

Alberta Municipal Benchmarking Initiative - Fire Services

(December 2016)

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1 Introduction and Background

1.1 Introduction

Today's municipalities are challenged by an ever-increasing demand to deliver a greater variety and a higher level of public services while maintaining low taxes and user fees.

To meet this challenge, municipal governments are continually looking for new ways to improve performance, operationally and fiscally.

In the spring of 2012, a number of municipalities in Alberta expressed an interest in benchmarking their service delivery against leading practices as a way to improve service. At a workshop hosted by the Town of Banff in May 2012, participating municipalities discussed the benefits of benchmarking; developed a preliminary list of guiding principles; and identified considerations related to governance, scope, data collection, resources, and risks.

Subsequent to this workshop, the Town of Banff, on behalf of a group of 13 municipalities, successfully applied to the provincial government for a Regional Collaboration Grant to fund the development of a municipal service delivery benchmarking framework. With the support of the provincial government, the Alberta Municipal Benchmarking Initiative (ABMI) was launched in 2013.

1.2 Background

The Alberta Municipal Benchmarking Initiative is a collaboration of small and large-municipalities. Their objective is to develop and implement a framework that will enable a continuous, multi-year benchmarking process for participating municipalities. The initiative includes identifying and gathering comparable metrics and preparing benchmarking reports to prompt questions, start discussions, identify and share leading practices, and ultimately improve the municipal services provided to Albertans.

Ten service areas identified to be benchmarked for efficiency and effectiveness are:

1. Drinking Water Supply
2. Wastewater Collection, Treatment and Disposal
3. Fire Protection
4. Residential Solid Waste Management
5. Police Protection
6. Roadway Operations and Maintenance
7. Snow and Ice Management
8. Transit
9. Parks Provision and Maintenance
10. Recreation, Facility Booking and Maintenance

A method for collecting data to ensure it is comparable between communities and a database to hold the data and produce performance measure has been developed. The

foundation of this method is a “User Manual” for each service area, containing:

- Definitions for cost and service data, and
- Definitions for the calculations of performance measures, both efficiency and effectiveness.

To ensure an “apples to apples” comparison, all participating municipalities work to agree on the content of the user manual.

1.3 Participating Municipalities

The municipalities currently participating in the Fire Services section of the Project are the cities of Airdrie, Lethbridge, Medicine Hat, Red Deer, Wetaskiwin and the towns of Banff, Canmore, Cochrane, and Okotoks.

1.4 Governance Structure

To guide and drive the project, a model has been developed consisting of:

- A governance committee consisting of six municipal leaders
- A working committee with representatives from each of the participating municipalities
- A finance group with representatives from each of the participating municipalities

- A subject matter expert (SME) group for each service area with representatives from each of the participating municipalities

Governance Committee - The governance committee was created to provide overall guidance and oversight, and to ensure that the work conducted is in the best interest of the group of municipalities as a whole as opposed to an individual municipality. The committee is: Robert Earl (Chair), Town of Banff, Paul Schulz, City of Airdrie, Lisa de Soto, Town of Canmore and three vacant positions.

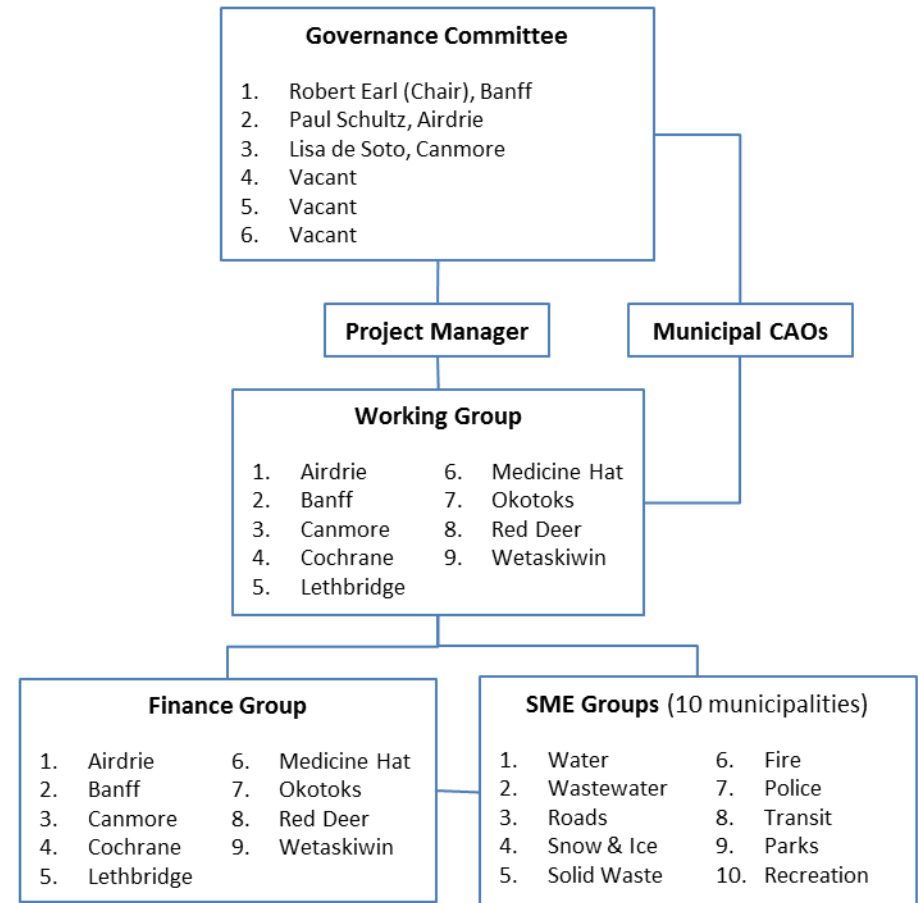
Working Committee - Each of the participating municipalities is represented on the working committee. Its members’ primary role is liaising between the project manager and the respective municipality. They oversee the completion of activities within the municipality, support the identification of SMEs needed for the development of the Database User Manual, and assist with the gathering of relevant data.

Finance Group – The primary role and responsibility of the Finance Group is to collect and enter data for a calculation to allocate overhead to each service area, collect and enter data for amortization of assets in each service area, and assist service area SMEs on collection of cost data for each service area. The Finance Group also ensures all data is accurate by confirming the financial data to the municipality’s non-consolidated financial statements.

Subject Matter Expert Group (SME) – The primary role and responsibility of the SME groups is to provide subject matter expertise in the development of the service definitions, performance measures, and collection of data for the benchmarking pilot project.

The CAOs’ Role – In addition to the governance committee, the CAOs from each of the participating municipalities were asked to confirm their commitment to this project, to be the executive sponsor for their respective municipality, to champion this pilot project within their municipality, and ensure that all participating municipalities are informed of the activities and outcomes.

Governance Structure



1.5 Benefits of Benchmarking

The anticipated benefits from this benchmarking project are:

- Helps tell the municipal “performance story”
- A sound business practice used in the government and private sectors
- Sets the stage for sharing knowledge and best practices among the municipal sector
- Understanding of trends within each municipality
- Identification of opportunities for change to improve efficiency or effectiveness of municipal services
- Formation of objective evidence that shows the differentiation between municipalities and provides information for Municipal CAOs to address questions from Council, staff, and the community on service efficiency and effectiveness
- Encouragement of continuous improvement initiatives and a better understanding of the drivers that impact performance results
- Encourages continuous improvement, and
- Awareness of the value of collaboration between municipalities.
- Supports results-based accountability

1.6 Definitions

Efficiency – Efficiency is a measure of productivity based on dividing the quantity of output (measured in units of deliverables) by the quantity of resources input (usually measured in person hours or dollars).

Effectiveness – Effectiveness is a measure of the value or performance of a service relative to a goal, expressed as the actual change in the service. An effectiveness measure compares the output of a service to its intended contribution to a higher level goal.

Fire Services

Alberta Municipal Benchmarking Initiative

2 Fire Services

2.1 System Description

2.1.1 Municipal Fire Services

The aim of a Municipal Fire Service is to reduce the impact of events to people, property and the environment by rapidly responding to fires, rescues, and hazardous materials and other incidents with well-equipped and well trained responders.

Of particular importance to a Fire Service is to deliver a vibrant, energetic and effective community program for prevention and education that focuses on being a safe community.

Fire Services includes rescue response to emergency incidents 24 hours a day, seven days a week, and can include community preparedness for emergency situations.

