

Analysis of FHA policy and Bylaw review project - delivery options

In order to determine which option(s) is the most appropriate to achieve the project's objectives of reducing risk and increasing resiliency, an assessment of the options has been undertaken below. The criteria set out to examine:

1. Whether having regard to their efficiency and effectiveness, the option is the most appropriate for reducing risk and improving resiliency.
2. The benefits and costs of each option.
3. Known risks of acting or not acting.
4. Uncertain or insufficient information about the option.

This process formalizes good planning practice and has been used to help focus the analysis. Costs and benefits have largely been assessed subjectively and or comparatively because of the great difficulty in assessing/quantifying intangible costs e.g. social and environmental costs.

Option 1: Status Quo. Do not undertake a review of the MDP or the LUB.

- Do not align the MDP or LUB with Provincial DRP or regulation.
- Rely on individual landowners to determine the level of risk they are prepared to take.
- Timeframe: No time required to achieve, no work to be undertaken.

Efficiency	Effectiveness	Benefits	Costs	Uncertainties and Summary of Risk
The relative efficiency of Option 1 is Low. Lack of clarity on the City's position creates inefficiency for developers, homeowners, and administration. No time required to achieve, no work to be undertaken.	The relative effectiveness of Option 1 is Low. Lack of MDP policy does not provide statutory support to confirm City's position on development within the FHA. Existing LUB provisions may not minimize property damage. Existing provisions in the LUB may result in new unwanted buildings in the floodway in contradiction with provincial policy. Option 1 does not provide any effective way of notifying future landowners of accurate flood risk. Developments such as secondary suites, located in the	The relative benefit of Option 1 is Low. Social No social benefits have been identified. Economic Initial cost savings to individual homeowners as current rules do not require flood mitigation for grandfathered buildings. Environmental No environmental benefits have been identified.	The relative costs of Option 1 are high. Social Option 1 does not increase the city's resilience to future flood events. While an individual may be prepared to accept risk the City/emergency services may be put at an elevated level of risk responding to an event. The City is exposed to reputational risk as not adapting land use regulation to mitigate or avoid development in a known hazard zone may be seen as poor strategic planning. The City does not have the legal ability to register on title that a (re)development does not have flood avoidance/mitigation measures (grandfathered and new permitted	The relative uncertainties and risk of Option 1 are High. Unknown future changes to the provincial regulation create uncertainty as they may require future changes to City regulation. Provincial changes to the DRP may expose The City to significant increased liability risk. The relative risk of Option 1 compared to other options is high. Option 1 may not increase the resilience of at risk communities or The City as a whole to future flood events. Failure to apply mitigation measures for future

Option Analysis and Recommendations

Efficiency	Effectiveness	Benefits	Costs	Uncertainties and Summary of Risk
	basement could still be built/rebuilt with no mediation or prevention for future floods if they were originally intended to accommodate urban residential development in 1985.		development may be sold without a purchaser being aware of risks). <u>Economic</u> Changes to the DRP may leave home owners within the Floodway liable for the economic cost of future events. Province may only cover one event and only cover to a 'base' level. Changes to the DRP may leave home owners within the Flood Fringe liable for the economic cost of future events if they do not undertake Flood mitigation. Allowing status quo development to continue in FHA may expose downstream property and infrastructure from the effects from debris. Insurance costs may significantly increase for homes without flood avoidance or mitigation built in. <u>Environmental</u> Structures in the Floodway may increase risk of downstream floating debris, and downstream and upstream floodwater displacement.	development in the FHA has the potential to maintain The City's vulnerability in terms of public safety and property destruction and other social, environmental and economic damages in future flood events. There may be a risk of losing public confidence and corporate reputation in the failure to (or significant delay in) taking proactive measures to improve city flood resiliency.

Option Analysis and Recommendations

Option 2: Undertake a Review of the MDP Statutory Policy, and the LUB

- Assess gaps in MDP and LUB alignment with provincial DRP, any provincial regulation and ongoing related City projects.
- Assess benefits, costs, efficiency, uncertainty and risks of options.
- Identify options that could be completed in 2014, and options that may extend into 2015.
- Present stakeholder communication strategies for any recommended options.

Efficiency	Effectiveness	Benefits	Costs	Uncertainties and Summary of Risk
The relative efficiency of Option 2 is High. Option 2 can be achieved quickly and will give Council clear options for increasing resiliency. Overall benefits are greater than costs. Relative short timeframe to complete – efficient use of Administration resources.	The relative effectiveness of Option 2 is High. The review will help to clearly define The City's policy options for all development and plans to follow. Will clearly provide options, followed by Council direction, for the Approving Authority when reviewing subdivision, land use and development permit applications.	The relative benefit of Option 2 is High. <u>Social</u> The preferred option may help to increase resilience of communities and the city as a whole. The review will investigate how public safety might be increased. Options to create greater alignment with Alberta Government's changes in policy direction will form part of the investigation. <u>Economic</u> Options will explore how property and infrastructure damage during a future flood event might be reduced. Council direction will provide developers with a clear understanding of any financial costs associated with (re)development <u>Environmental</u> The Investigation will examine how Options might decrease risk of downstream effects such as floodwater displacement and contaminant discharge.	The relative cost of Option 2 is Moderate. <u>Social</u> Options other than the status quo may reshape development in a community potentially changing the social make up of a community. <u>Economic</u> Options other than the status quo may have a cost to the developer to meet new City regulation. Options other than the status quo may result in changes in development opportunity for existing property owners (which may be reflected in property value). Administrative cost to undertake investigation. <u>Environmental</u> No environmental costs have been identified for Option 2.	The relative uncertainty and risk of Option 2 is Moderate. Future changes to provincial regulation create uncertainty as they may impact the specific details of the investigation and the options resulting from it – potentially requiring reassessment of options at a later date. The Relative Risk associated with Option 2 is significantly lower than Option 1. Option 2 investigates options through which the city's resiliency can be increased.

Option Analysis and Recommendations

Appropriateness of options

Option	Efficiency	Effectiveness	Benefits	Costs	Uncertainty	Recommended Option
1 Status Quo. Make no Changes to MDP or LUB.	Low	Low	Low	High	High	NO
2 Add MDP Statutory policy, and align LUB with provincial policy.	High	High	High	Moderate	Moderate	YES

The above table indicates that the preferred option for achieving the project objective is Option 2. The chosen option has been assessed as having the highest combination of efficiency, effectiveness and benefits, while having the lowest costs, uncertainties and risk relative to Option 1. Option 2 has a higher likelihood of leading to an option that may increase in the overall resiliency of the city.