

# Comparing Public Form-Based Codes in Canada Submitted to Dr. Jill L. Grant

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## ACRONYMS

- ARP: Area Redevelopment Plan CDZ: Comprehensive Development Zone
- DPZ: Duany Plater-Zyberk
- FBC: Form-Based Code
- LUB: Land Use Bylaw
- PUD: Planned Development Unit
- PMCS: Placemakers Codes Study
- TND: Traditional Neighbourhood Development

## **1 EXECUTIVE SUMMARY**

Form-based codes (FBCs) are usually considered a tool of New Urbanism and Smart Growth. FBCs regulate public space, building form, frontages, block, building type, landscape and architectural standards. Most form-based codes are now finding application not through covenants on private developments, but as development regulations employed by cities and towns (Talen, 2013). With this move towards public codes have come new challenges around legality, flexibility and complexity. (Sitowksi 2006; Garvin 2003; Regan 1990).

A decade ago, code reformers posited FBCs as a regulatory paradigm shift away from zoning emphasizing that codes could not be "grafted" on to conventional zoning (Duany & Talen, 2002). This has not happened: instead, land use zoning remains the primary regulatory tool in the US and in Canada and there are few 'pure' FBCs. Most commonly, codes are implemented as an added or sometimes optional overlay zone in a land use bylaw.

Although the FBC term has entered the Canadian planning vernacular, little has been written about FBCs. The purpose of this study is to explore FBCs through a mixed methods approach by surveying practicing planners and performing a comparative analysis of public form-based codes in the Canada.

There is a wealth of New Urbanist literature about the potential of form-based codes to create a finer-grained urbanism, improve the quality of the public realm and increase the mixture of neighbourhood facilities and services (Katz, 2004; Parolek, Parolek, & Crawford, 2008; Talen, 2012). But as FBCs are relatively new, few studies have evaluated their outcomes. This study contributes to the literature by setting the groundwork for a future in depth case study of FBC outcomes in Canada.

The study started with a literature review. I began by consulting New Urbanist literature in the US and then investigated design code outcomes in the UK. In the second phase I reviewed high profile FBCs identified in the literature and differentiated FBCs enforced through private covenants versus public FBCs. From the initial review I formulated research questions:

- Where do public codes exist?
- What do codes regulate?
- How are codes administered and by what authority to codes operate?
- What major themes can be drawn from the use of public codes so far?

In the next phase, I administered surveys to local planners in Atlantic Canada to gain insight into where codes existed and local planners' views on codes. Although surveys did not produce a large sample size, their results greatly enhanced my understanding of codes in practice. Survey results also helped the selection process of phase four, where I reviewed official plan and zoning bylaw documents from other cities and towns across Canada. From this review, I chose 12 representative cities. In phase five, I reviewed legal documents to determine the authority of codes and explored the change in the administrative aspect that FBCs can sometimes bring.

Findings identified four transect-based<sup>1</sup> FBCs in Canada: Revelstoke, Sylvan Lake, Airdrie, and Charlottetown. Elsewhere, I found other FBCs in Mission Road (Calgary), Centreport, and Wood Buffalo. Other areas warranting discussion were Chestermere, downtown Halifax, Truro, and Cornerbrook. In terms of the second research question, FBCs in Canada most commonly regulate building placement, massing, frontage type, and streetscapes. A similar theme for municipalities was the use of FBCs through land use bylaws applied to downtown or core commercial areas. I found Planning Acts and jurisprudence allowed for regulations even of an aesthetic kind (e.g. building material and form), but typically via land use bylaws, and with some challenges. FBCs might also operate through the authority of PUDs or direct control districts. But the majority of FBCs operate under a land use zone, an overlay, or through a combination of codes and guidelines subject to design review boards. Public FBCs do not enjoy the freedoms of private covenanted FBCs. Public FBCs face many of the challenges of other alternative regulation such as performance standards, striving to find balance between flexibility and predictability while remaining simple enough to administer.



<sup>&</sup>lt;sup>1</sup> A locational-based tool that organizes zones from rural-urban, promoting regional and community scale.

## 2 LITERATURE REVIEW

## 2-1 FORM-BASED CODES IN THE US

To many, form-based codes bring to mind the stylistic controls of Seaside, Florida, created in 1982. At Seaside, New Urbanists were able to consolidate an alternative, traditional neighbourhood development that rejected the subdivision, road, and zoning standards of postwar sprawl. The Seaside development also led to the development of DPZ's Smart Code, the most common form-based code today. After Seaside, DPZ began modifying FBCs for Planned Unit Developments (PUDs) such as the Kentlands, and eventually started providing consultation for cities and towns.

Hazel Borys and Emily Talen's 2012-13 Placemaker Codes Study tracked nearly 500 form-based codes worldwide (Borys & Talen, 2013). Today Florida dominates the FBC effort with 32 approved codes. Across the US 200 FBCs have been adopted. Cities as large as Miami and Denver have implemented FBCs (Talen, 2013). Talen also indicates that "of the codes adopted at the city, downtown, corridor, and neighbourhood scales, only 22 of 179 (about 12%) were for private developments" (ibid, pp. 193). These numbers attest to the small percentage of overall FBCs and also underline the idea that the majority of FBCs being adopted today are public FBCs.

The argument for FBCs and Traditional Neighborhood Developments has made its way into state legislature: California's Assembly Bill 1268 endorsed FBCs and Florida and Arizona have followed suit (Katz, 2002). In 2000, Pennsylvania authorized a major reform package to encourage Smart Growth municipalities to enact TND regulations (Sitkowski, 2002). Meanwhile, Wisconsin has mandated cities above 12,500 to adopt a TND ordinance (ibid). Both in terms of municipal use and in legislative change, FBCs appear to have a higher profile in the US than in Canada.

#### 2-2 DESIGN CODES IN THE UK

In the UK, form-based codes are known as design codes. According to a survey, (Carmon, 2006) codes appear to be more commonly used in the UK than in the US. 27% of municipalities and developers used design codes and 33% intended to use them.

Design codes have many definitions, of which Carmona has tracked 13 (ibid). As with the case of Seaside, codes may tend towards producing neo-traditional architecture. Poundbury, Dorset, stands out as a hallmark New Urbanist code in the UK. Leon Krier, Alan Baxter and associates from DPZ created a masterplan and performance standards for "external walls of buildings, roofs and chimneys, windows and doors, building and subsidiary elements, gardens, garden walls and fences, accessibility, and environmental targets" (Thompson-Fawcett, 2003, p. 253). Knowledge transfer around codes seems to have occurred at different times between the US and the UK. This is evident by UK neo-traditionalist Léon Krier's influence on Andres Duany and Elizabeth Plater-Zyberk in the late 1970s (Grant, 2005). Following Poundbury design codes became integrated into residential design guidance (Powers, 2013). Since the late 1990s the UK government aimed to increase the urban design quality of residential developments (Adams & Croudace, 2011). The discussion around codes was stimulated by the government's Sustainable Communities program. (Carmona, 2006) The Department for Communities and Local Government describes Design Codes as:

"an illustrated compendium of the necessary and optional design components of a particular development with instructions and advice about how these relate together in order to deliver a masterplan or other site-based vision" (Department for Communities and Local Government, 2006, p. 7)

More evaluations and literature on the outcomes of design codes exists in the UK than elsewhere. The Sustainable Communities Program monitored and evaluated 19 case studies where codes were implemented. Within the 19 communities that served as case studies, design codes acquired their legal status not through planning process but private covenants tied to the land sale to developers (Carmona, 2006). A 2003 Sustainable Communities Program study found that codes produced a better quality built environment, made no discernable difference to the planning process, and were valuable tools in producing more sustainable outcomes (Carmona, 2009). In the UK, it appears that design codes are widespread because of their support through the government-led housing initiative. In Canada, the planning system is more similar to the US and form-based codes are implemented through the decisions of local governments. The UK's top-down program is more comparable to the experience other countries such as Australia have had with alternative regulations.