To achieve its goals, a Fire Service maintains a multi-million dollar inventory of equipment, and administers training programs for its members.

For many municipalities, Fire Services response goes beyond municipal boundaries, e.g. mutual aid service agreements with neighboring municipalities.

2.1.2 Factors Influencing Fire Services

Nature of the Community Roads System: Number, size and complexity of the roadways system and the presence of natural barriers such as rivers, railways, and mountains in the municipality can affect delivery of the fire service.

Urban Density: Densely populated communities have the potential to receive fire response more quickly than municipalities with a lower density, spread out population.

Urban Growth: High growth municipalities have to address the need for additional spending on fire services to maintain adequate responses to emergencies.

2.1.3 Fire Services Narrative Data (See Section 3 for definitions of each column heading)

The Narrative Data shows differences and similarities between municipalities for this service area.

Part 1: Municipal Characteristics

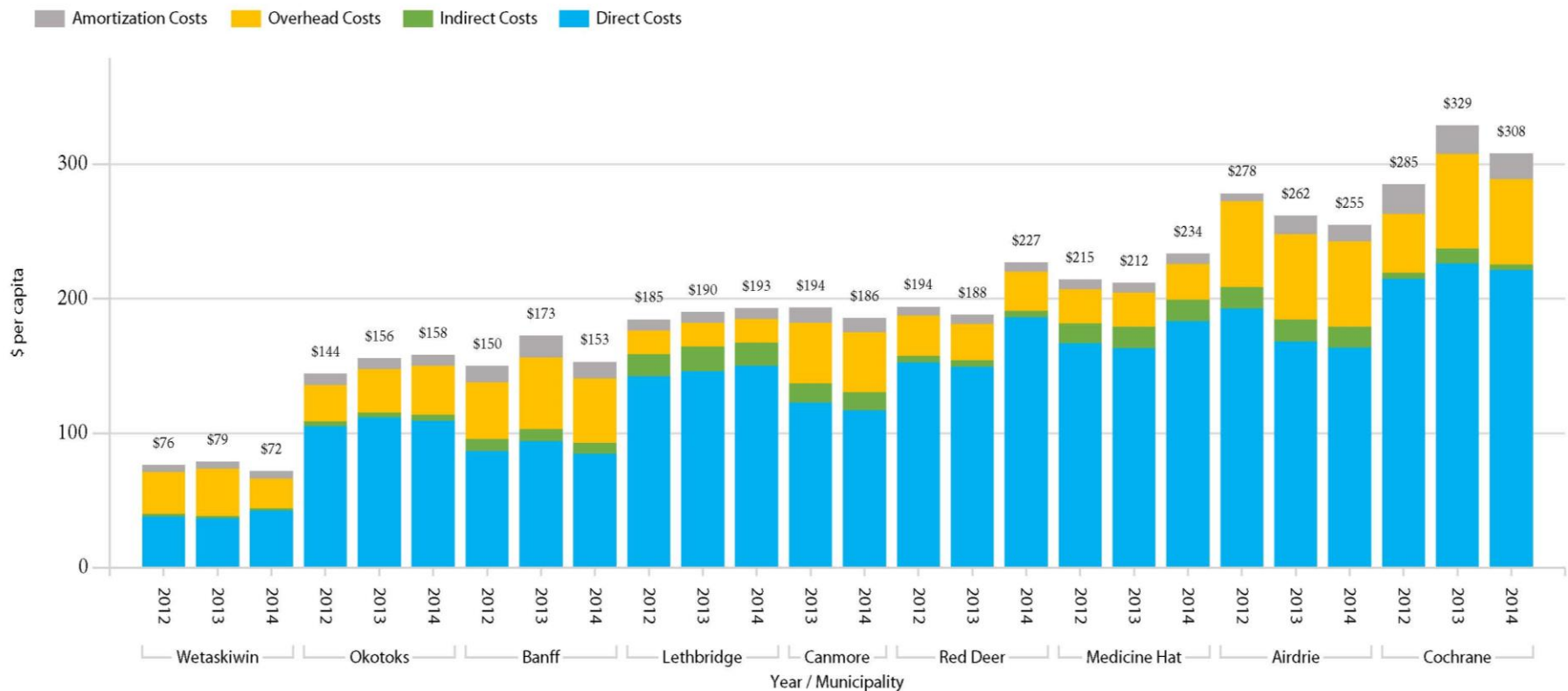
Municipality	Highways	Rail Lines	Rivers	Hills	Urban	Rural	Isolated	Wild Land Interface	Dominant Character
Airdrie	Y	Y			Y			Y	Residential
Banff	Y	Y	Y	Y	Y			Y	Commercial/Industrial
Canmore	Y	Y	Y	Y	Y			Y	Residential
Cochrane	Y	Y	Y	Y	Y	Y		Y	Residential
Lethbridge	Y	Y	Y	Y	Y			Y	Residential
Medicine Hat	Y	Y	Y	Y	Y	Y	Y	Y	Residential
Okotoks	Y	Y	Y	Y	Y	Y		Y	Residential
Red Deer	Y	Y	Y	Y	Y			Y	Residential
Wetaskiwin	Y	Y	Y	Y	Y	Y		Y	Residential

Part 2: Firefighters and Training Status

Municipality	Year	Full-Time Career -FTE - NFPA1001 (Part 1 & 2)/100(#)	Paid on call - NFPA 1001 (Part 1) (#)	Full-time career on shift /24 hours, average (#)
Airdrie	2012	60	0	15
	2013	60	0	15
	2014	60	0	15
Banff	2012	3	26	1
	2013	3	30	1
	2014	4	29	1
Canmore	2013	9	33	2
	2014	9	32	2
Cochrane	2012	18	40	4
	2013	18	36	4
	2014	18	31	4
Lethbridge	2012	83	0	15
	2013	83	0	15
	2014	83	0	15
Medicine Hat	2012	72	0	14
	2013	72	0	14
	2014	72	0	14
Okotoks	2012	17	28	3.5
	2013	17	28	3.5
	2014	17	28	3.5
Red Deer	2012	110	0	17
	2013	110	0	17
	2014	120	0	19
Wetaskiwin	2012	3	21	0
	2013	3	21	0
	2014	3	21	0

2.2 Fire Services Total Cost 1 (\$/capita) - Efficiency

This chart shows total cost of providing fire services per capita based on municipal population by cost type; direct costs are those for day-to-day operation of the service, indirect are for management of the service, overhead is a calculated allocation of total overhead to this service, amortization is the depreciation cost of all assets used to deliver the service. Municipalities are in order from lowest to highest cost based on the average of 2012, 2013, 2014 results.



