

Preface

Two Provincial discussion papers, *Modern Building Regulatory System* and *Certification of Local Government Building Officials*, were released in February 2012 to present government's proposals for a more efficient and effective building regulatory system. The papers were widely distributed to local governments and the building construction sector for their comments.

Changes to the proposals

Changes to the initial proposals have been made in response to both operational pressures and stakeholders' comments. These changes are summarized below and incorporated into the body of this paper.

Provincial alternative solutions and product evaluation body

After consideration of the complexities and uncertain benefit of establishing an independent statutory body with decision-making powers in relation to alternative solutions and building products, this proposal shifted to:

- Provincial review of commonly-proposed alternative solutions (including building products) for inclusion in the Building Code; and
- Provincial review and approval of Code variances (i.e., innovative proposals that are not Code-compliant).

Online portal

Funding is not currently available to proceed with this proposal.

Provincial levy on construction

This proposal was withdrawn due to stakeholder concerns about cost and administrative burden.

Background

British Columbia's building regulatory system oversees a dynamic construction sector that in 2012 accounted for just over 4 per cent of provincial GDP and 4.6 percent of provincial employment.

The Province adopts a Building Code ("the Code") that applies throughout BC (except in the City of Vancouver) and is administered and enforced by 140 local government building departments, each with its own policies and procedures, levels of capacity and ways of interpreting Code provisions. The concurrent authority provisions of the *Community Charter* require local governments to obtain Provincial approval of local building standards that vary from the Code; however, it also provides a mechanism for building standards to be adopted under other authorities.

The building regulatory system has been the subject of several major Provincial reviews over the past 25 years. Reviews have led to more accountability for complex building design and construction on the part of architects and engineers and better protection for homeowners. The Modernization Strategy, which began in 2004, made recommendations to improve the system's effectiveness after extensive stakeholder

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consultation. However, as priorities shifted to ‘greening’ the Building Code and developing new Code provisions for mid-rise wood-frame construction, implementation of these recommendations was deferred.

In consultations that began in spring 2011, stakeholders confirmed that major issues raised in previous reviews are still unresolved and continue to produce major impacts. These include:

Issue	Impacts
Inconsistent Code interpretations between and within local government jurisdictions	Complicates development and construction; a major cause of increased costs to business
Local government building standards that go beyond the Code	Complicates development and construction; can create delays and increase costs Complicates compliance with international and interprovincial trade agreements, which promote uniform standards
Lack of centralized decision making on Code matters , with each local government making its own decisions on a new product or technology	Results in each jurisdiction evaluating the same issue, with wide variation in decisions reached Can result in local government decisions not to approve new technologies and products (due to risk aversion), limiting flexibility and innovation
Poor compliance with Code provisions such as fire protection in some high-rise residential, commercial and other large complex buildings	Can jeopardize the health, safety and/or energy efficiency of buildings
Lack of skills or Code knowledge among some system participants	Contributes to poor quality construction and poor compliance with Code provisions, which jeopardizes the health, safety and/or energy efficiency of buildings

Appendix B describes research that further substantiates some of these issues.

In other jurisdictions, such as Alberta and Ontario, provincial governments play a more active leadership role. Specific building-related legislation defines these jurisdictions’ roles and responsibilities as well as those of other system participants.

A uniform Building Code gives these jurisdictions sole authority to adopt building standards, so that the standards are the same wherever buildings are built. Provincial bodies provide support services such as binding interpretations of Code provisions; product evaluation and approval; qualification and registration of practitioners; training; building department accreditation; dispute resolution and review of Code change proposals.

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Provincial Leadership in a Modern Building Regulatory System

Provincial leadership, in partnership with local governments and the construction sector, is the foundation for a modern, streamlined building regulatory system. Both local governments and industry have asked the Province to step up its involvement in the system to resolve longstanding issues.

Based on previous consultation, advice and recommendations, the Province has developed a set of interdependent actions and proposals that establish Provincial leadership and work together to support a modern building regulatory system. Appendix A describes the actions and proposals in detail.