## 2-3 FBCS AS PERFORMANCE STANDARDS

Performance-based zoning, which has a lengthier history of implementation than the latest public FBCs, can serve as a useful analogue. In 1980, Lane Kendig proposed performance standards as an alternative to land use zoning. Emphasizing site-specific concerns, his approach was based on four variables: open space ratio, impervious surface ratio, floor area ratio and density (Baker, 2006). Porter surveyed nine municipalities in the US finding that only two retained their performance standards. He suggested that municipalities wanted certainty and were frustrated by development standards' administrative complexity (Porter, 1998). Baker suggests that communities moved away from 'pure performance-standards' into hybrids as policy overlays or standards within traditional zoning districts. (2006, pp. 399). FBCs and performance standards arose from different contexts. Advocates for both types of regulations originally set out to unseat conventional zoning with something better. We can use the trajectory of performance standards and their different successes and failures as clues to examine the FBC outcomes so far.

A 2000 CMHC report analyzed international experiences to suggest how performance-based standards could be used as an alternative form of regulations in Canada (Leung & Harper, 2000). Gauging the experience in Australia, New Zealand and the US, the study concluded 12 key lessons. The following lessons would also be applicable to FBCs and will be explored later on in analyses and themes.

- Using a top-down, intergovernmental approach that is responsive to communities and the development industry is the most successful approach.
- A good growth climate provides the conditions for regulatory innovation.
- Providing choice for developers (e.g. optional overlay) is necessary.
- Change is costly and contentious. Standards should not replace conventional zoning but complement it.

- Performance-based standards work for non-routine cases, but the bulk of development applications should be handled by zoning.
- Limiting the scope of standards. Complexity is the enemy.
- Consistency matters as cities compete with rival cities for growth (Leung & Harper, 2000, pp. 38-43)

Many of these lessons correspond with the lessons learned by FBC advocates in terms of codes needing to be comprehensive but simple.

## 2-4 THE QUESTION OF RULE VS. DISCRETION

#### RULES

For FBC advocates, enforceability is crucial to creating predictability. Commenting on the shortcomings of the Cornell New Urbanist development in Ontario, Andres Duany blamed failings on property ownership changing hands and the failure of the city to adopt the codes (Hertz, 2009). The Form-Based Code Institute is careful to stipulate the following. "Not to be confused with design guidelines or general statements of policy, form-based codes are regulatory, not advisory" (Form-Based Codes Institute, 2010-2013).

Some view form-based codes not as a recent invention but as a rediscovery and one that is New Urbanism's great success (Murrain, 2002). Advocates point to the great historic precedent for rules that govern streets, frontages, and building form. In the past, rulers issued the settlement and city laws. In Roman times, Emperor Augustus set the standards for street widths to 15 feet (Ben-Joseph & Southworth, 2003; Ben-Joseph, 2005). Europeans brought into the New World their own design imperatives. The 1573 Law of the Indies governed settlement siting, layout, and allocation of a main plaza. These laws are recognized as America's first planning legislation (Garvin, 2003). A general building ordinance in Finland issued in 1856 divided towns into four categories. In the first two, houses in the centre were to be made of brick and in the last, wooden buildings would be tolerated (Sundman, 1991). Over the course of history, rules and laws were administered by authorities for a variety of purposes: political power, safety, and health among them.

Talen is careful to draw a line: today's codes face a complexity unknown to previous historical periods. With the emergence of modernism's new building patterns and materials, urban form is no longer constrained by technology or style (Talen, 2009). Political forms have shifted as well. FBCs must rely on public consensus to define the typologies of a place. In their guidebook to

FBCs, Parolek et al. (2008) are emphatic about public participation and design charrettes during the creation of FBCs. Whereas historical codes were issued top-down, in both the US and Canadian context, municipalities make the development regulations and must undertake public consultation to attempt to gain some consensus about urban form and pattern. Furthermore, the production and administration of today's codes require breaking down the silos of individual expertise. FBCs need "an interdisciplinary sensitivity to planning" from a diverse range of professions—civil engineering, environmental science, legal, transportation, architecture to name a few (Rangwala, 2009, pp. 12). Thus, today's FBCs operate under new complications in terms of needing to undertake public participation and uniting different fields.

The search for rules seems reveals a search for what Ben-Joseph calls, 'place-based norms' (Ben-Joseph, 2005, p. 24). Consensus is difficult to achieve. Talen places optimism in what she calls timeless forms of urbanism, "based on a certain degree of human hard-wiring" (2012, 196). At the same time, studies have shown the alienating cultural and class model that New Urbanist FBCs can throw onto existing urban spaces (Gonzalez, 2009). While zoning might be undesirable, the predictability offered by FBCs can come at the too high a price of inflexibility to change and administration. This review will show that discretion, although potentially decreasing predictability, has been the primary way of increasing flexibility. So far in Canada we have landed in the middle path between rules and discretionary guidelines.

#### DISCRETION

As urban design guidelines have garnered more interest, design review boards have increased to interpret them. Design review boards are made up of professional architects, landscape architects, planners, engineers and sometimes project managers and citizens. Written decisions by the review panel are meant to protect against corruption and show that the process has been fair (Kayden, 2011). Nevertheless, "guidelines can prove to be a legal minefield... with immeasurable amounts of imaginable problems." (Garvin, 2003, 5). Urban design guidelines have also been criticized from advancing the entrepreneurial city (Cuthbert, 2006) to the role of design review boards discouraging pluralism and diversity in the planning process in Canada (Kumar, 2003). Gunder (2011) argues that urban design must work within planning's broader goals of economic, social, and environmental goods and not outside of it if it is to avoid neoliberal tendencies. These failures combined contribute to a wider criticism of urban design.

While design review boards have been assailed as mere "pretty committees," some alternatives are suggested. Sitowksi indicates that one alternative has been creating a Town Architect position, familiar with New Urbanist design and regulations (Sitowksi, 2006, 10). The Town Architect would be critical to the review process, but not so powerful as to replace the decisionmaking body.

#### A MIDDLE PATH

The ideas of rule and discretion have been voiced throughout history. How to integrate the topdown approach with the bottom-up has been a problem in planning from the beginning (Talen, 2012). As mentioned already, most municipalities in Canada have chosen a middle path between code and discretion in governing urban form. Popular models such as Vancouver point to the potential success in this approach.

Vancouver is renowned for its high quality urban design and model design review process. Applications pass through 10 architecture-trained development planners, closely watched by the director of planning, before applications reach a second tier advisory panel. The process, although lengthy, has enabled the city to embrace a commitment to design principles and contextual analysis, avoiding the pitfalls of discretionary boards (Punter, 2011). Complementing Vancouver's design review process have been genuine efforts towards public participation. Vancouver also possesses its own City Charter, which enables the city's planning department to better guide the application process. Councilors do not ever see permit applications and the director of planning is delegated a great deal of power over planning decisions (Bogdanowicz, 2006). In their bureaucratic role, planners are discretionary agents; they review permits and applications using knowledge and expertise to make judgments. FBCs still require this level of discretion. Early FBC advocates viewed additional layers of discretion like design review boards as problematic. Nevertheless, models like Vancouver prove the effectiveness of multi-tiered discretionary processes and zoning to produce high quality urban environments.

## **3 SURVEY**

To assess practicing planners' experience with form-based codes, I distributed surveys across the Maritimes. The primary mode of delivery was by hand at the annual Atlantic Planner's Institute conference in Charlottetown PEI from October 2-3, 2013. Respondents included a mixture of municipal planners, development officers, and practicing consultants. Additional surveys were conducted over the phone with local practicing planners from all four Maritime Provinces, providing a spectrum of insights. The survey reflected three objectives:

- To document how much experience existed in that particular town or city.
- To discover where planners looked to for ideas or learned about FBCs.
- To determine opinion on FBCs, namely where they could be used and in what way.

Survey results were constrained by the sample size. Answers came from 14 respondents. Although the sample was not large enough to be used as the primary methodology, surveys proved useful in enhancing understanding of codes in practice. Surveys also helped indicate the environment for code writing in the Maritimes: where they were being used and how. The survey results supplement the study's main findings.

## **3-1 EXPERIENCE**

Most planners surveyed in Atlantic Canada had little first-hand experience with FBCs. Some had read about FBCs and four identified a city or town they worked in where a FBC was already adopted. The downtown was the most common area where FBCs were implemented or proposed.