2.2.1 Total Fire Data (See Section 3 for definitions of each column heading)

Municipality	Year	Direct Costs (\$)	Indirect Costs (\$)	Overhead Costs (\$)	Amortization Costs (\$)	Total Costs (\$)	Municipal Population (#)	Cost per Capita (\$)
Airdrie	2012	\$8,817,444	\$716,681	\$2,928,046	\$267,702	\$12,729,873	45,711	\$278
	2013	\$8,332,100	\$819,882	\$3,138,784	\$687,413	\$12,978,179	49,560	\$262
	2014	\$8,976,704	\$866,767	\$3,476,387	\$675,445	\$13,995,303	54,891	\$255
Banff	2012	\$715,003	\$73,050	\$350,150	\$100,330	\$1,238,533	8,244	\$150
	2013	\$775,005	\$76,161	\$436,710	\$136,107	\$1,423,983	8,244	\$173
	2014	\$793,627	\$77,096	\$450,293	\$117,479	\$1,438,495	9,386	\$153
Canmore	2013	\$1,511,160	\$176,534	\$591,244	\$139,586	\$2,418,524	12,317	\$196
	2014	\$1,485,207	\$176,534	\$615,337	\$136,462	\$2,413,540	13,077	\$185
Cochrane	2012	\$3,946,184	\$87,107	\$804,275	\$406,642	\$5,244,208	18,377	\$285
	2013	\$4,242,452	\$207,932	\$1,317,575	\$402,642	\$6,170,601	18,750	\$329
	2014	\$4,586,649	\$83,606	\$1,317,870	\$395,629	\$6,383,754	20,708	\$308
Lethbridge	2012	\$12,483,473	\$1,564,959	\$1,587,641	\$745,005	\$16,381,078	89,074	\$184
	2013	\$12,739,777	\$1,770,772	\$1,570,764	\$740,708	\$16,822,021	90,417	\$186
	2014	\$13,402,668	\$1,744,725	\$1,639,576	\$740,919	\$17,527,888	93,004	\$188
Medicine Hat	2012	\$10,222,618	\$903,950	\$1,556,471	\$443,068	\$13,126,107	61,180	\$215
	2013	\$9,983,526	\$995,204	\$1,531,425	\$465,744	\$12,975,899	61,180	\$212
	2014	\$11,221,342	\$980,647	\$1,610,027	\$474,855	\$14,286,871	61,180	\$234
Okotoks	2012	\$2,623,672	\$89,303	\$675,155	\$216,079	\$3,604,209	24,962	\$144
	2013	\$2,944,825	\$88,166	\$850,703	\$216,079	\$4,099,773	26,319	\$156
	2014	\$2,984,260	\$127,218	\$998,234	\$216,079	\$4,325,791	27,331	\$158
Red Deer	2012	\$14,031,871	\$439,669	\$2,743,185	\$629,378	\$17,844,103	91,877	\$194
	2013	\$14,511,937	\$466,622	\$2,641,029	\$665,608	\$18,285,196	97,109	\$188
	2014	\$18,359,662	\$491,020	\$2,868,201	\$670,156	\$22,389,039	98,585	\$227
Wetaskiwin	2012	\$478,638	\$23,268	\$392,034	\$62,321	\$956,261	12,525	\$76
	2013	\$465,606	\$20,687	\$441,315	\$67,945	\$995,553	12,598	\$79
	2014	\$537,139	\$21,100	\$280,244	\$68,635	\$907,118	12,621	\$72

NOTES:

1. Lethbridge and Red Deer manage EMS (Emergency Medical Services) on behalf of Alberta Health Services for a fee. For benchmarking the fire service, by agreement, the costs of EMS are excluded from this Report. In Lethbridge, the EMS personnel, while dedicated to EMS services, may assist in firefighting occasionally, if available. For Lethbridge, any use of EMS personnel for firefighting and related costs are not included in this Report.
2. Data for 2012 for Canmore is not included; the Fire and EMS services were “integrated”. This means the cost of the Fire and EMS services were combined.

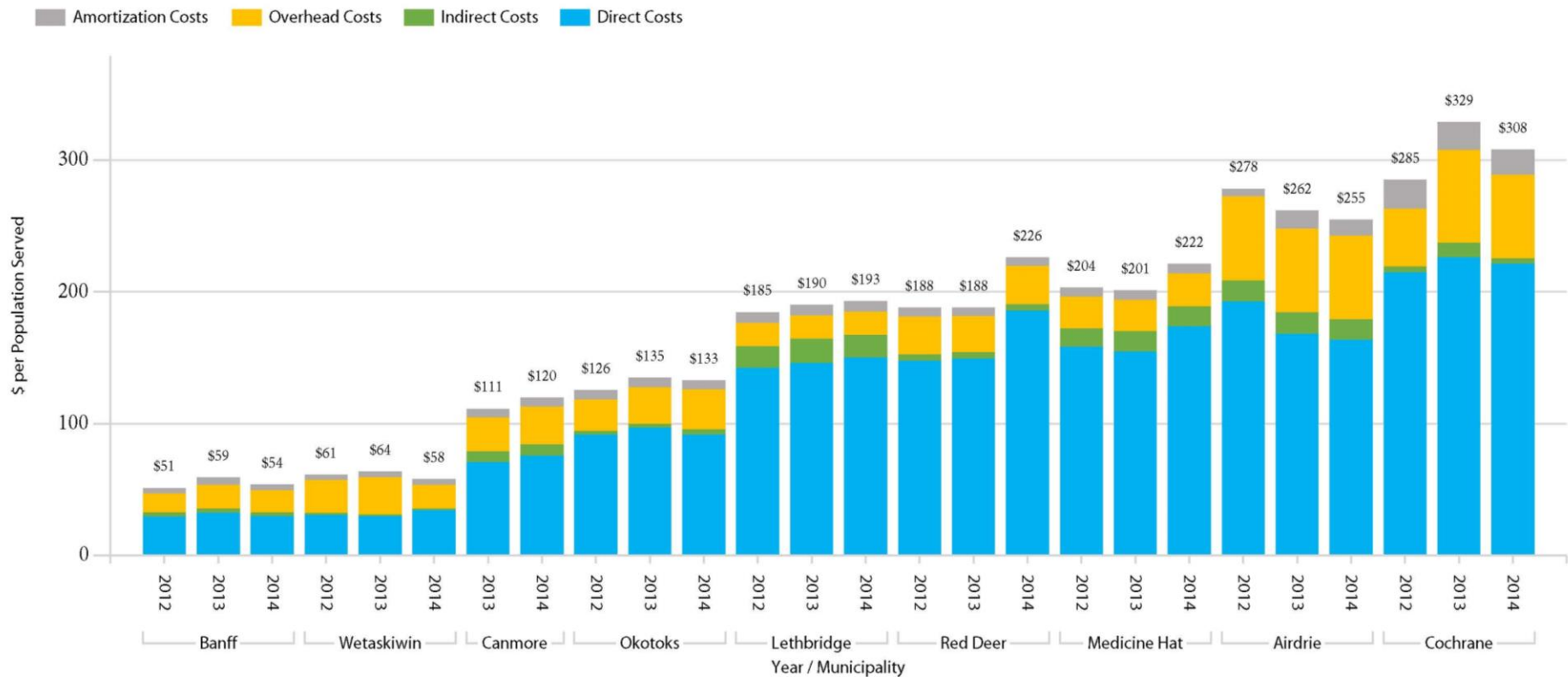
2.2.2 Lessons Learned

- Municipalities with more than one Fire Hall have higher costs per/capita.
Scale. Excluding Cochrane, due to \$650,000/year direct cost to lease a fire station, the two with one station average cost is \$171/capita (Banff and Canmore). For the six with 2 or more stations the average cost is \$184/capita (Airdrie 3, Lethbridge 4, Medicine Hat 3, Okotoks 2, Red Deer 5, Wetaskiwin 2)

- The larger the Fire Department the higher the operating costs (per capita). The three departments with less than 50 firefighters average \$140/capita (Banff 33, Canmore 42, Okotoks 45, Wetaskiwin 24). For the six with 50 or more firefighters the average is \$236/capita (Airdrie 60, Cochrane 58, Medicine Hat 72, Lethbridge 83 and Red Deer 120)
- The age buildings affects amortization costs, e.g. newer stations have higher amortization costs vs. older, e.g. Airdrie added a new fire station in the 2012 – 2014 periods.
- The average age of major fire apparatus affects amortization . Replacement occurs on a 10 to 25 year cycle (most report about 15 years) based on a combination of level of use and age. With recent replacements, a larger component of cost /capita is amortization.
- Topography, e.g. a municipality divided by a river, can increase operating costs because of the need to implement redundancy of buildings/equipment to achieve adequate response times.

2.3 Fire Services Total Cost 2 (\$/population served) – Efficiency

This chart shows total cost of providing fire services per population served by cost type; direct costs, indirect, overhead, amortization. Population served is the number of people having access to the municipality fire service; those within the municipal boundaries (residents, non-residents and visitors) and others outside the boundaries under contract with the municipality for fire services. Municipalities are in order from lowest to highest cost based on the average of 2012, 2013, 2014 results.