A **uniform Building Code** would give the Province sole authority to adopt building standards, ensuring that standards are substantially the same throughout BC.

Provincial technical bulletins and binding Code interpretations provide necessary support for the uniform Code.

As building construction becomes increasingly complex, technological advancements lead to more proposals for the use of new building products and assemblies that can decrease costs and improve affordability. These proposals can be either an *alternative solution*, a method of Code compliance that provides at least the same level of performance as a prescribed Code requirement; or a *Code variance* that provides an adequate level of performance but does not comply with the Code. The Province would determine if **commonly-proposed alternative solutions**, including building products, materials, technologies and assemblies, should be acceptable across BC. The Province would also establish a **process to review Code variances** to identify potential risk and determine if they can achieve an adequate level of safety.

Random assessments would provide information on the level of Code compliance for complex buildings, establishing a valid evidence base for changes to improve safety.

Minimum **qualification requirements** for residential builders of four units or less and for building officials would improve the competency of key system participants.

The Building and Safety Standards Branch of the Office of Housing and Construction Standards is leading this initiative. If you have any comments you would like to share, please contact us at:

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Appendix A: Proposals for a Modern Building Regulatory System

Uniform Building Code

Under a uniform Building Code, the Province would have sole authority to adopt building standards. The Province would review any proposed variation from the Code; if approved, the variation would be implemented through either a Code change or a Provincial regulation. This is consistent with the building regulatory framework in other jurisdictions.

Existing local bylaws that include building standards would have a two-year transition period to achieve uniformity with the Building Code. During the transition period, the Province would work with local governments and the construction sector to find solutions to key issues like fire sprinklers that would increase consistency while addressing local needs.

Code Interpretations

The Province will issue technical bulletins and binding interpretations (directives) on topics of concern to Code users. A directive clarifies the meaning of a Code provision that may commonly be interpreted in different ways.

Alternative Solutions and Code Variances

An *alternative solution* is a method of Code compliance that provides at least the same level of performance as a prescribed Code requirement. While local governments decide whether alternative solutions for specific building projects in their communities are equivalent to Code requirements, only the Province can determine if these alternative solutions should be acceptable across BC.

While an alternative solution may be the intellectual property of the individual who developed it, many are simply different applications of a relatively small number of principles, often related to use and egress or combustibility. Removing the current uncertainty about the acceptance of these alternative solutions from one jurisdiction to the next could greatly expedite innovation and the acceptance of approaches that have been successful elsewhere.

The Province will review commonly-proposed alternative solutions, including building products, materials, technologies, components, assemblies and equipment, for inclusion in the Building Code as new prescribed requirements. Local governments will be able to allow the use of these products and technologies without seeking further evidence of their level of performance from building project proponents.

Some proposals include *Code variances* that may provide an adequate level of safety but do not comply with the Code. Since these variances are not alternative solutions and therefore cannot be approved by local governments, the Province would need to engage technical experts to review them to identify potential risk and determine if they can achieve an adequate level of safety. Proponents would pay a fee to offset the cost of the review. The Province's approval of a proposal would be based on the recommendations of the technical experts reviewing it and would be enacted by regulation.

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Provincial review of variances is expected to support innovation, as well as Provincial objectives relating to increased energy efficiency and use of wood in building construction.

Random Assessments of Complex Buildings under Construction

In order to fulfill its leadership role in the system, the Province needs access to quality information on the level of Code compliance. Currently, this information is largely unavailable. Assessments of complex buildings under construction are a necessary tool for supplying this information. It is expected that 60 assessments would be sufficient to produce statistically valid data.

Initially, assessments would focus on high-risk aspects of complex (Part 3) building design and construction, establishing a baseline for Code compliance. Assessments would be used to collect reliable information on levels of Code compliance and make observations on the effectiveness of local government and registered professional Code administration processes. Targeted measures could then be developed to address specific areas of non-compliance and ineffective administrative processes. Subsequently, assessments would be used to selectively monitor the system and measure its performance.