What experience have you had with FBCS?	
No experience	6
Only read about them	3
Consultant study	
Presented them before council	1
Already have adopted a FBC	4
Other	
Where are FBCs being	
implemented/proposed in your	
community	
Downtown / City Centre	7
Context buildings in communities	1
Waterfront	1

#### TABLE 1 SURVEY: EXPERIENCE

#### **3-2 INFLUENCES**

When referring to FBCs in the Maritimes, planners cited HRM by Design most frequently as an influence.

"Wintersprings, HRM by Design"	"people for public places"
"Charlottetown"	"our own architecture"
"HRM by Design"	"general principles of good urbanism"
"HRM by Design"	
"US Cities"	
"APA Conference"	

### **3-3 STRENGTHS AND WEAKNESSES**

## STRENGTHS

## **Changing the Planning Process**

• "reduces onerousness of development

- agreement process"
- "gives developer envelope"
- "alleviates neighborhood opposition"
- "market demand determines unit"

• "function on case-by-case basis and are site specific"

• "not have to read through a technical document e.g. setback, side yard limitation"

• "sets parameters around building form without being prescriptive"

"getting away from the prescriptiveness of zoning"

## WEAKNESSES

- "removes flexibility in planning process e.g. development agreements"
- · "administrative process and review requires major overhaul"
- · "first would require clarity in legislative compatibility'
- "immense cost of education and public participation"
- "bad if you don't streamline"
- "administration time"
- · "legal fees"
- "not much appetite in this community for more regulation'
- "a lot of effort and site specific consideration"
- "a lot of public consultation"
- · "work would need to be contracted out for drawing'
- "planners and developers are used to current process
- "immense cost of education and public participation"

## Design

• "codes can preserve building fronts and sense of scale'

• "creating great pedestrian

environments: permeability of façade, welcom-ing, memorable, legible place to fix in minds.

· "increasing approachability [commercial] and livability

• "focus on urban design"

## Sense of Place

• "could help sense of place and community"

• "help facilitate more mixed-use"

- "in the way of architect's vision"
- · "disconnect from public culture"
- "bad if you don't streamline"

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## 4 DOCUMENT REVIEW

The document review examined land use bylaws, official plans, site plans, and design guidelines. In the last stage, I consulted provincial planning acts to determine the legal status of FBCs.

First the Placemaker Codes Study was consulted. To systematically create a list of other cities that may be using FBCs, approximately 10 cities and towns were reviewed from each province. In the Atlantic Provinces, I chose cities and towns based on surveys conducted with practicing planners from those provinces. The table below shows the selection criteria used to determine which cities were included.

#### TABLE 3 SELECTION CRITERIA

- 1. City Size by Population
- 2. Year of Bylaw's Publication
- 3. City/Town's possession of qualities:
  - a. Heritage
  - b. Downtown
  - c. Special/Resort

The ten most populous cities were chosen from each province. In 2002, Kumar surveyed 62 cities for their urban design practice, consulting cities that were larger than 25,000. Linovski's (2013) more recent analysis of urban design practice across the US and Canada used cities larger than 500,000. A second criterion sought to derive the most recent codes, more likely to have been influenced by the Smart Code, first published in 2003.

Survey data indicated that codes existed in towns as small as 12,000. This insight required the addition of a third criterion to account for smaller sized communities. It is possible that a LUB-based search would not account for FBCs in other documents such as direct control districts, area development plans, subdivision bylaws, or draft documents. Consulting the Placemaker Codes Study helped retrieve many of the FBCs in draft form or located outside of LUBs such as Centreport, Mission Road, and Revelstoke. The following list contains the 12 FBCs I selected for analysis. These were chosen according to the criteria, the availability of information on the codes' components and direct referrals to the codes from the surveys.

#### TABLE 4 TYPES OF FBCS

Transect-Based FBCs	Other FBCs	
Revelstoke, British Columbia – Draft LUB 2013-14	St. Albert, Alberta – Discarded Plan 2010	Chestermere, Alberta – Adopted Guidelines and LUB 2011-12
Sylvan Lake, Alberta – Adopted	Mission Road, Calgary, Alberta –	Halifax Regional Municipality,
ARP 2006 and Pattern Book, 2009	Adopted Amended ARP 2012	Nova Scotia – Adopted HRM by Design 2009
Airdrie, Alberta – Adopted	Centreport, Manitoba – Draft LUB	
Guidelines 2005	2013	Cornerbrook, Newfoundland –
		Adopted Development Regulations
Charlottetown, PEI – Adopted	Wood Buffalo, Alberta – Adopted	2012
Amended LUB 2013	LUB 2013	
		Truro, Nova Scotia – Adopted LUB 2010

## Checklist

The Form-Based Code Institute (FBCI) provides a checklist with seven categories to determine if a development regulation is a form-based code. This checklist was adopted to evaluate Canadian codes using a yes or no for each category. If there was not enough information available or a category was not applicable to the study city, I used "n/a". Six cities with bylaws that were also adopted ranked yes in all categories of the checklist: Mission Road, Sylvan Lake, Airdrie, Charlottetown, Truro, and Wood Buffalo. As these checklists provide only a basic description, further explanation will also be given. For example, cities such as HRM and Charlottetown, use both regulatory and advisory approaches. In cities that contained at least one element of the category (e.g. HRM's regulatory approach for quantitative matters), a positive response was favoured over a negative on the checklist. The 12 study cities found to be using FBCs are as follows.

## 4-1 CENTREPORT



**CENTREPORT** is located between the Rural Municipality of Rosser and Winnipeg, Manitoba. Centreport is a 20,000-acre inland port and foreign trading zone owned by a private sector corporation, Centreport Canada Inc., established by provincial act in 2008. The governments of Canada and Manitoba are currently investing \$460 million into Centreport projects. Centreport possesses 2,000 acres of land ready for development.

**Consultant Team**. Placemakers, MMM Group, CNT. Consultants visited Rosser County in the summer of 2013 to prepare a zoning framework and design guidelines to steer the development of the first phases of Centreport.

**Code Components.** The Centreport code has progressed to the stage of a land use bylaw. The Centreport bylaw draft contains a variety of regulatory layers:

- Form-based codes—in the draft bylaw called Zoning Standards— codes are hybridized into three Industrial zones I1, I2, and I3.
- Three additional overlay zones provide regulations for walkability and AT.
- Streetscape guidelines and design standards.
- Last, to give incentive to sustainability, the LUB features a point system of Sustainable Development Standards, where developers must undertake a variety of measures (e.g. green building, energy and water efficiency, green roof, or bicycle facility) to attain a minimum of five points.

**Analysis.** Centreport's draft bylaw contains discernable New Urbanist ideas for the Industrial Centre Zone including active transportation corridors, a pedestrian friendly environment, and ground floor shop fronts. This emphasis is strangely at odds with the automobile and truckoriented street uses of the other streetscapes and industrial zones, which may intersect at street level, as the figure below illustrates as the likely predominant type. As the bylaw is only in first draft form, future research can determine whether the draft's multifaceted regulatory approach is successfully implemented and weigh the initial outcomes.



FIGURE 2 CENTREPORT STREETSCAPE AND ZONE

#### TABLE 5 CENTREPORT FBC CHECKLIST

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	n/a	yes	yes	n/a	yes	yes

## 4-2 CHESTERMERE



**CHESTERMERE** is a bedroom community 20km east of Calgary with a population of 14,824. The town's current official plan, land-use bylaw and architectural guidelines were adopted over three years. Chestermere's 2009 Municipal Development Plan establishes that the town will "become a community of

multiple Town Centres" (Town of Chestermere, 2009, p. 14). Town Centres are described as commercial pedestrian environments with policies such as mandatory central public plazas, urban form, multi-story medium box stores and the restriction of large box retail stores.

**Code Components.** Land Use Bylaw 022-10 was adopted in 2011 and in the course of the next year, the town adopted architectural and landscape guidelines. A statement of legal clarification prefaces the architectural guidelines, stating that they in no way limit compliance with Alberta building standards, local development bylaws or other statutory documents (Town of Chestermere, 2011, p. 80). A design review committee is assigned for major design considerations that include landscape, signage, building design, layout, colours and materials. The appointed review board perhaps might also work to mitigate potential legal problems.