2.3.1 Fire Services Cost Data (See Section 3 for definitions of each column heading)

Municipality	Year	Direct Costs (\$)	Indirect Costs (\$)	Overhead Costs (\$)	Amortization Costs (\$)	Total Costs (\$)	Population Served (#)	Cost per Population Served (\$)
Airdrie	2012	\$8,817,444	\$716,681	\$2,928,046	\$267,702	\$12,729,873	45,711	\$278
	2013	\$8,332,100	\$819,882	\$3,138,784	\$687,413	\$12,978,179	49,560	\$262
	2014	\$8,976,704	\$866,767	\$3,476,387	\$675,445	\$13,995,303	54,891	\$255
Banff	2012	\$715,003	\$73,050	\$350,150	\$100,330	\$1,238,533	24,118	\$51
	2013	\$775,005	\$76,161	\$436,710	\$136,107	\$1,423,983	23,968	\$59
	2014	\$793,627	\$77,096	\$450,293	\$117,479	\$1,438,495	26,698	\$54
Canmore	2013	\$1,511,160	\$176,534	\$557,717	\$139,586	\$2,384,997	21,395	\$111
	2014	\$1,530,833	\$176,534	\$585,335	\$136,462	\$2,429,164	20,264	\$120
Cochrane	2012	\$3,946,184	\$87,107	\$804,275	\$406,642	\$5,244,208	18,377	\$285
	2013	\$4,242,452	\$207,932	\$1,317,575	\$402,642	\$6,170,601	18,750	\$329
	2014	\$4,586,649	\$83,606	\$1,317,870	\$395,629	\$6,383,754	20,708	\$308
Lethbridge	2012	\$12,679,905	\$1,445,584	\$1,590,323	\$745,005	\$16,460,817	89,074	\$185
	2013	\$12,984,232	\$1,655,541	\$1,575,317	\$740,708	\$16,955,798	90,417	\$188
	2014	\$13,669,466	\$1,596,553	\$1,643,433	\$740,919	\$17,650,371	93,004	\$190
Medicine Hat	2012	\$10,222,618	\$903,950	\$1,556,471	\$443,068	\$13,126,107	64,497	\$204
	2013	\$9,983,526	\$995,204	\$1,531,425	\$465,744	\$12,975,899	64,497	\$201
	2014	\$11,221,342	\$980,647	\$1,610,027	\$474,855	\$14,286,871	64,497	\$222
Okotoks	2012	\$2,623,672	\$89,303	\$675,155	\$216,079	\$3,604,209	28,654	\$126
	2013	\$2,944,825	\$88,166	\$850,703	\$216,079	\$4,099,773	30,387	\$135
	2014	\$2,984,260	\$127,218	\$998,234	\$216,079	\$4,325,791	32,557	\$133
Red Deer	2012	\$14,031,871	\$439,669	\$2,743,185	\$629,378	\$17,844,103	94,862	\$188
	2013	\$14,511,937	\$466,622	\$2,641,029	\$665,608	\$18,285,196	97,049	\$188
	2014	\$18,359,662	\$491,020	\$2,868,201	\$670,156	\$22,389,039	98,858	\$226
Wetaskiwin	2012	\$478,638	\$23,268	\$392,034	\$62,321	\$956,261	15,611	\$61
	2013	\$465,606	\$20,687	\$441,315	\$67,945	\$995,553	15,598	\$64
	2014	\$537,139	\$21,100	\$280,244	\$68,635	\$907,118	15,621	\$58

NOTES:

1. Population Served (#)

Population served is the number of people having access to the municipality fire service.

Includes

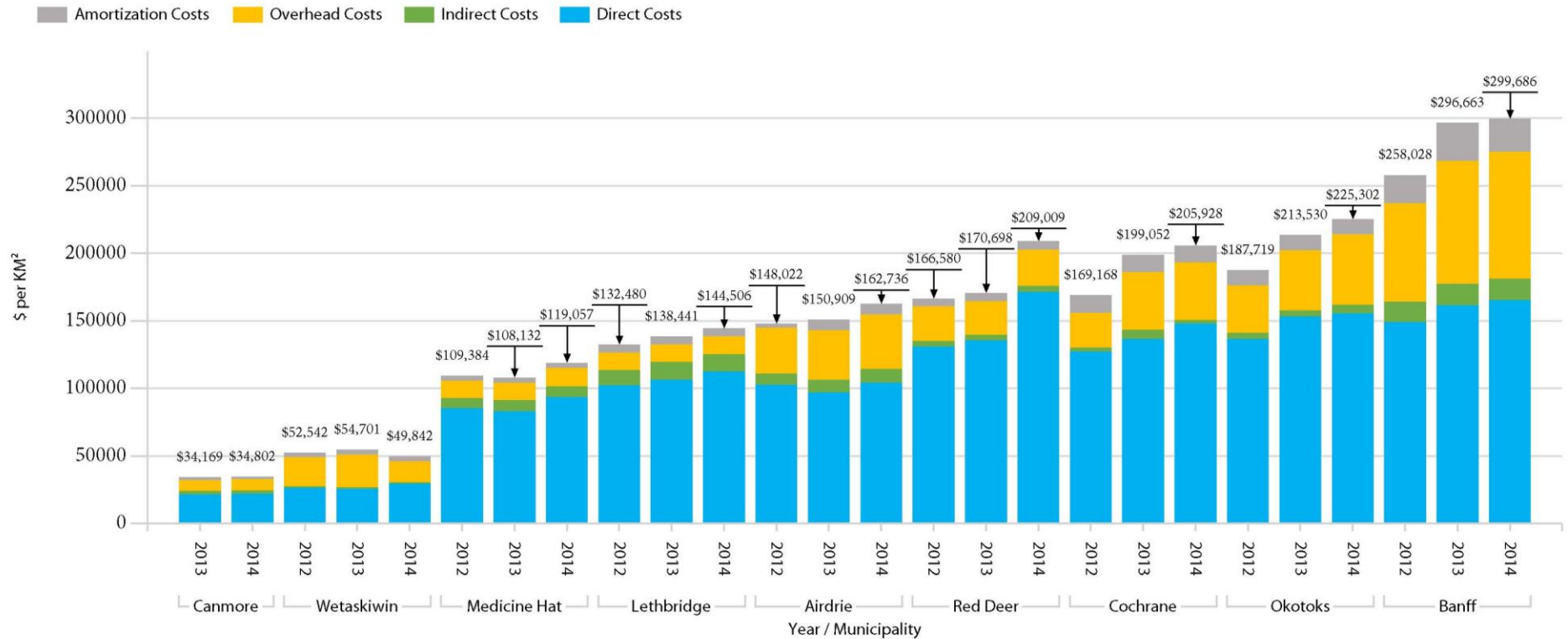
- Municipal population
- Non-resident population (second home owners, temporary workers)
- Average visitor population (Banff, Canmore)
- Population beyond the municipal boundaries served under contract by the fire service.

2.3.2 Lessons learned

- Canmore and Banff use Visitor Adjusted Population, as Fire Services are designed to serve both resident and visitor population. This moves Banff to lowest cost/capita from 3rd lowest cost and Canmore to 3rd lowest cost/capita from 5th.

2.4 Fire Services Total Cost 3 (\$/square KM) – Efficiency

This chart shows total cost of providing fire services per square km of geographic area within the municipal boundaries by cost type; direct costs, indirect, overhead, amortization. Municipalities are in order from lowest to highest cost based on the average of 2012, 2013, 2014 results.



2.4.1 Fire Services Cost Data (See Section 3 for definitions of each column heading)

Municipality	Year	Direct Costs (\$)	Indirect Costs (\$)	Overhead Costs (\$)	Amortization Costs (\$)	Total Costs (\$)	Geographic Area (KM ²)	Cost per KM ²
Airdrie	2012	\$8,817,444	\$716,681	\$2,928,046	\$267,702	\$12,729,873	86	\$148,022
	2013	\$8,332,100	\$819,882	\$3,138,784	\$687,413	\$12,978,179	86	\$150,909
	2014	\$8,976,704	\$866,767	\$3,476,387	\$675,445	\$13,995,303	86	\$162,736
Banff	2012	\$715,003	\$73,050	\$350,150	\$100,330	\$1,238,533	5	\$258,028
	2013	\$775,005	\$76,161	\$436,710	\$136,107	\$1,423,983	5	\$296,663
	2014	\$793,627	\$77,096	\$450,293	\$117,479	\$1,438,495	5	\$299,686
Canmore	2013	\$1,511,160	\$176,534	\$591,244	\$139,586	\$2,418,524	70	\$34,649
	2014	\$1,485,207	\$176,534	\$615,337	\$136,462	\$2,413,540	70	\$34,578
Cochrane	2012	\$3,946,184	\$87,107	\$804,275	\$406,642	\$5,244,208	31	\$169,168
	2013	\$4,242,452	\$207,932	\$1,317,575	\$402,642	\$6,170,601	31	\$199,052
	2014	\$4,586,649	\$83,606	\$1,317,870	\$395,629	\$6,383,754	31	\$205,928
Lethbridge	2012	\$12,483,473	\$1,564,959	\$1,587,641	\$745,005	\$16,381,078	123	\$133,396
	2013	\$12,739,777	\$1,770,772	\$1,570,764	\$740,708	\$16,822,021	123	\$136,987
	2014	\$13,402,668	\$1,744,725	\$1,639,576	\$740,919	\$17,527,888	123	\$142,735
Medicine Hat	2012	\$10,222,618	\$903,950	\$1,556,471	\$443,068	\$13,126,107	120	\$109,384
	2013	\$9,983,526	\$995,204	\$1,531,425	\$465,744	\$12,975,899	120	\$108,132
	2014	\$11,221,342	\$980,647	\$1,610,027	\$474,855	\$14,286,871	120	\$119,057
Okotoks	2012	\$2,623,672	\$89,303	\$675,155	\$216,079	\$3,604,209	19	\$187,719
	2013	\$2,944,825	\$88,166	\$850,703	\$216,079	\$4,099,773	19	\$213,530
	2014	\$2,984,260	\$127,218	\$998,234	\$216,079	\$4,325,791	19	\$225,302
Red Deer	2012	\$14,031,871	\$439,669	\$2,743,185	\$629,378	\$17,844,103	107	\$166,580
	2013	\$14,511,937	\$466,622	\$2,641,029	\$665,608	\$18,285,196	107	\$170,698
	2014	\$18,359,662	\$491,020	\$2,868,201	\$670,156	\$22,389,039	107	\$209,009
Wetaskiwin	2012	\$478,638	\$23,268	\$392,034	\$62,321	\$956,261	18	\$52,542
	2013	\$465,606	\$20,687	\$441,315	\$67,945	\$995,553	18	\$54,701
	2014	\$537,139	\$21,100	\$280,244	\$68,635	\$907,118	18	\$49,842