Assessments would consist of a combination of site visits during construction and review of project documentation, including design drawings. Code compliance would be measured through a review of “key indicators” that would identify issues in high-risk areas of Parts 3, 4, 5, 6 and 7 of the Building Code. Assessments would be conducted by registered professionals retained by the Province.

Where non-compliance is observed during an assessment, this information would be provided to the general contractor, the registered professional and the local building department for action. If any key indicators are negative, this could potentially trigger a more thorough assessment.

Stakeholder Advisory Body

Minister-appointed construction sector and local government representatives would advise on matters related to the building regulatory system.

Qualification Requirements

Based on task force recommendations from the “Raising the Bar” collaborative process, increased competency for residential builders of four units or less will be achieved through mandatory qualifications for licensing, including continuing professional development (CPD).

It is proposed that increased competency for building officials be achieved through mandatory qualification requirements, including CPD. The Building Officials’ Association of BC would administer the program.

The need for Code knowledge or skills qualifications of other system participants would be determined through the proposed assessment program.

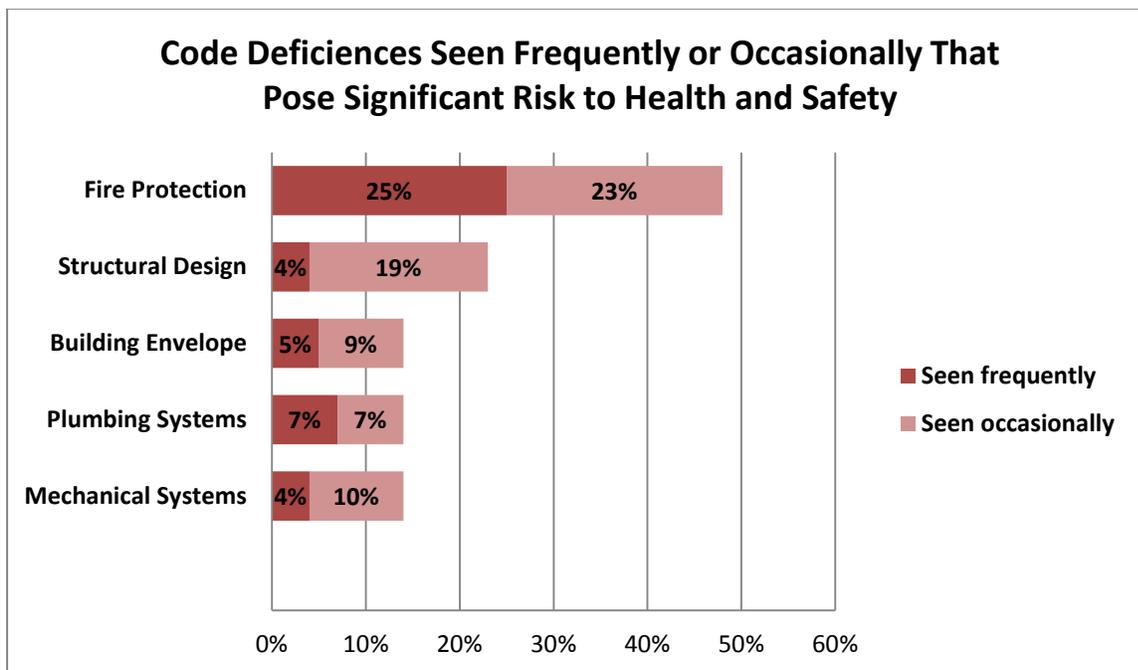
Appendix B: Research Results

Stakeholder survey: highlights

The Ministry conducted a survey of key stakeholder groups (architects, engineers, technologists, contractors, building officials) in summer 2011 for their views on Code compliance and Code administration processes such as reviews of building design, inspections, Code interpretations, etc.