**Administration.** The application process is complex within Chestermere's Town Centre and is heavily based in discretionary review. The process involves

- 1. Submission of working drawings
- 2. Development permit applications
- 3. Preliminary design drawings
- 4. Final design.

During these steps, projects are considered by both a design review board and a development authority, assigned the task of interpreting various aspects of the design guidelines.

**Analysis.** Chestermere's form-based codes are essentially architectural guidelines that the LUB designates as mandatory within the town centre zones.

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	no	no	yes	no	yes	no

TABLE 6 CHESTERMERE FBC CHECKLIST

## 4-3 REVELSTOKE



**REVELSTOKE** is a city of 7,139 located in southeastern British Columbia. After the construction of the TransCanada Highway in 1962, tourism became an important part of local economy so that today, population nearly doubles on peak summer and winter days. When a 2007 resort boom brought a neighbourhood outcry against development inconsistent with the character of

the area, city staff saw an opportunity for better regulations to preserve the city's character (Senbel, 2013, 75). After adopting a new Official Community Plan in 2009, planning staff began a series of engagement exercises. They also began consolidating the existing LUB into a formbased code termed the 'Unified Development Bylaw' (UDB) to realize the goals of the OCP within a legal framework.

**Consultant Team**. Placemakers Inc. headed an international team of planning and design consultants to run a series of engagement activities from June 8-11. The main event was a public charrette held to establish the character-based elements in the code. Payment to the Placemakers consultants totalled \$124,318.

#### **Code Components.**

- Both the OCP and UDB call for neighbourhood centres of increased density and mixture of uses.
- Revelstoke's code is transect-based, so that these centres correspond to a T5 Urban Centre zone.
- According to a draft LUB map, Revelstoke uses the full spectrum of the Transect's zones from T-1 rural to T-5, which cover the whole city (See Appendix). If implemented this would make the transect overlay the largest by area in Canada.

As of March, 2013, council voted down the UDB, removing portions of the bylaw that would have streamlined building, sign, and subdivision bylaws along with administration and enforcement processes like planning, fire, and engineering. The mayor and council viewed this streamlining as untried and overly complex. The city is moving forward, however, with its formbased codes approach as part of its new zoning bylaw.

**Administration.** The UDB will introduce a Development Review Committee. Similar to other review board schemes, after the planning department has reviewed the application, it would be forwarded to the review committee who are responsible for approving or declining the permit.

**Analysis.** Revelstoke needed a more sensitive regulation and permitting approach to cope with the new resort developments. The rejection of the UDB suggests the difficulty for municipalities in the task of unifying different city departments. The city is still working on a draft of the LUB and no copy has yet to be released. Revelstoke's FBC should be monitored in the future, once this LUB is released. A recent study that evaluates the effectiveness of Revelstoke's code in terms of its Smart Growth principles (e.g. building footprint and transportation choice) asserts that changes to the built form alone are not enough to reduce overall GHG emissions (Senbel, 2013).

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	yes	yes	yes	n/a	yes	n/a

#### TABLE 7 REVELSTOKE FBC CHECKLIST

#### 4-4 MISSION ROAD



**MISSION ROAD** is a 1 km road in the Parkhill/Stanley Park community in Calgary's ward 9. Parkhill/Stanley Park has a population of 1,592 and is characterized by duplex and semi-detached family housing units. In early 2011, Gian-Carlo Carro, urban design professional and alderman of ward 9, began an

innovative project aimed at transforming the land use zoning and permitting process. Mission Road was targeted for transformation as a main street and connector to adjacent neighbourhoods through a new dense, special mixed-use project called 'The Mission Road Main Street Innovation Project.'

Consultant Team. Placemakers Inc, in collaboration with DPZ.

**Public Participation.** In February 2011, council approved the Mission Road Main Street Project, dispensing \$300,000 from a new innovation fund for the city. From June 15-21, Placemakers Inc. engaged the community with a series of design charrettes.

**Implementation.** In February, 2012, the city stopped funding the project, voting against giving \$90,000 for additional consultant work that aimed at investigating how to change the application process (potentially to include charrettes in future area redevelopment plans). At the time that funding stopped the city had a spent a total of \$436,000 (City of Calgary, 2012b)

On July 16, 2012, council seeing the project three quarters completed, voted unanimously to amend the Parkhill/Stanley Park ARP and sections of the LUB to include form-based code controls. The Mission Road project was implemented, but its ambitious aim of reforming the application process, as well as serving as a model for design and charrettes for other areas fell short of the intended outcome. The geographical area that the amendments would apply to was also significantly scaled back.

**Code Components.** Mission Road is now designated a 'special area' within the Parkhill Area Redevelopment Plan (City of Calgary, 2012a). A direct control district was amended to actuate the ARP. The Mission Road Area is still subject to the city of Calgary's LUB. Where there are inconsistencies a provision provides that favour the ARP and Direct Control standards over the LUB. The code includes:

A regulating plan

- Form-based controls
- An illustrative plan (See Appendix)
- Street improvement concept

**Application.** On Oct 10, 2013, a residential mixed-use project at the corner of 34 Avenue and Mission Road was approved. The 48-unit development features apartment style, courtyard homes, street-front lots, and makes use of a tower icon on the corner (Assured Communities Ltd., 2013).



**Analysis.** The Mission Road project contains two lessons regarding the introduction of FBCs. First is the fear of regulations not being marketable. Design charrettes and plans—no matter how good—may not match up with the economic reality. By the time Alderman Carra requested an additional \$90,000, council had reached a limit on consultation fees. Part of the dilemma with regulatory reform may reflect its intangibility. Mission Road undertook an extensive public participation program, but it will be years until a physical outcome can be evaluated. Second is the fear that new regulations will fail to be meaningful in the developmental context. Instead of facilitating desired development patterns, the worry is that regulations merely add a layer of bureaucracy.

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	yes	yes	yes	n/a	yes	yes

#### TABLE 8 MISSION ROAD FBC CHECKLIST

#### 4-5 ST. ALBERT



**ST. ALBERT** is 15km northwest of Edmonton with a population of 61,466. In 2007, St. Albert successfully annexed 3,307 acres from Sturgeon County and with this new development potential began discussions on a Smart Growth strategy for long-term growth. Between July 2007 and 2009, the planning

department undertook great efforts to familiarize council and the community with Smart Growth principles. This included publishing an educational pullout in the local newspaper, distributing surveys, holding focus groups, open houses, consulting 17 stakeholder groups, and performing a fiscal analysis on the benefits of Smart Growth.

**Consultant Team.** In 2009, an international consultant group, Glatting Jackson Anglin and Kercher, worked with staff, council, the public, and landowners. For three days, the firm organized activities including a design charrette, a walkability audit, and presented on livable transportation (City of St. Albert, 2010d). Two other consultant groups were hired to perform three surveys and an economic impact report for Smart Growth.

**Code Components.** A 2009 draft of St. Albert's Form-Based Zoning indicates a number of principles and form-based codes (City of St. Albert, 2010a, pp. 3-15).

- The draft 'St. Albert's Form-Based Zoning' used three kinds of zones: form-based neighbourhood, Neighbourhood Activity Centres, and Transit-Oriented Development as the building blocks for the development future lands.
- A street corridor typology (local, neighbourhood connector, parkway, and community connector).
- building types (house, threeplex, fourplex, townhouse, low/mid-rise building) within the different zones.

For the most part, zones were meant to mimic traditional urban form to create walkable, pedestrian-oriented environments. Some notable exceptions included a large format commercial zone. As a whole, the draft document showed a mixture of New Urbanist theories: TNDs, TODs, and FBCs, not at all times a sensitive transition from the St. Albert context.

**Implementation.** In January 2010, city council suspended work on the form-based zoning plans and made a request from staff for new Smart Growth concepts. The outcome was the creation

of a 'Smart Growth Hybrid' plan, presented to council on April 6<sup>th</sup>, 2010 (City of St. Albert, 2010b). The hybrid draft jettisoned the concept of Form-based neighbourhoods. Instead the plan adhered to a more conventional neighbourhood, but emphasized a modified street grid, smaller lot size, two neighbourhood centres and one transit-oriented development area. The plan was based on staff's "professional experience, best practices, significant research, and public consultation" (City of St. Albert, 2010c, p. 3). Despite staff's recommendation, council voted down the plan on May 25, 2010, as the plan had received criticism by the development industry and the public (Jarvis, 2010). In October, the term Smart Growth was removed from St. Albert's municipal plan and replaced with 'St. Albert's model for future growth.'