NOTES:

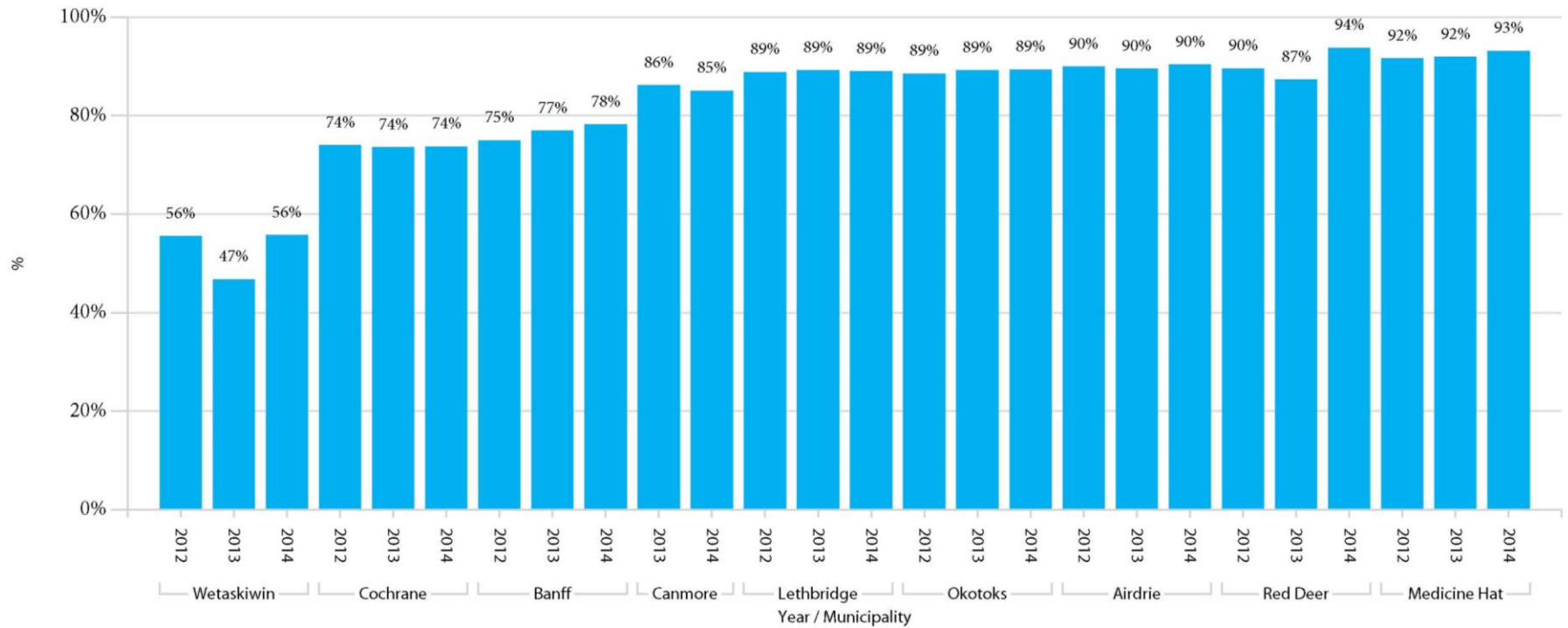
1. Geographical area is the total area within the municipal boundaries and includes developed area.
2. Canmore results are an "outlier" for this performance measure because their geographic area is 69.8 KM² while the developed area is only 12.4 KM². For Canmore the majority of the fire services are provided for the developed area. Using Developed Area increases the Canmore cost/square KM to about \$195,000.

2.4.2 Lessons Learned

- Cost per square KM is one predictor for the cost of future growth. Other factors to consider include what level of service Council's set for education, prevention and response.
- As the geographic area or a municipality increases, the operating cost/KM² decreases. For the five municipalities with less than 50 KM² (Banff 5, Wetaskiwin 18, Okotoks 19 and Cochrane 31) the average cost is \$184,347/ KM². For the four with area greater than 50 KM² (Canmore 70, Airdrie 86, Red Deer 107, Medicine Hat 120, Lethbridge 205) the average cost is \$130,473/ KM².

2.5 Labour vs. Total Fire Direct Costs (%) - Efficiency

This chart shows what percentage labour costs are of total direct costs. Municipalities are in order from lowest to highest cost based on the average of 2012, 2013, 2014 results.



2.5.1 Labour Data (See Section 3 for definitions of each column heading)

Municipality	Year	Labour Costs (\$)	Total Direct Costs (\$)	Labour vs Direct Costs (%)
Airdrie	2012	\$7,935,125	\$8,817,444	90%
	2013	\$7,464,228	\$8,332,100	90%
	2014	\$8,112,203	\$8,976,704	90%
Banff	2012	\$536,388	\$715,003	75%
	2013	\$596,323	\$775,005	77%
	2014	\$620,682	\$793,627	78%
Canmore	2013	\$1,302,747	\$1,511,160	86%
	2014	\$1,302,747	\$1,530,833	85%
Cochrane	2012	\$2,920,944	\$3,946,184	74%
	2013	\$3,122,027	\$4,242,452	74%
	2014	\$3,384,241	\$4,586,649	74%
Lethbridge	2012	\$11,276,605	\$12,679,905	89%
	2013	\$11,800,618	\$12,984,232	91%
	2014	\$12,441,981	\$13,669,466	91%
Medicine Hat	2012	\$9,371,129	\$10,222,618	92%
	2013	\$9,179,979	\$9,983,526	92%
	2014	\$10,455,370	\$11,221,342	93%
Okotoks	2012	\$2,323,412	\$2,623,672	89%
	2013	\$2,627,710	\$2,944,825	89%
	2014	\$2,667,877	\$2,984,260	89%
Red Deer	2012	\$12,572,622	\$14,031,871	90%
	2013	\$12,676,420	\$14,511,937	87%
	2014	\$17,218,799	\$18,359,662	94%
Wetaskiwin	2012	\$265,993	\$478,638	56%
	2013	\$217,954	\$465,606	47%
	2014	\$299,627	\$537,139	56%

NOTES:

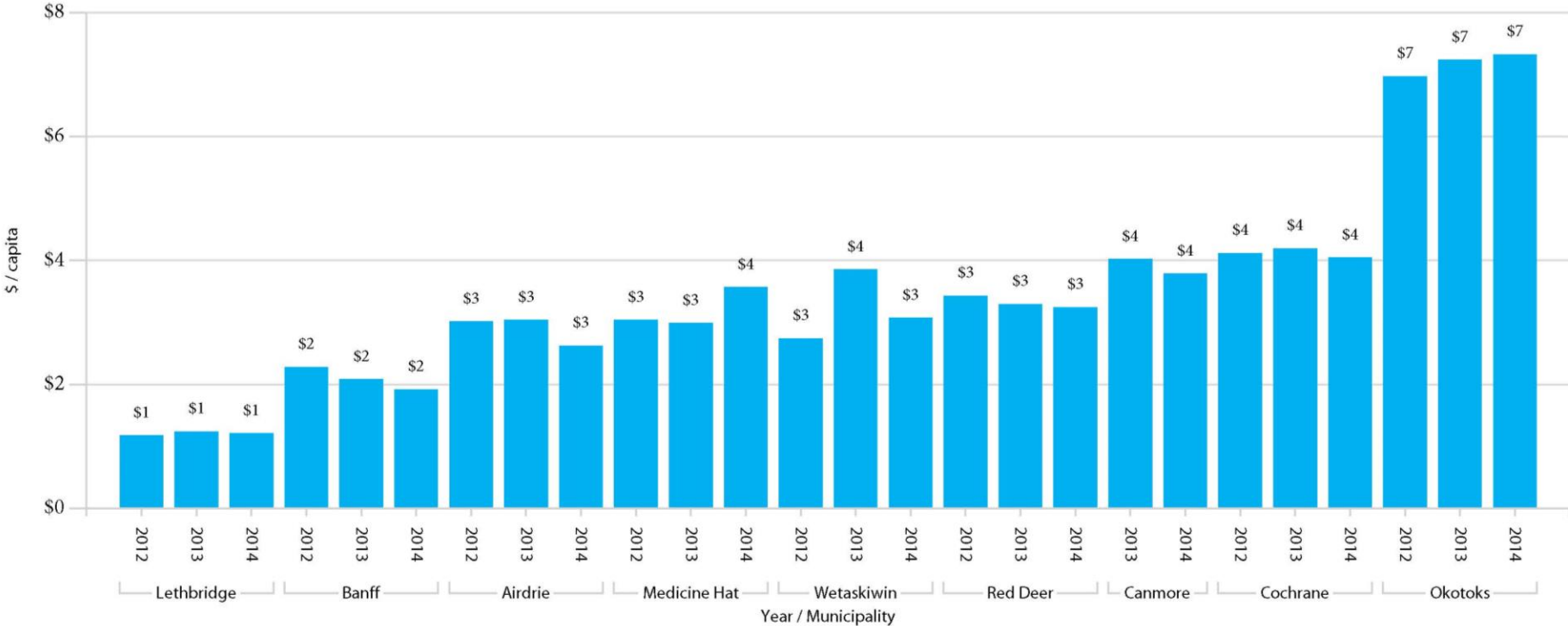
1. Direct Costs for unionized municipalities don't reflect outstanding contracts if settlements are not finalized. Therefore Direct Costs, including labour costs, can be a moving target, e.g. when a settlement is 2 – 3 years behind.
2. Cochrane leases their fire station, which accounts for about 10% of Direct Costs. This means Labour is reduced as a percentage of Direct Costs.

2.5.2 Lessons Learned

- Fire Protection is a protective service that is very labour intensive. Municipalities with large paid on call labour (Banff, Canmore and Wetaskiwin) are consequently at the lower cost end of the chart.

2.6 Dispatch Costs (\$/capita) - Efficiency

This chart shows the cost of services to dispatch the fire service per capita based on municipal population, when an emergency call is received. Municipalities are in order from lowest to highest cost based on the average of 2012, 2013, 2014 results.



2.6.1 Dispatch Direct Cost Data (See Section 3 for definitions of each column heading)

Municipality	Year	Dispatch Costs (\$)	Municipal Population (#)	Dispatch (\$/capita)
Airdrie	2012	\$138,096	45,711	\$3
	2013	\$150,848	49,560	\$3
	2014	\$144,292	54,891	\$3
Banff	2012	\$18,837	8,244	\$2
	2013	\$17,216	8,244	\$2
	2014	\$18,050	9,386	\$2
Canmore	2013	\$49,584	12,317	\$4
	2014	\$49,584	13,077	\$4
Cochrane	2012	\$75,732	18,377	\$4
	2013	\$78,708	18,750	\$4
	2014	\$83,867	20,708	\$4
Lethbridge	2012	\$105,213	89,074	\$1
	2013	\$112,409	90,417	\$1
	2014	\$112,950	93,004	\$1
Medicine Hat	2012	\$186,322	61,180	\$3
	2013	\$183,202	61,180	\$3
	2014	\$218,675	61,180	\$4
Okotoks	2012	\$174,165	24,962	\$7
	2013	\$190,585	26,319	\$7
	2014	\$200,288	27,331	\$7
Red Deer	2012	\$315,472	91,877	\$3
	2013	\$320,460	97,109	\$3
	2014	\$320,331	98,585	\$3
Wetaskiwin	2012	\$34,398	12,525	\$3
	2013	\$48,614	12,598	\$4
	2014	\$38,827	12,621	\$3

NOTES:

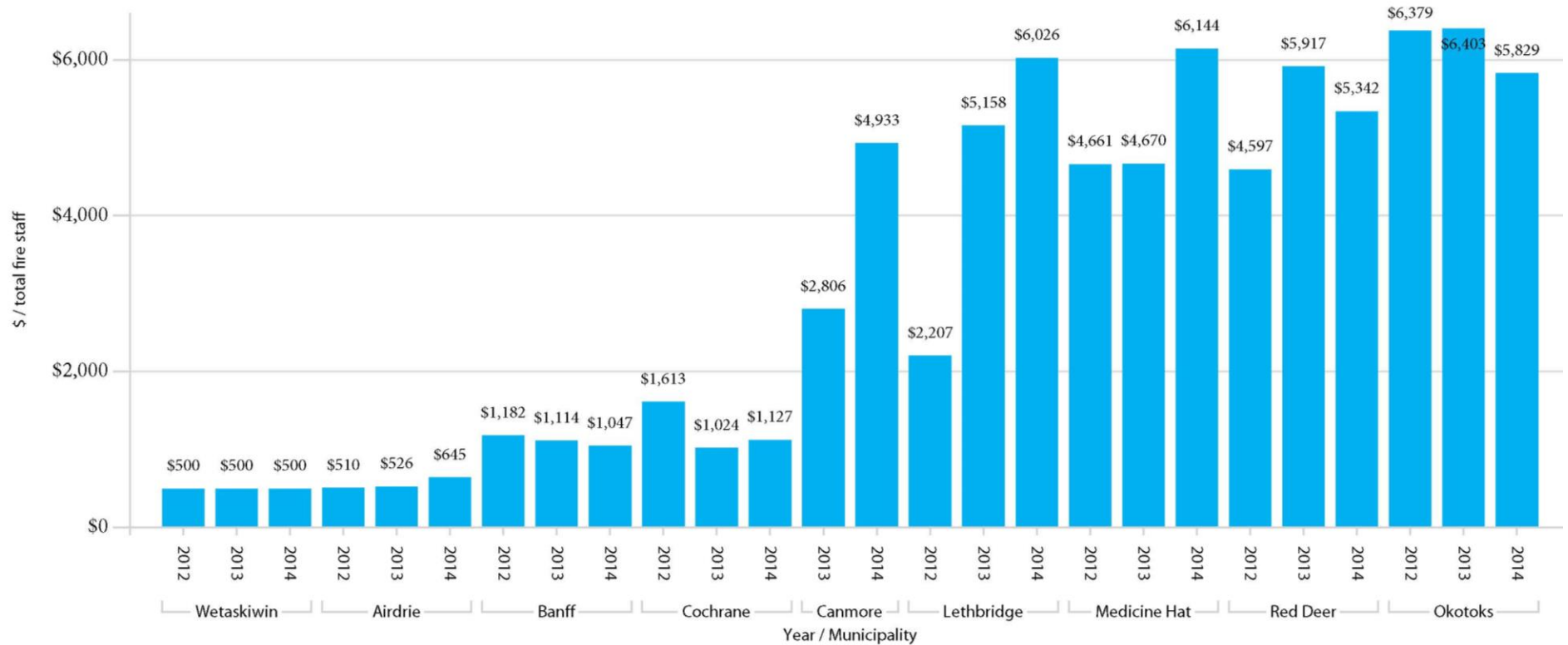
1. For dispatch, some municipalities use a regional service with a contract cost set as \$/capita. Others use a self-run service (Lethbridge, Medicine Hat, Red Deer) that may be combined with EMS/ police dispatch.