Code compliance:

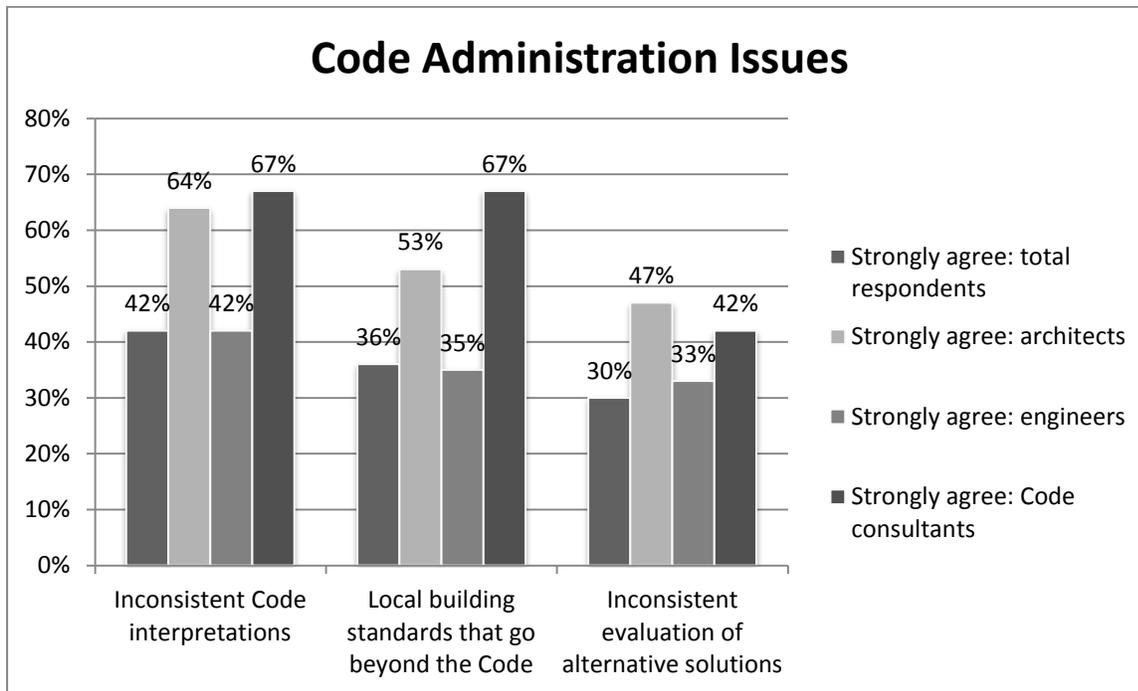
The survey asked stakeholders how frequently they saw Code deficiencies in large complex building projects, and how much risk the deficiencies they saw posed to health and safety. Responses related to Code requirements for fire protection are cause for concern—over 47 per cent of 304 respondents occasionally or frequently saw Code deficiencies that they think represent a significant risk to health and safety. Survey respondents see fewer significant Code deficiencies related to structural design, building envelope and mechanical and plumbing systems.