JAN 2007 St. Albert annexed land from Sturgeon County 2007-09 Public, council and landowner engagement on Smart Growth principles

SEPT 2009 Consultants from Glatting, Jackson et al conduct workshops

JAN 2010 Council votes down Smart Growth plan May 2010 Council votes down alternative "Smart Growth Hybrid plan"

**Analysis.** In St. Albert, the planning department, according to the breadth of documentation available on the Smart Growth endeavor, underwent a genuine effort to engage the community in the plan. The plan was supported by staff but voted down by council on two occasions. The draft contained many popular theories from New Urbanist design—perhaps too many, as the complexity or content of the plan was not able to convince council and the community of its viability.

St. Albert's subsequent model for future growth dismantled most everything considered in the Smart Growth plan save for transit-oriented development. The model resolves that "St. Albert will have a curvilinear design and no grid system" and that future growth "will not include back alleys (City of St. Albert, April, p. 1)" One lesson here might be the challenge of gaining acceptance from council and the public with experimental regulations where no precedents existed. St. Albert, at a point of growth and perhaps peak in the planning cycle, had reached a crossroads. The Smart Growth alternative was picked up and driven by the planning department, but planners failed to convince the community of the need for an alternative either in consultation or in the plan itself.

#### TABLE 9 ST. ALBERT FBC CHECKLIST

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	yes	yes	yes	yes	yes	yes

## 4-6 SYLVAN LAKE



**SYVLAN LAKE** is a popular tourist destination, 25km west of Red Deer with a population of 13,015. In 2006, the town adopted a Waterfront Area Redevelopment Plan to guide growth and development within downtown and waterfront areas, comprising 412 acres. The town went through a series of community engagement exercises: interviews, public forums, and stakeholder

comments. In December 2009, a Pattern Book was written in response to the Waterfront ARP's goals of establishing urban development and architectural standards.

Consultant Team. New Urban Design Group (Pattern Book)

#### Code Components.

- The Pattern book prescribes a form-based code to govern future development in the Waterfront ARP. A transect of T4 – General Urban Zone, T5 – Urban Centre Zone, and T-6 Urban Core Zone overlay the existing future development concept map (See Appendix).
- Within these T4-6 zones, an urban code provides specific, diagrammatic instruction on a number of standards.
- Architectural guidelines for built form provide an overarching set of detailed building forms to preserve the 'Cape Cod' style, which the town has decidedly chosen as its hallmark architectural style (Town of Sylvan Lake, 2010, p. 49)
- Four architectural patterns are represented: Ancient Classic Greek Revival, Renaissance Classic – Colonial Revival, Georgian, Medieval – Shingle Style, while modern architecture is excluded from the pattern book.

**Analysis.** The detail given to architectural requirements in Sylvan Lake's Pattern Book and the constraints given in the development application process make the waterfront area incredibly restrictive towards development. Sylvan Lake is known as a community of vacation properties for the wealthy upper class. Given this homogeneity in social class, these kinds of restrictions

promoting a single style of building typology may act like zoning guidelines to ensure property

values.

TABLE 10 SYLVAN LAKE FBC CHECKLIST

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian-scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	yes	yes	yes	yes	yes	yes

## 4-7 AIRDRIE



**AIRDRIE,** 35km north of Calgary, has a current population of 42,564. The city was identified in the Placemaker Codes Study for its mixed-use centres design guidelines. Around 2005, the city annexed 3,000 acres of land from Rocky View County to provide for future growth over the next 30 years, making it a

comparable case to St. Albert.

## Consultant Team. Civic Design Group

## Code Components.

- In January 2005, Airdrie adopted Commercial Mixed Use Centre (CMU) Guidelines intended to guide future development of the annexed lands. (Airdrie appears to be one of the early adopters of Smart Growth principles).
- The guidelines are organized according to a transect zone overlay that advocates the creation of neighbourhood "centres". The code uses the transect to divide into neighbourhood (T4), neighbourhood centre (T5) and urban core areas (T6) (See Appendix).
- In T5 and T6, the code provides for land use changes by right.
- Another notable feature is that in the neighbourhood centre retail is limited to first storey corners, one per block.

**Implementation.** According to Appendix A of the CMU Guidelines, the transect overlay is optional for all land use districts but mandatory for Commercial Mixed Use (CMU) (City of Airdrie, 2005). Presently, the transect overlay appears to have authority as follows. In the LUB, CMU guidelines are referred to as "performance criteria" (ibid). A provision ensures that any development in the Commercial Mixed Use District must follow the standards of this criterion.

**Analysis.** Today large portions of the 2005 annexed lands still belong to Rocky View, or have yet to be developed. A master plan was created in 2012 for 2.32 acres within the CMU district to the northwest for an area that falls within the transect overlay. Land use classifications in the master plan do not make use of transect terminology, but the plan's emphasis on high-density dwellings and pedestrian connectivity perhaps show the transect overlay's influence. That it is uncertain how much current plans for the area are following the performance criteria point to the complexity in administrating FBCs.

Airdrie's code is a Smart Code variant. It is difficult to isolate why Airdrie was more successful than St. Albert in implementing a future development plan. One difference is that Airdrie's code skirts the line between a guideline and a regulation. This might have allowed an added degree of flexibility. As a guideline and an overlay, not all aspects of the code seem to have been implemented since its adoption. Another important difference is that Airdrie bought the Smart Code, whereas St. Albert attempted to sew together mechanisms into their own plan.

TABLE 1	11 AIRDRIE	FBC CHECKLIST	•
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Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	no	yes	yes	yes	yes	yes

## **4-8 CHARLOTTETOWN**



**CHARLOTTETOWN**'s downtown 500 Lot Area is the cultural, historic and symbolic core of the city. The name evokes the original gridiron plan laid down for the city. Approximately 2,500 people live in downtown Charlottetown. From 2001-2010, the number of dwelling units increased by 10% (Canadian Urban

Institute, 2013).

In 2006, the 'Downtown Charlottetown 500 Lot Strategy' was produced, followed by 'Development Action Plan for Charlottetown's 500 Lot Area' in 2010. Staff thought a new regulatory framework was needed for two reasons: first, for sensitive infill developments and heritage area developments, and second for a development community frustrated with an unpredictable application process.

## Consultant Team. The Planning Partnership

### Code Components.

- An Urban Design Framework informs and organizes The 500 Lot Area Standards and Guidelines.
- Standards regulate quantitative matters and guidelines regulate the qualitative.
- Standards are organized according to the following Character Areas: Downtown Neighbourhood, Downtown Mixed-Use Neighbourhood, Downtown Main Street, Downtown Core, and Downtown Waterfront (See Appendix).
- Character areas are organized upon the transect principle, with less dense areas in the neighbourhoods transitioning to more dense in the downtown core.

**Implementation.** To implement the 500 Lot Standards and Guidelines, the city made amendments to the Charlottetown LUB and Official Plan, formally adopted on Sept 11, 2013.

**Analysis.** The 500 Lot plan provides guidance for infill developments within and in relation to heritage context. Character areas organize development regulations to create more predictability and design guidelines provide clear expectations but some flexibility on built form. The 500 Lot Strategy closely resembles its antecedent, HRM by Design. Choosing to divide regulations into 'standards' and 'guidelines' takes the middle approach in regulating urban form. The potential pitfall of this approach in smaller municipalities may be the poor communication and difference in expertise between the development officers reviewing the standards and the design board reviewing the guidelines, contributing to a less predictable outcome. The implementation of the plan also required a change in administrative process, as drawn below, where applications can now bypass both city council and public meetings if approved by the development officer and the design review panel.