2.6.2 Lessons Learned

- Potentially lower costs may result from sharing dispatch costs with other services, e.g. Police, EMS.

2.7 Off-Shift Training Costs (\$/total fire staff) - Efficiency

This chart shows the cost for training and industry conferences for all staff when the staff is “off-shift” per staff member. Excluded from this is training done “on-shift, e.g. while fire fighters are available to respond to an emergency call. Municipalities are in order from lowest to highest cost based on the average of 2012, 2013, 2014 results.



2.7.1 Off-Shift Training Cost Data (See Section 3 for definitions of each column heading)

Municipality	Year	Off-Shift Training Costs (\$)	Total Fire Staff (#)	Off-Shift Training (\$ / staff)
Airdrie	2012	\$34,696	68	\$510
	2013	\$35,770	68	\$526
	2014	\$47,083	73	\$645
Banff	2012	\$10,000	8	\$1,182
	2013	\$10,000	9	\$1,114
	2014	\$10,000	10	\$1,047
Canmore	2013	\$25,953	9	\$2,806
	2014	\$45,626	9	\$4,933
Cochrane	2012	\$30,643	19	\$1,613
	2013	\$19,448	19	\$1,024
	2014	\$21,404	19	\$1,127
Lethbridge	2012	\$206,274	93	\$2,207
	2013	\$487,286	94	\$5,158
	2014	\$568,588	94	\$6,026
Medicine Hat	2012	\$382,193	82	\$4,661
	2013	\$382,906	82	\$4,670
	2014	\$509,920	83	\$6,144
Okotoks	2012	\$116,095	18	\$6,379
	2013	\$116,530	18	\$6,403
	2014	\$106,095	18	\$5,829
Red Deer	2012	\$574,589	125	\$4,597
	2013	\$739,648	125	\$5,917
	2014	\$721,115	135	\$5,342
Wetaskiwin	2012	\$2,000	4	\$500
	2013	\$2,000	4	\$500
	2014	\$2,000	4	\$500

NOTE: Total Fire Staff is the sum of Firefighters + Indirect Staff to manage/support the service

NOTES:

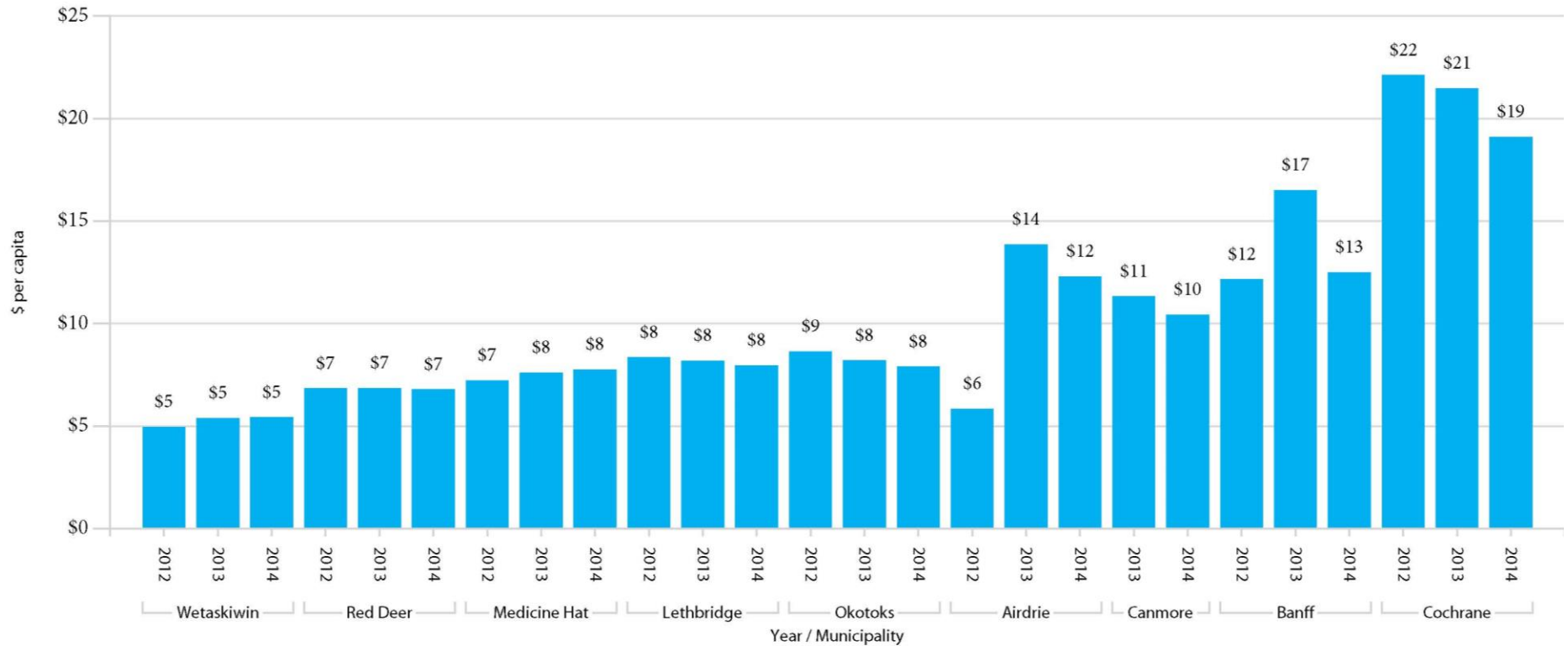
1. Off-Shift Training cost includes;
 - Off-site training program fees
 - Conference fees
 - Staff wages and benefits delivering off-shift training
 - Wages and benefits for staff involved with training/conference programs
 - Travel expenses involved with off-shift training programs and conferences

2.7.2 Lessons Learned

- Some specialized training cannot be provided by the municipality, see section 2.13 Service Data, Part 3 - Services Provided.
- As municipalities grow, more off-shift training/conferences are required
- As municipalities grow and move to a 24/7 operation, there is more spending for off-shift training/conference, as a percentage of total costs.

2.8 Fire Amortization (\$/capita)

This chart shows the amortization (depreciation) cost of the assets used to deliver the service per capita. Municipalities are in order from lowest to highest cost based on the average of 2012, 2013, 2014 results.