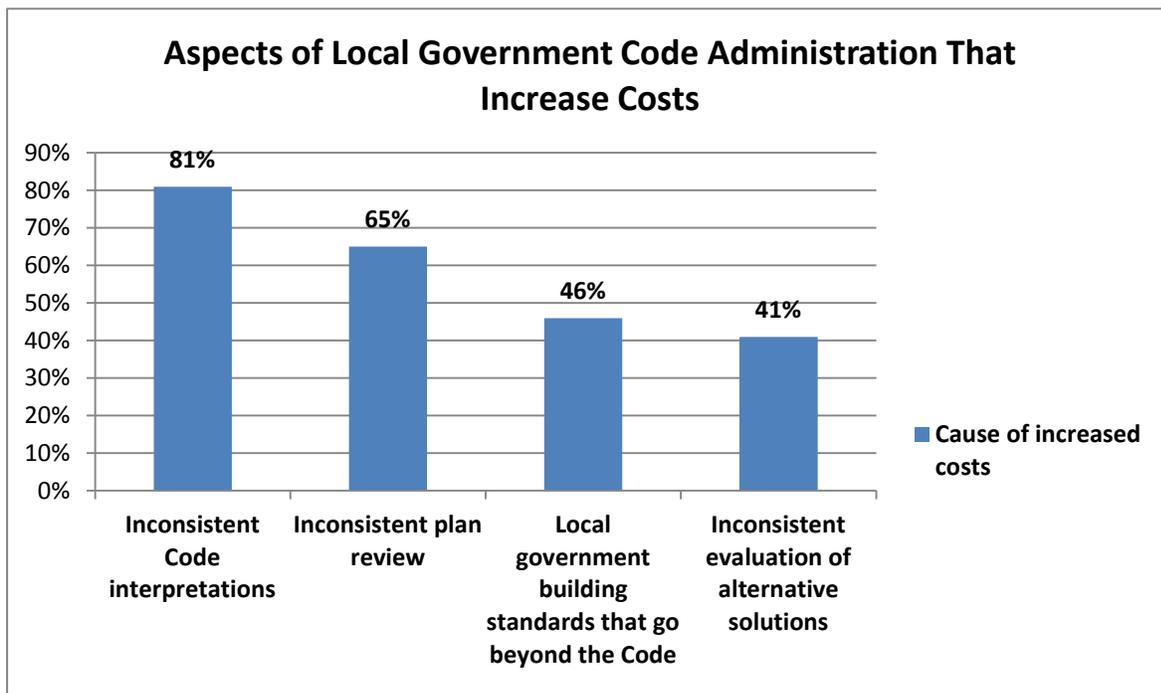
Code administration:

The survey also asked stakeholders if they had issues with any aspects of Code administration. In addition to architects, engineers and Code consultants¹, the 395 respondents included building officials and architectural and engineering technologists and technicians. The table below shows the percentages of the total respondents and the percentages of responding architects, engineers and Code consultants that strongly agree that inconsistent Code interpretations, varying local building standards and inconsistent evaluation of alternative solutions are issues for them.

¹ Code consultants are architects or engineers who provide consulting services such as Building Code compliance review, fire protection engineering analysis and development of alternative solutions to building projects. They are considered to be the Building Code experts of the construction sector.



Respondents were also asked if inconsistency in Code administration practices had increased the costs to a business they owned or were involved with. For the 138 stakeholders who responded to this section, inconsistent Code interpretations were the principal cause of increased costs. Inconsistent plan review procedures and requirements, local building standards that go beyond the Code and inconsistent evaluation processes for alternative solutions also increased costs.



While some respondents said it was difficult to quantify the costs to business of inconsistency, others gave specific examples. Costs were expressed either in dollar

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amounts, ranging up to tens of thousands of dollars per project, or as an overall percentage of costs, ranging from 5 percent to 35 percent. A few respondents indicated that the costs to business were not simply dollar amounts, but included the impact of missed opportunities in markets with shorter building seasons, project bankruptcies due to delays and the cost to professional reputations when projects were delayed and costs increased. A number of respondents also stated that the costs to their businesses were simply passed on to the building owners, and in turn, on to the final consumer.

Code deficiency analysis: highlights

In a review of condition assessments performed by consulting engineers on buildings completed since 1999, 30 percent of 40 buildings had fire or structural deficiencies that could represent a major safety risk. Since these buildings are occupied, these are deficiencies that building departments and architects and engineers involved in design and construction did *not* detect.

Online public review responses: highlights

There were 41 responses to the questions on proposals for assessment (previously termed “audits”) and an alternative solution evaluation body. The majority of respondents were either building officials (39 percent) or architects / engineers (25 percent). 100 percent of building officials and 60 percent of architects / engineers supported the assessment proposal, while 81 percent of building officials and 70 percent of architects / engineers supported an alternative solution evaluation body.

Appendix C: Previous Reviews of BC's Building Regulatory System

Previous Reviews:

The reviews listed below illustrate the extent to which systemic issues have been studied, stakeholders consulted and recommendations made over the past 24 years.