#### FIGURE 3 OLD PROCESS

FIGURE 4 NEW PROCESS

#### TABLE 12 CHARLOTTETOWN FBC CHECKLIST

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian-scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	yes	yes	yes	yes	yes	yes

## 4-9 HALIFAX



HALIFAX REGIONAL MUNICIPALITY began work on a new downtown revitalization plan in 2006 as a key objective of HRM's regional plan. In 2009 Halifax Regional Council approved the HRM by Design Downtown Plan. The plan introduces a streamlined development approval process with a Design

Review Board to replace the development agreement process and the addition of a heritage

conservation district to encourage restoration. A third phase, the Centre Plan—currently

underway in 2013—is meant to extend the principles of HRM by Design to HRM's Regional Centre.

## Consultant Team. The Planning Partnership

## **Code Components.**

- HRM by Design comprises the following three documents: Downtown Halifax Municipal Planning Strategy, Downtown Halifax LUB, and a Design Manual.
- As in Charlottetown, it is the duty of the Development Officer to ensure LUB standards are met, before the application is passed on to the Design Review Board to ensure the application fits the criteria of the Design Manual.
- The LUB is intended to deal in quantitative matters and the Design Manual in qualitative. The LUB is generally proscriptive although it contains a few prescriptive elements. For example, the LUB clearly establishes building envelopes keyed to a regulating map, designed to reinforce human-scaled streetscapes.
- In the Downtown Halifax Municipal Planning Strategy, streetscape typologies make a gesture towards a functional plan that might regulate the streetscape; but this has yet to be developed in Halifax.
- It is principally in the Design Manual that a prescription for the public realm is given. This is accomplished through precinct-specific guidelines, as well as general guidelines for the following: street-wall, pedestrian streetscape, building design, civic character, parking, services and utilities, and site plan variances.
- Additional guidance is given for heritage and sustainability, as well as a glossary to define terms in the manual.
- The LUB divides the downtown into two zones, 'DH-1" for a mixture of uses (e.g. commercial, cultural, institutional, marine, open space, residential) and the other 'ICO' are limited to Institutional, Cultural, and Open Space. Zones preserve current institutional areas such as university campuses and park space such as Grafton Park.

Analysis. The introduction of HRM by Design had significant implications for public participation. In the development agreement process, the public was able to appeal developments. This process has been replaced with pre-application meetings and notification of developments. In the middle and later stages of the application, discretion lies with the

#### TABLE 13 HRM STANDARDS & GUIDELINES

Proscriptive	Prescriptive
View planes	Building envelopes
Cladding materials	Design Manual
Accessory buildings	Streetscape
Building height	Typologies
Open space	
Land uses at grade	
Signs	
Windows	
Awnings	
Parking	

development officers and the design review board. As HRM's design review process is new, it

has not had the time to garner trust within the industry and the community to the degree that a place like Vancouver has. One key difference is in the lack of clarity around responsibility between development officers and the review board. In Vancouver, this is partly obviated because of the two-tier system where development planners are architecturally trained and supervised by the director of planning.

#### TABLE 14 HRM FBC CHECKLIST

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	yes	yes	yes	yes	yes	no

## 4-10 CORNERBROOK



**CORNERBROOK** is a city on the west coast of NEWFOUNDLAND of approximately 19,886. The town has a history of planning. In 1923 Thomas Adams began a plan for Townsite, a neighbourhood in Cornerbrook where 180 homes were built. Avoiding a conventional grid pattern, Adams followed the

natural topography in laying out the streets. Design elements of the Townsite plan included, for example, façade treatment of streets at intersections to create visual interest (Symonds, 1923). Planners in Atlantic Canada pointed to Cornerbrook as a town using FBCs.

#### Code Components.

- Cornerbrook's 2012 Development Regulations provide for two regulations resembling form-based codes. In the Downtown Commercial Zone, regulation controls building size and massing.
- In a residential zone, "Mosaic Residential," platting is regulated. The Mosaic Residential zone attempts to overcome homogenous subdivision patterns by introducing integrity to lot size and layout where density (single dwelling, row-house, apartment) and lot size are staggered to increase diversity. No more than six single dwelling lots are allowed to occur in contiguity. Regulations furthermore reinforce that lots cannot be subdivided; thus preserving the integrity of the layout. The zone strives to work with developers to achieve, by design, the mixture of housing types found in many older neighborhoods (See Appendix).

**Analysis.** Form-based codes have a variety of objectives, increasing diversity of housing among them. The strategy of regulating platting layout appears to be a flexible way of regulating building form rather than through building typologies. Although the code's reception with developers and the actual built form outcome are somewhat unpredictable, the code has the advantage of simplicity and straightforwardness. The code can be easily understood and implemented within a land use-zoning framework. At the same time, the code faces the same risk of rejection by the development and community because there are no similar codes in place in the province. From performance standards' experience, a higher-level government direction on diversity or housing for example might increase the chances of success.

#### TABLE 15 CORNERBROOK FBC CHECKLIST

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
no	yes	no	yes	no	yes	no

## 4-11 TRURO



**TRURO,** NOVA SCOTIA is 93km north of HRM, with a population of 12,059. The 2010 Land Use Bylaw consolidates a 2006 heritage strategy plan into built form regulations. The 2010 bylaw and plan also altered the composition of downtown regulations. In the past, the town used an urban and regional core

designation for the downtown. This designation offered no distinction between commercial, neighbourhood and mixed-use—a confusion which the 2010 Plan and Bylaw sought to remedy (Town of Truro, 2010). During the survey phase, planners in Atlantic Canada referred to Truro as a town working with form-based codes.

#### **Code Components**

- **Commercial.** Within a portion of the downtown commercial zone, new buildings are subject to urban design requirements. Requirements are clearly illustrated and consist of the following:
  - o building height and placement
  - o corner lot treatment and
  - o building form.

The requirements aim to reduce the onerousness of the application process while creating good urban form. Though conformity to the design requirements is needed to issue a development permit, the development officer may have discretion to exempt additions or new buildings from the requirements (Town of Truro, 2010, sect. 6.2.18)

- **Residential, Mixed Use and Heritage Residential.** Truro maintains general regulations in all residential zones emphasizing
  - o scale and average building height
  - windows on corner lots
  - o architectural elements at focal points
  - parking lot percentage.

More stringent regulations are in place for Mixed Use and Heritage Residential zones, which prescribe that new buildings must be based on one of 10 building types, with alterations and additions conforming to these types. Extensive requirements are given for windows, doors, trim, shutters, dormers, skylights, exterior stairs, porches and verandahs, building orientation, claddings, and chimneys.

**Analysis.** In terms of the bylaw's mixed use and heritage residential code, the bylaw introduces no significant change; many of these regulations were already in existence through Truro's Heritage Strategy. Truro possesses strict design requirements for downtown and heritage areas, but the town does not make use of a design review board. This could be attributed to the relatively small size of Truro, where the planners may take a more varied and lead role in architectural standards. Moreover, the urban and built form requirements for the most part can already find precedent in the design elements already present in the community. Codes that are guided by what is already there may be more successfully implemented. Truro's code is rooted in heritage principles. These principles are given clear illustration in a single and easy to understand document (See Appendix). Thus, the code can be prescriptive and predictable insofar as it is applied to relatively small geographical zones within the land use bylaw.

#### TABLE 16 TRURO FBC CHECKLIST

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	yes	yes	yes	n/a	yes	yes

## 4-12 WOOD BUFFALO



**WOOD BUFFALO**, ALBERTA—which includes the city of Fort McMurray— has a population of 63,637 and is home to the Athabasca oil sands. Wood Buffalo's Fort McMurray has recently completed a new land use bylaw for its City Centre, now designated as a special area within the municipality. The plan is organized by

corridors and districts and introduces a Design Review Board into the application process for all new buildings.

Wood Buffalo's code utilizes unique regulations to emphasize the pedestrian environment. Detailed provisions are given for thoroughfare blocks. Another regulation helps aim to enhance the pedestrian environment. For example, the development authority may require that before a development permit is issued, the applicant contribute to the dedication of a public walkway.

