE TOTAL VALUE OF COMMERCIAL BUILDING PERMITS IN THE EDMONTON REGION



Industrial Development

Figure 20 shows the trend in value of building permits for new industrial building permits in the Calgary and Edmonton Regions from 1983 to 2014. Given that new industrial developments are often large and discrete, it is not surprising that these series show large fluctuations, especially in the Edmonton Region in 1989, 1998, and 2008. Over the entire period, the total value of industrial building permits issued was \$4.2 billion in the Edmonton Region compared to \$3.3 billion in the Calgary Region.

FIGURE 20 VALUE OF INDUSTRIAL BUILDING PERMITS IN THE CALGARY AND EDMONTON REGIONS



Figures 21 and 22 show that the distribution of industrial building permits issued in the core cities, the other urban areas, and the municipal districts in the two regions fluctuated greatly from year to year. Calgary's share ranged from 94 per cent in 1986 to nine per cent in 1991, while it averaged 67 per cent over the entire 1983 to 2014 period. The municipal districts in the Calgary Region accounted for 23 per cent of the total, with Rocky View County receiving the largest share.

FIGURE 21 SHARES OF THE TOTAL VALUE OF INDUSTRIAL BUILDING PERMITS IN THE CALGARY REGION

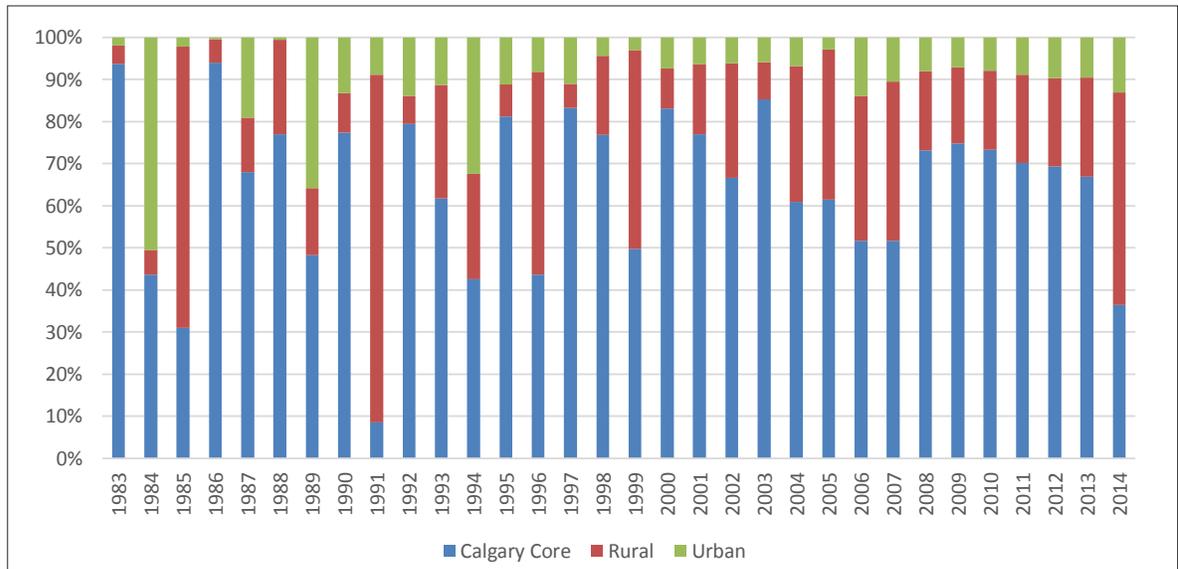
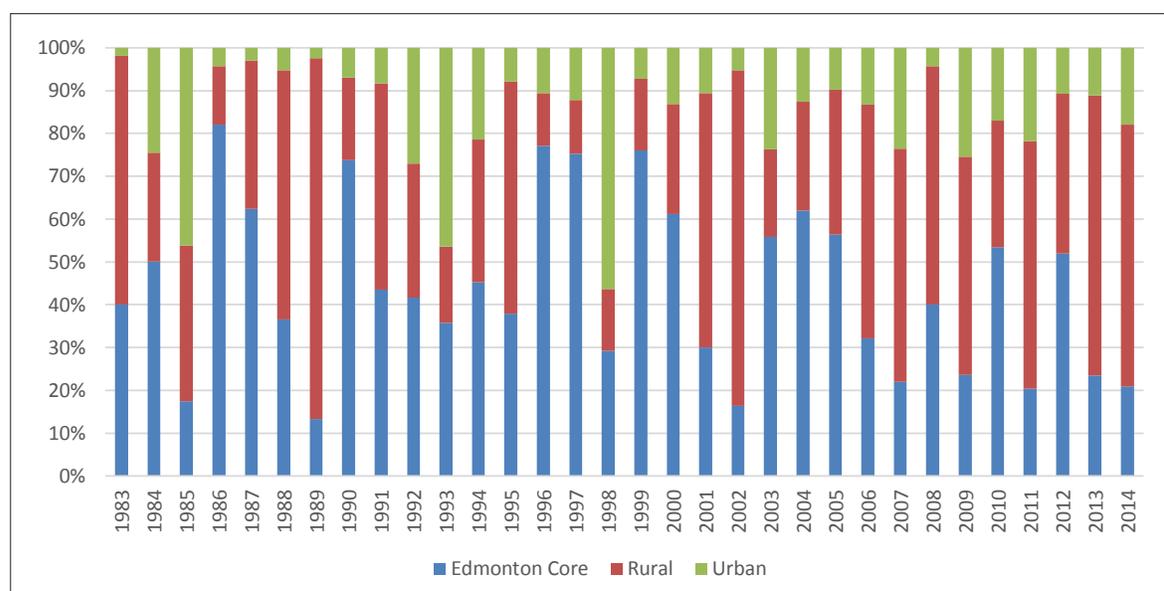


