

Program Title: The Economic Benefits of Fire Prevention and Operational Activities of a Fire Department

Executive Summary of “Study of the Economic Impact of the Sherbrooke Fire Department's interventions for year 2017” and “Comprehensive Study on the Economic and Social Benefits of Fire Prevention”

After reading through the L William Seidman Research Institute's report on the economic impact of the Phoenix Fire Department (“Phoenix Report”), published in 2012, we set out on a journey to change the perceptions of fire departments in the eyes of elected officials and the general population. The Phoenix Report sparked a series of research papers in Quebec, Canada. As a result, we came to the general conclusion that fire departments are not a mere expense but an investment, and there is a proven and quantified return on investment.

François Delorme is an economist who teaches in the Department of Economics at the University of Sherbrooke. He was the chief economist at Industry Canada and senior economist at the Organization for Economic Co-operation and Development (OECD). Dave Waterhouse is a twenty-plus-year veteran of the Montreal Fire Department. He now serves actively as Division Chief for the Strategic Planning and Informational Resources Division. We started by calling Dr. Anthony Evans, AZ State University, and Chief Jeff Case, Phoenix Fire Department, to size up the methodology used and adapt it to Quebec's fiscal environment.

The first case study for the operational activities studies was naturally Montreal Fire Department, followed by Lévis and Sherbrooke. While finishing the first Montreal study, an incident involving a tanker truck fire on an elevated highway in Montreal pushed us to do another case study on that particular event. For the economic benefits of fire prevention, a diverse set of cities were chosen as case studies: Laval, MRC La Matapédia, and Thetford Mines, the last two being more rural and thus more representative of all fire departments in Quebec. The Montreal Fire Department funded the two studies in Montreal; Quebec's Association of Fire and Civil Security Managers funded the others.

For the operational activities studies, aside from the natural database, we analyzed municipal building evaluation data and damages due to fires. In our chosen methodology, we had to find the annual declared income of each fire-stricken business. That was the most gratifying part of the whole process. It was like making a mandatory after-sales service call. People were so grateful to have someone from the field to talk in retrospect about their losses. We adapted the Total Cost of Fires study's methodology to a local fire department for the benefits of fire prevention reports. We had to dig in each fire department's database to find all the correct numbers.

The operational activities' economic impact results range from 528% to 2,168% of Return on Investment (ROI), including EMS. For the economic benefits of fire prevention, each 1% of the annual budget invested in a fire department's fire prevention activities (active-passive and discretionary) resulted in quantifiable preservation of the overall building heritage value, giving the prevention efforts a calculated economic benefit. With the same 1% in annual investment, we discovered that there was also an increase in the social variables such as evacuees and a decrease in other social variables like civilian deaths and firefighter injuries.

These results were discovered with proven and renowned economic methodologies, coherent with Phoenix's original report. As a result, we are now confident fire departments are not a mandatory expense but an investment on which there is a return for local businesses, the regional GDP in job savings, the preservation of building heritage value, and the reduction of life loss.

We think there is much to be considered in including economic benefits in Community Risk Reduction planning.

Summary Table						
						
Commercial building fire	Number of interventions	42	44	271	16	20
	Excluded	N/A	16	97	3	8
	Eligible	42	28	174	13	12
	Response rate	N/A	N/A	63%	84.6%	83.3%
	Final sample	42	28	110	11	10
	Economic value preserved	\$650M (US, 2012)	\$831M (US, 2014)	\$1.55B (CAN, 2015)	\$63.3M (CAN, 2017)	\$368.8M (CAN, 2017)
	Number of jobs saved	7,446	10,082	20,903	695	1,917
FR-CRA	No. of persons in CRA	N/A	N/A	735	29	97
	CRA survivors	N/A	N/A	43	4	8
	CRA economic value	-	-	\$348M (2015)	\$32.4M (2017)	\$64.8M (2017)
Conclusion	Total economic impact	\$650M (US, 2012)	\$831M (US, 2014)	\$1.89B (2015)	\$95.7M (2017)	\$433.6M (2017)
	Annual budget	\$297M (US, 2013)	\$469M (US, 2014)	\$360.5M (2015)	\$20.6M (2017)	\$20M (2017)
	Return on investment	219%	177%	527.5%	464.6%	2,168%
Analysis	Total economic impact per intervention	\$15.5M (US, 2013)	\$29.7M (US, 2014)	\$17.2M (2015)	\$8.7M (2017)	\$43.4M (2017)
	Jobs saved per intervention	177	360	190	66	191