#### Code Components.

•

- Development standards for corridors and districts are tabulated and keyed to a regulating plan. These include:
  - o Maximum Block Length
  - o Site Access
  - o Building Siting and Massing
  - Streetscape standards are given
- Building Frontage Types (See Appendix)
- Landscaping Frontage Types
- Emphasis given to thoroughfare corridors

#### TABLE 17 WOOD BUFFALO FBC CHECKLIST

Emphasized form over separation of uses in at least one area or district	Regulatory rather than advisory?	Ensures predictable rather than abstract outcomes	Requires shaping of public realm through building form standards and building placement	Promotes interconnected street grid and pedestrian- scaled blocks	Codes keyed to regulating plan / LUB	Clearly illustrated diagrams accurate in their spatial configuration
yes	yes	n/a	yes	n/a	yes	yes

## **5 DISCUSSION**

## **5-1 TABLE OF STANDARDS**

The following table of standards and implementation summarizes the kinds of regulations found through this study. Most common include building placement, massing, frontage type, streetscapes, and block sizes. A minority of codes consisted of building typologies, or regulation of materials (Sylvan Lake, Truro, Charlottetown) and these were mostly associated with historic preservation.



FIGURE 5 STANDARDS & IMPLEMENTATION SUMMARY 1



FIGURE 6 STANDARDS & IMPLEMENTATION SUMMARY 2

#### 5-2 AUTHORITY

#### **REGULATING AESTHETICS**

FBCs began in the US by using private covenants for enforcement, exemplified by the most high profile code at Seaside, Florida. In the UK, codes acquired their legal status through covenants tied to the sale of lands to developers and were supported and enforced by the central government. Covenants prove an easy solution to the legal barriers of codes since they affect property owners but fall outside the planning process. When codes enter the public planning process they face additional barriers.

The question of aesthetic regulations is related to the legality of public FBCs and guidelines. Aesthetic regulation has a much longer history in the courts than public codes. Canadian jurisprudence appears to parallel the US in this area. Since the 1954 US case of Berman v. Parker, it has been accepted that governments may regulate aesthetics: "It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well balanced as well as carefully patrolled." Agnor (1962) surveyed state courts, finding that aesthetic considerations are often a cover for economic considerations. In Florida, for example, aesthetics were a cause for regulation because of the tourist economy: "It is difficult to see how the success of Miami Beach could continue if its aesthetic appeal were ignored because the beauty of the community is a distinct lure to the winter traveler" (City of Miami Beach v. Ocean & Inland Co. , 1941).

The use of design guidelines has expanded rapidly in the last 20 years, moving beyond the rules of 'look alike' and 'look different' to giving specific standards for urban form. These standards are based in broader policies objectives for the public realm environments. In the past, guidelines encouraged new developments to look like predecessors, promoting community character. But now controls like FBCs address building materials, design style and facades. (Garvin, 2003, 8). Sitowski found that form-based codes "create a wrinkle in the look alike/anti-look alike continuum because the focus is on the public realm" (2006, pp. 169). Municipalities must write to withstand the scrutiny of the court. Another problem Garvin highlights is that the words used in urban design and the professional building industry are not be commonly understood. Creating guidelines or codes must be a careful process to minimize legal risk (Garvin, 2003). Municipalities can take measures to increase the understanding and legality of terms by

providing a glossary of terms used. A designer could argue that highly detailed codes interfere with constitutional rights of expression. One way to avoid these problems, Sitowksi suggests, has been "choosing a middle path between discretion and prescription" (2006, 170). In Canada, this approach has been taken by combining design guidelines and discretionary review boards with land use codes, to possibly avoid impinging on free rights of expression.

#### **PROVINCIAL POWERS**

Canadian municipalities are essentially creatures of the province. Any municipal controls come from provincial legislation and municipalities are not permitted to exercise powers that are merely convenient to their purposes, according to Dillon's Rule. Municipalities are more empowered to make bold modifications to their regulatory approach if sanctioned under provincial planning acts. This has occurred in Halifax Regional Municipality, where Bill 181 accompanied the implementation of HRM's form-based code with respect to the exterior design of structures and facades (Halifax Regional Municipality, 2008).

If FBC controls were enacted in coordination with the province, municipalities would be more likely to employ them. In the UK, where design codes probably have the highest adoption rate, the central government's role in promoting and enforcing codes was important. Elsewhere, in Australia and New Zealand, federal governments played a key role in implementing performance based planning.

#### PLANNING ACTS

Planning Acts permit municipalities to control aesthetics, appearance and character of buildings. In Saskatchewan, control is enabled through direct control districts. Most commonly, these types of regulations are enforced through a land use bylaw or development agreement. They generally use the same language, but the means of regulating vary from province to province.

• In Ontario, land use bylaws may be passed

"For regulating the type of construction and the height, bulk, location, size, floor area, spacing, character and use of buildings or structures to be erected... and the minimum frontage and depth of the parcel of land and the proportion of the area thereof that any building or structure may occupy" (Province of Ontario, 1990, sect. 34.4)

- In Alberta land use bylaws may regulate building placement, proportion, lighting, density and "the design, character, and appearance of a building" (Province of Alberta, 2000, sect. 640.4.a-r)
- In Newfoundland, power rests in the minister of the Urban and Rural Planning Act, to make regulations "controlling and directing the design, subdivision and appearance of buildings, land and development" (Province of Newfoundland and Labrador, 2000, sect. 36.2.e)

### 5-3 THEMES



#### FIGURE 7 THEMES OF CANADIAN FBCS

Of the twelve areas analyzed during this study, St. Albert's council rejected the plan, Centreport and Revelstoke's codes were in the draft stage and the other nine were adopted. Some basic themes can be drawn from the nine areas where FBCs were adopted, the dominant theme being mixed use downtown or Main Street. Themes like heritage and downtown tended to overlap. Airdrie appears to have had marginally more success in using a Smart Code for smart growth.

- A. Areas that experimented with codes as an alternative approach for the future development were less successful. These included St. Albert and Airdrie. The newly annexed lands under consideration for an alternative future development strategy by St. Albert could not garner support by council for a form-based zoning approach. Airdrie appears to have had marginally more success in using a Smart Code for smart growth. Moore's evaluation of the success of greenfield and brownfield New Urbanist developments in the Greater Toronto Area might be used as an analogy here. Moore found that New Urbanist sites that mimicked already existing 19<sup>th</sup> to early 20<sup>th</sup> century urban fabric in the city were more successful than greenfield sites. Design codes that work consciously within existing precedents for urbanism such as a historic downtown might meet with more acceptance than cities where FBCs are offered as a new way of doing things or, experimental new forms.
- B. Municipalities (Charlottetown, HRM, and Truro) that used FBCs as a means to reinforce heritage buildings successfully adopted codes. In Truro, heritage guidelines were consolidated with the town's land use bylaw. In HRM, the city used site planning to create a special downtown area subject to FBCs. In Charlottetown, the historic downtown was adopted within the existed land use bylaw and more sensitive character areas subject to standards and guidelines introduced as a replacement to conventional zones.
- C. The most common theme for cities possessing FBCs or elements of FBCs was the emphasis on a downtown or commercial area code: Chestermere's Town Centres, Charlottetown's downtown infill, HRM's downtown, Truro's downtown, Sylvan Lake's waterfront, Airdrie's mixed use centres and Fort McMurray's downtown. The walkable pedestrian environments advocated in codes seem to have a connection to mixed use retail and commercial sectors.

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- **D.** In Mission Road, codes aimed at achieving a handful of innovative outcomes. These ranged from increasing mixed-use density to altering the application process and promoting the use of design charrettes. Mission Road failed to alter the planning and development application process, proving the difficulty in bottom-up to even after garnering support from many levels of the local government. That the Mission Road innovation project was also costly emphasizes the financial and knowledge barriers to other local governments seeking to adopt New Urbanist-style FBCs.
- E. Cornerbrook's code, missing some major hallmarks of form-based codes, was the only code that aimed at creating diversity in a residential subdivision. The code is brief, simple (Residential Mosaic is written into the land use bylaw), and gives developers choices. The code has some precedent in New Zealand's regulatory system, which incorporates performance-based standards.

## 6 CONCLUSION

This study has compared and catalogued Canadian municipalities' use of form-based codes, with a certain emphasis given to areas in Atlantic Canada. Although FBCs appear to be a popular new theory, they are not without precedent. Similar regulations like performance standards that seek to create an alternative to zoning provide an analogue. From the experience of performance-based zoning in countries like Australia and New Zealand we can learned about regulations that seek to alter the land use-zoning paradigm.