Figure 22 shows that Edmonton's share of total industrial building permits has also fluctuated a great deal and averaged only 39 per cent of the total over the 34-year period under study. The five municipal districts in the Edmonton Region have accounted for 45 per cent of the total over the entire period. Since 2000, Strathcona County has received 22 per cent and Leduc County has received 15 per cent of the total compared to 37 per cent in the city of Edmonton. Overall, industrial development has been larger and more dispersed in the Edmonton Region than in the Calgary Region. While the city of Edmonton has received the largest share of industrial development, Strathcona County and Leduc County are important destinations as well. By contrast, most of the industrial development in the Calgary Region, even in recent years, has occurred within Calgary.

FIGURE 22 SHARES OF THE TOTAL VALUE OF INDUSTRIAL BUILDING PERMITS IN THE EDMONTON REGION



ON THE RELATIONSHIP BETWEEN PROPERTY TAXATION AND DEVELOPMENT

The goal of this study has been to better understand the connection between municipal revenue generation and development in the Calgary and Edmonton metropolitan regions. Municipalities in both metropolitan regions rely mainly on property taxation for their own-source tax revenues. However, there are substantial differences in the per capita revenues raised by some of the municipal districts and urban municipalities, largely due to variation in the non-residential tax base. The main exceptions are the MD of Foothills and Rocky View County in the Calgary Region which currently do not receive substantial amounts of non-residential property tax revenues. In the Edmonton Region, the three municipal districts (especially Lamont County) that comprise the 'Industrial Heartland' and the city of Fort Saskatchewan impose relatively high non-residential property tax rates, and have relatively low residential property tax rates. Whether the low residential property tax rates in these municipalities have resulted in more residential development is difficult to assess. It is possible that the residential property tax differentials between Edmonton and the peripheral urban municipalities in the Edmonton Region have been capitalized in the value of the land zoned for housing developments and therefore eroded the advantage of building new residences in these municipalities.

In fact, the petrochemical and associated industrial projects in the ‘Industrial Heartland’ are relatively limited in location choice because of agglomeration effects. This has allowed the municipalities in this sub-region to have relatively high non-residential tax rates without displacing these investments to other municipalities within the Edmonton Region. In the Calgary Region, the competition between Calgary and the neighbouring MD of Foothills and Rocky View County is over relatively “footloose” commercial and industrial developments. The convergence of the non-residential tax rates in the Calgary Region could be interpreted as evidence of competition for these geographically mobile projects, although this explanation seems, at least on the surface, inconsistent with the increases in non-residential mill rates in the MD of Foothills and Rocky View County.

The role that the source of municipal revenue has played in determining development patterns has taken place within the context of rapid population growth and economic development in both regions. While there has been some decentralization of the urban populations, Calgary accounted for 74 per cent, and Edmonton 66 per cent of the population growth in their respective metropolitan regions. There has not been a marked increase in the share of the population living in the rural areas surrounding Calgary and Edmonton, if Sherwood Park, Strathcona County’s urban service area, is considered a peripheral urban municipality.

When this study was started, one of the things we thought we might witness was unbridled growth in the rural municipal districts as a result of the devolution of regional planning with the enactment of the 1995 Municipal Government Act – this was not the case. In line with their shares of total population growth, Calgary and Edmonton have been the locations for the bulk of new residential development in their respective metropolitan regions. However, one interesting trend is that the average value of the new units constructed in the surrounding rural municipalities is much higher than in the core-cities of Calgary and Edmonton. With regard to both new commercial and industrial development, the Edmonton Region has become more decentralized over the last three decades, with a significant increase in the shares of new commercial and industrial building permits in Leduc County and Strathcona County. In contrast, Calgary has retained its dominant share of commercial and industrial development.

Metropolitan Taxation and Development in an Era of Mandatory Intermunicipal Collaboration

The current planning frameworks in place around Calgary and Edmonton provide overarching direction on the nature and density of development in each metropolitan region. They were designed, in part, to protect the needs and interests of the core-cities of Calgary and Edmonton in the policy vacuum created by the adoption of the Municipal Government Act in 1995. While the Municipal Government Act was a watershed moment for municipalities across the province—fundamentally re-shaping the nature of intermunicipal planning and development—the burden of much of the proposed legislation in the Modernized Municipal Government Act will fall on the cities, small towns, villages and municipal districts away from both metropolitan regions. That being said, the forced collaboration of municipalities within the Calgary Region under the rubric of a growth management board is a continuation of a process that parallels what has already happened in the Edmonton Region – once again completing the virtuous cycle of metropolitan-scale planning that first surfaced in Alberta in the 1950s.

Critically, the ability of municipalities to set their own property tax rates ensures some flexibility in these systems, enabling municipalities to compete for development by setting competitive property tax rates. Meaning that while growth outside of Calgary and Edmonton will be more controlled under the growth management boards, it will not be constrained in the manner that it was under the regional planning commissions.

Going forward, the growth management boards in both metropolitan regions should be careful to not stifle intermunicipal competition. Such a move would impact the economic sustainability of the peripheral urban municipalities and municipal districts to the benefit of Calgary and Edmonton and erode the benefits that intermunicipal competition brings to businesses and taxpayers.

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