Commission of Inquiry, Station Square Development (Closkey Commission), 1988: The Commission was prompted by a roof collapse in Burnaby, and largely focused on issues related to the practice of structural engineering. One of the commission's major recommendations was the province-wide use of standardized Letters of Assurance, in which architects and engineers assure that the design and construction of complex buildings are Code-compliant. This recommendation was implemented in the 1992 BC Building Code.

Options for Renewal, 1994-1996: This review was intended to solicit stakeholder feedback on issues in the system and to recommend actions in response to the issues raised. In 1995, Options for Renewal was merged with a parallel review, which focused on building systems such as electrical and gas equipment, in a single ongoing review of the entire safety system, the Safety Systems Review. Work on the recommended actions was never completed.

Safety Systems Review, 1995-1997: Its recommendations were intended to apply to the entire safety system, including building construction, but were ultimately applied only to a group of specific safety technologies such as gas, electrical and elevators. The transformation of the safety system is in some respects a model for change to the building regulatory system.

Commission of Inquiry into the Quality of Residential Condominium Construction in BC (Barrett Commission), 1998 and 2000: The Commission was appointed in response to the "leaky condo" crisis. A major outcome was the creation of the Homeowner Protection Office (HPO) in 1998, but numerous recommendations related to increased oversight of construction and the competency of system participants were never implemented.

Modernization Strategy, 2004-2007: After extensive stakeholder consultation, this review made proposals for major changes to Building Code application and enforcement; liability; information management and system performance; and competency. While Cabinet approved the changes in principle, which led to some minor legislative amendments in 2007, fundamental change was deferred as priorities shifted to 'greening' the Building Code and provisions for mid-rise wood-frame construction.

Raising the Bar: Enhancing Professionalism in BC's Residential Construction Industry, 2005-2008: A 2005 HPO discussion paper asked stakeholders for feedback on a proposal for minimum qualifications for residential builders. The HPO subsequently convened an industry task group that made recommendations for a new qualification system. Work on the recommendations is in progress.

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Key Components of a Modern, Effective Building Regulatory System: Implementation

The table below lists key components of a modern, effective building regulatory system, grouped by topic. For each component, the table shows when previous reviews recommended its implementation and whether it is included in these proposals. Note that recommendations made in 1997 by the Safety Systems Review were intended to apply to building construction, but were ultimately implemented for safety technologies only.

Key ✓: Implemented previously or included in these proposals

Key Components of a Modern, Effective Building Regulatory System	Previously Recommended in:	Included in These Proposals in:
Uniform Building Code and supporting services:		
Uniform Building Code	1996, 1997	✓
Directives (binding Provincial Code interpretations)	1996, 1997, 2007	Legislative authority has been enabled
Consistent Code interpretations and evaluation of equivalencies (alternative solutions)	1996	✓
Provincial-level product approval	1996, 1997	✓
Code administration:		
Centralized, uniform administration and application of codes and standards	1997	Assessments will identify whether changes may be needed to strengthen Code administration and professional review
Improved enforcement tools	1997*	
Additional third-party inspections to augment architects' field reviews of construction	1998	
Mandatory Code administration and enforcement by local governments or other third parties	2007	
Consistent Code administration processes	2007	

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Key Components of a Modern, Effective Building Regulatory System	Previously Recommended in:	Included in These Proposals
Provincial role in the building regulatory system:		
Provincial leadership and coordination of the safety system	1997	✓
Qualifications and licensing/registration/certification:		
Qualification requirements for all system participants	1996, 1997	Assessments will identify what changes may be needed to ensure participant competency
Minimum mandatory education for multi-family residential design and construction, including testing architects, engineers, and registered builders on the basics of building science and the Building Code	1998	
Development, implementation and enforcement of trade qualification requirements	1998	
Requirement for designers and builders to demonstrate Code knowledge	2004	
Skills certification for building officials	2004	✓
Education and experience requirements for new residential builders of four units or less	2008	✓
Continuing professional development (CPD) to requirements for builder license renewals	2008	✓