The groundwork has been laid for identifying where FBCs exist in Canada. I have drawn a list of twelve areas, summarized the components of their codes, touched briefly on the questions of authority and administration as well as presented some major themes. FBCs are indeed still a rarity in Canada. Many new standards seek to illustrate the benefits of flexibility by giving form to mixed-use downtowns. As illustrated in the standards and implementation tables, most codes in Canada have chosen the middle path, somewhere between rule and discretion to administer codes, though in all likelihood, this may prove challenging. Vancouver's exceptional model illustrates that cultivating quality urban design requires a strong planning department and public participation.

With this first exploration of FBCs in Canada completed, there is room for future studies that would use a more comprehensive methodology such as a case study to assess the outcome of FBCs in a particular area. The lessons learned from such a study would be both valuable in expanding design theory and also in practice for municipalities seeking to develop alternative, more innovative regulations.

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## APPENDIX

#### Centreport

#### **Three Street Contexts**

WS: Walkable Streets







(Regional Municipality of Rosser, 2013)

#### Airdrie

(City of Airdrie, 2005)



- T4 The Neighborhood General Zone has a denser, primarily residential urban fabric. Mixed use is confined to certain corner locations. This Zone has the wide range of building types. Single, sideyard, and row houses are set close to the frontages. Streets typically define medium-sized blocks.
- T5 The Neighborhood Center Zone is the equivalent of a Main Street. This Zone includes mixeduse building types that accommodate retail, offices, and dwellings, including rowhouses and apartments. The T-5 Zone is a tight network of streets and blocks, with wide sidewalks, steady street tree planting, and buildings set close to the frontages.
- T6 The Urban Core Zone occurs at regional centers. It is the equivalent of a town or to the downtown of a city. It contains the densest urbanism—the tallest buildings, and the greatest variety of uses, particularly unique ones such as the city hall, financial district, and important civic buildings. The Urban Core is the least naturalistic of all the Zones; trees are formally arranged and waterways are often contained in embankments.



### Revelstoke (City of Revelstoke, 2010)



## **Mission Road**

This plan is for illustrative purposes only and is intended to capture the concept as envisioned via the design Charrette.



(City of Calgary, 2012a)

#### Sylvan Lake

## How do we convert the Cape Cod Vernacular to a multistorey building?

As mentioned earlier, the Town of Sylvan Lake has embraced the 'Cape Cod' style as the hallmark architectural style for the Waterfront area. This style grew out of the Colonial style complete with its human scaled sense of proportion and composition. Typically when one envisions 'Cape Cod' it is a four square building with simple gable ends, dormer windows, and a centrally located front entry. Exterior details range from simple to elaborate, yet despite its simple form, the Cape Cod cottage in all its glory is exquisite to the last detail. These basic forms have inspired everyone from world famous architects to photojournalists and common citizens. Numerous books have been published illustrating their work and passion for this style, while fighting for its preservation in the face of modernist architecture. The people of the Town of Sylvan Lake have agreed to further establish the 'Cape Cod' character as distinctly Sylvan Lake - a very wise choice indeed.

#### So how do we convey the charm and character of this style on a multi-storey building?

As is further explained on the following pages, the answer is not as difficult as it may seem at first. There are various traditional architectural styles which either compliment, or are in fact a direct descendent of the quintessential 'Cape Cod' cottage. Equally important to the complimentary styles, it will be imperative to ensure that the sheer beauty of proportion, symmetry, and exterior detailing found on the Cape Cod cottage is retained in all instances of design, regardless of style, location, and function.

The building is the single most visually important component of the urban fabric and often conveys feelings of pride and community identity for its residents. It is therefore important to ensure the details and characteristics of the architectural patterns are adhered to. This will preserve a legacy for future generations to enjoy. If new development follows the patterns and criteria outlined on the following pages, the Town of Sylvan Lake will truly evolve into the "Cape Cod" style sought after by its residents. Architects and Designers are encouraged to further explore these styles and use their imagination.



## WATERFRONT REGULATING PLAN



The Waterfront 'Area Regulating Plan' has been established for the purpose of establishing consistent neighbourhood structure. The regulating plan identifies what are called Transect Zones. Each zone regulates and addresses appropriate building form, density, and use. This provides predictability for future growth within the Waterfront Area and prevents development which neighbours might describe as something that "just doesn't fit". Instead, the desired built form which people are familiar with is either preserved or perpetuated. These Transect Zones are consistent with the future implementation of the Smart Code. Each Zone has been regulated according to its building form and massing.

Waterfront ARP Area



(Town of Sylvan Lake, 2010)

#### Truro

#### Greek Revival

1 ½ to 2 ½ storey construction with a medium to steep pitch simple gable roof. Structure features a front facing main gable with a symetrical facade design.



#### Gothic Revival/Picturesque

1 ½ storey construction with a steep pitch gable roof with main facade on long elevation and side facing gable ends. 1 - 3 dormers on facade with steep pitch gable roofs.

#### Queen Anne Revival

2 to 2 ½ storey with irregular massing. Steep pitch hip roof with gable dormers. Features additional bays, verandahs, decorative trim, and may include a corner tower.



#### Four Square

2 ½ storey square construction with steep pitched hip roof, and single or multiple hip-roof dormers. May include front verandah.

#### Italianate

2 to 2 ½ storey construction with a low pitch hip roof and double two storey square front bays. Style often features a side entry with a covered porch.



## Second Empire

1 ½ to 2 ½ storey construction with a steep pitch mansard roof that features projecting front bays and multiple dormers.



#### New England Colonial

2 ½ storey construction with a steep pitch gable roof with side facing gable ends. Style features central front entrance and symetrical facade.

## Folk Victorian

1 ½ to 2 ½ storey construction with a front facing gable roof. Style is essentially Greek Revival with Queen Anne details such as decorative trim and a verandah.



#### Shingle

2 to 2 ½ storey construction with a steeply pitched gable roof extending down to the first floor. Roof may feature a large cross gable, shed dormers and accent gables.

### Craftsman

1 ½ storey construction with a large roof that sweeps down to cover the front porch. Form usually includes a central dormer window.





#### Figure 5.1: Basic Building Forms

## (Town of Truro, 2010)

#### Charlottetown



(City of Charlottetown, 2013)

### Cornerbrook

Residential Mosaic example platting

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3-5	3-5	3-S	3-D	2-R3	2-4	5 2-S	1-S	1-S	1-D	1-S	1-S	1-S		1-R3		2-D	2-S	2-5	5 :	2-S	2-S	2-6	2	-D
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#### **Wood Buffalo**

#### 9.11.5.7 Landscape Building Frontage

Landscape Building Frontages shall conform to Figure 9.11.5-5 and the following standards:

- .1 Front Setback: The front façade of the Building must be set back from the Streetfacing Lot line a minimum of 1m and a maximum of 4.5m. (BL 13/004)
- .2 Ground Floor height: The Ground Floor shall measure a minimum of 4.5m, floorto-ceiling.
- .3 Minimum Building Height along Corridors: 6m. (BL 13/004)
- .4 Minimum Building Depth: Buildings must be a minimum of 10m deep.
- .5 Building Entrances: Building entrances must either be covered by an awning or canopy or be covered by being recessed behind the front Building façade. If an awning or canopy is provided, it must provide a minimum vertical clearance of 2.5m and a maximum clearance of 4.5m. If only a recessed entry is provided, it must be recessed behind the front facade a minimum of 1m and a maximum of 1.8m.
- .6 Windows: Transparent Ground Floor windows must be provided along a minimum of 60% of the Ground Floor, Street-facing façade area.
- .7 Primary Entry Doors: All Buildings must provide at least one Building entrance that faces the Street and is directly connected to the public sidewalk via a sidewalk measuring a minimum of 1.8m wide. A minimum of 40% of each primary entry shall be transparent.
- .8 Service and Utility Equipment: Building service and utility equipment and outdoor storage of garbage and/or recycling is not permitted along the Street-facing Building façade or within the required setback from Build-To Line.

