Analysis of Calgary's Resilient Roofing Rebate Program

Program Overview

Calgary launched the Calgary Resilient Roofing Rebate Program in 2021 June 01 after a catastrophic hailstorm that left many homes damaged in June 2020. The program aimed to educate and financially incentivize Calgarians to upgrade to resilient roofing, with future work planned to engage with The Province on the National Building Code – Alberta edition on the opportunity for improvement via code changes for hail prone regions. The program consisted of:

1. Educational components targeting Calgarians on the benefits of resilient roofing material.
2. Collaboration with the local roofing industry to inform them on the qualifications homeowners needed to meet to access the rebate.
3. A rebate of $3,000 for the installation of resilient roofing material.

Program Funding

The program cost $5.425M over two years, with $5.25M distributed as rebates and $175K for program administration and education. The rebates funded 1600 homeowners, leaving 1574 applicants on the waitlist. See Table 1 below for a summary of the program's funding.

Table 1: Summary of Program Funding

Program	Funding Sources	Rebate Portion	Administration Portion	Total Funding
Year 1 2021 June – 2021 Dec	Fiscal Stability Reserve	$2M	$175K	**$2.175M**
Year 2 2022 January – 2022 May	2019-2022 Service Plans and Budget Adjustments	$3.25M	$0	**$3.25M**
	Total	$5.25M	$175K	**$5.425M**

1. Cost-effectiveness Analysis

The cost-effectiveness analysis was conducted by the Institute for Catastrophic Loss Reduction (ICLR). Their findings show that approximately **$13M was saved** in damage avoided at the household level due to the number of resilient roofs installed since the program launched in 2021. This equates to a **3:1 benefit-cost ratio** for The City's $5.425M program investment (See Table 2).

Cost-Benefit Analysis

ICLR evaluated the cost-effectiveness of the program by determining the cost of avoided private property damage from the 2024 August hailstorm in Calgary. Their analysis considered readily available insurance claim information, damage surveys by roofing inspectors, and losses avoided among an estimated number of homes with Class 4[1] impact resistant roofing. The 2020 hailstorm and Calgary's Resilient Roofing Rebate Program inspired the widespread uptake of

impact-resistant asphalt shingle roofing. ICLR conservatively estimates that as many as 5% of roofs in the northeast portion of the city have Class 4 impact resistant shingles.

Table 2: Summary of Key Findings

Metric	Value
Program Investment	$5 million
Avoided Losses (ICLR Professional Estimate)	$13 million (3x value)
Return on Investment	3:1 (260%)
Range of Avoided Losses	$7 million - $33 million

2. Equity Analysis

The Climate Adaptation Team, with support from The City's Equity Program team, conducted an equity analysis using the Equity Analysis Tool approach. This analysis applied an equity lens to assess the accessibility of the program for all Calgarians. While the program included elements supporting equity goals, particularly through later adjustments, significant opportunities remain to better address the needs of equity-deserving groups.

Background

The June 2020 hailstorm disproportionately impacted Calgary's northeast communities, characterized by a highly diverse population. According to the 2022 Calgary Hailstorm Impact Study Report by the Canadian Poverty Institute, the affected communities north of McKnight Boulevard were home to populations where:

- 81% identified as a racialized population
- 2% identified as Indigenous
- Over half spoke a language other than English at home
- Over half identified as immigrants
- One-third spent 30% or more of their income on shelter costs

The social and economic context of the hailstorm was unique, as it occurred during the COVID-19 pandemic when many residents were already experiencing financial hardship and social isolation.

Key Assumptions and Barriers to Access

Despite showing a positive return on investment, the Resilient Roofing Rebate program operated on assumptions that created significant access barriers:

- **Language Limitations**: Initially offered primarily in English, this may have excluded affected area residents with lower English language proficiency
- **Financial Requirements**: Required upfront payment when many were financially struggling due to the pandemic
- **Housing Type Restrictions**: Excluded condominiums, co-ops, rowhouses, and multi-unit buildings, disproportionately affecting lower-income residents

- **Homeownership Focus**: Program design focused on homeowner occupied homes, with no incentives for landlords to upgrade roofs, leaving out approximately 20% of affected residents who were renters

Implementation Challenges

The program's phased rollout created several equity issues:

- **Geographic Disparities:** Initial targeting of severely affected neighborhoods excluded residents with damage in non-priority areas
- **Timing Problems**: One-year delay between the 2020 hailstorm and program launch meant many had already completed repairs without assistance, or the benefit of programmatic information to support selecting more resilient materials
- **Limited Reach:** With funding for only 660 homes in Year 1, the program served just a fraction of the estimated 7,500 damaged homes
- **Application Complexity**: Documentation requirements created barriers for those with limited English proficiency or digital literacy

Partial Improvements and Strengths

The program did implement some positive measures as the program evolved:

- **Industry Partnerships**: Collaboration with roofing associations ensured quality installations
- **Multilingual Outreach**: Eventually developed translated materials and radio ads
- **Process Simplification:** Modified to honor retroactive work and expanded contractor options
- **Accommodation of Delays:** Offered extensions due to material shortages

Persistent Equity Concerns

Despite adjustments, key equity issues remained unaddressed:

- **Coverage Gaps:** Program focused solely on roof damage, ignoring other significant impacts like siding damage, vehicle damage, and mental health needs
- **Socioeconomic Reinforcement:** Program required significant upfront investment despite targeting areas with higher concentrations of lower-income residents
- **Communication Imbalances:** Information wasn't distributed equally across affected communities
- **Data Limitations:** Lack of demographic information tracking made it difficult to assess whether the program reached those most in need

Broader Implications

This analysis highlights the challenges in designing disaster relief programs that balance immediate needs with long-term fairness. The phased rebate approach, while intended to help the geographic areas most affected first, created a complex patchwork of access that many residents perceived as unfair or arbitrary, reinforcing the need for a more comprehensive, inclusive approach to building community resilience. Future disaster relief and resilience programs should incorporate equity considerations from the beginning, with particular attention to financial accessibility, language inclusion, and the specific needs of diverse communities.

References

Canadian Poverty Institute. (2022). *Calgary Hailstorm Impact Study Report 2022*. Ambrose University.