2.8.1 Amortization Cost Data (See Section 3 for definitions of each column heading)

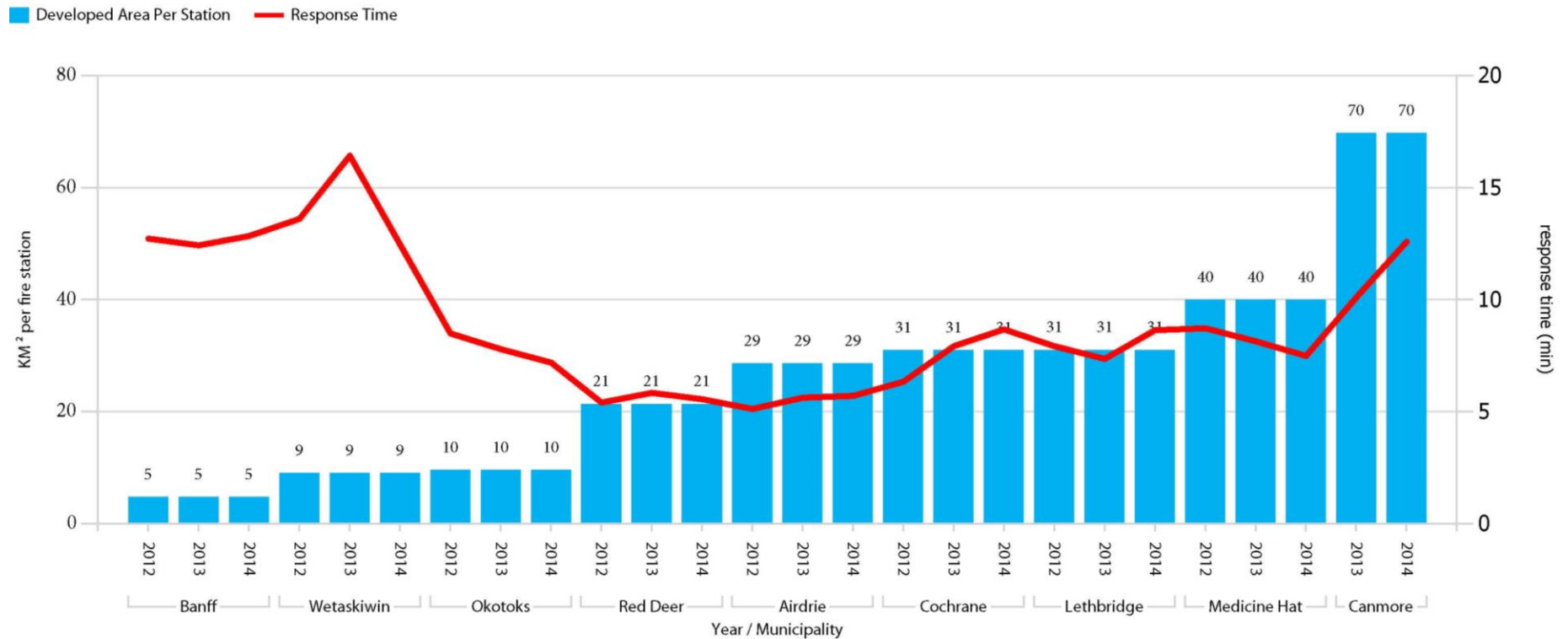
Municipality	Year	Amortization Costs (\$)	Municipal Population (#)	Amortization per Capita (\$)
Airdrie	2012	\$267,702	45,711	\$6
	2013	\$687,413	49,560	\$14
	2014	\$675,445	54,891	\$12
Banff	2012	\$100,330	8,244	\$12
	2013	\$136,107	8,244	\$17
	2014	\$117,479	9,386	\$13
Canmore	2013	\$139,586	12,317	\$11
	2014	\$136,462	13,077	\$10
Cochrane	2012	\$406,642	18,377	\$22
	2013	\$402,642	18,750	\$21
	2014	\$395,629	20,708	\$19
Lethbridge	2012	\$745,005	89,074	\$8
	2013	\$740,708	90,417	\$8
	2014	\$740,919	93,004	\$8
Medicine Hat	2012	\$443,068	61,180	\$7
	2013	\$465,744	61,180	\$8
	2014	\$474,855	61,180	\$8
Okotoks	2012	\$216,079	24,962	\$9
	2013	\$216,079	26,319	\$8
	2014	\$216,079	27,331	\$8
Red Deer	2012	\$629,378	91,877	\$7
	2013	\$665,608	97,109	\$7
	2014	\$670,156	98,585	\$7
Wetaskiwin	2012	\$62,321	12,525	\$5
	2013	\$67,945	12,598	\$5
	2014	\$68,635	12,621	\$5

2.8.2 Lessons Learned

- New fire stations and the replacement schedule for heavy equipment (about 15 year cycle) have the largest influence on amortization cost/year. The median amortization cost/capita is \$8.25, with a range of \$5 to \$22.
- Future Fire Services Benchmarks should consider average age of infrastructure.

2.9 Fire Stations (area KM²/fire station) – Effectiveness

This chart shows the geographic area covered by each fire station to the municipal boundaries. Overlaid on the area data is the emergency response time (red line on graph, right hand scale); time from notification at a station of an emergency to arrival at the scene. Municipalities are in order from lowest to highest based on the average of 2012, 2013, 2014 results.



2.9.1 Fire Stations Data (See Section 3 for definitions of each column heading)

Municipality	Year	Fire Stations (#)	Response Time (mins)	Geographic Area (KM ²)	KM ² per Station
Airdrie	2012	3	5	86.0	29
	2013	3	6	86.0	29
	2014	3	6	86.0	29
Banff	2012	1	13	4.8	5
	2013	1	12	4.8	5
	2014	1	13	4.8	5
Canmore	2013	1	10	69.8	70
	2014	1	13	69.8	70
Cochrane	2012	1	6	31.0	31
	2013	1	8	31.0	31
	2014	1	9	31.0	31
Lethbridge	2012	4	8	122.8	31
	2013	4	7	122.8	31
	2014	4	9	122.8	31
Medicine Hat	2012	3	9	120.0	40
	2013	3	8	120.0	40
	2014	3	8	120.0	40
Okotoks	2012	2	9	19.2	10
	2013	2	8	19.2	10
	2014	2	7	19.2	10
Red Deer	2012	5	5	107.1	21
	2013	5	6	107.1	21
	2014	5	6	107.1	21
Wetaskiwin	2012	2	14	18.2	9
	2013	2	16	18.2	9
	2014	2	12	18.2	9

NOTES:

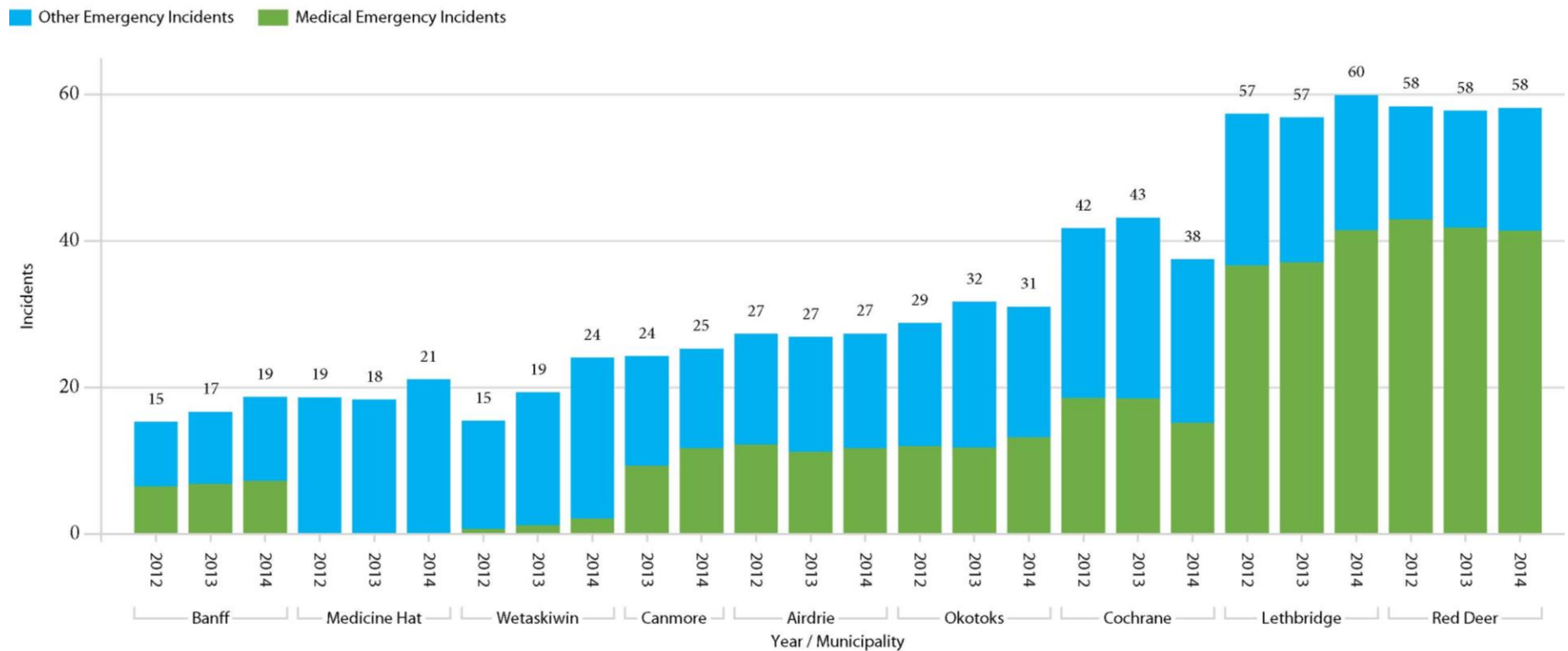
1. Canmore has a large Geographic Area of 69.8 KM² and a small Developed Area of 12.4 KM². Developed area is the area developed for use by residential, commercial and industrial purposes. As a result Canmore requires only one fire station. Using Developed Area reduces the Canmore area covered/fire station to about 12.

2.9.2 Lessons Learned

- How is the decision made to add fire stations?
 - In addition to area/station, adding fire stations depends on such factors as setting service levels which corresponds to response times, specialized services needed in different locations, providing redundancy of services due to geographic barriers, e.g. rivers, rail lines, highways.
- Municipalities that use paid on call firefighters have longer emergency response times, as their turnout time is longer.
- When primarily paid on call departments are factored out, response time increases with increasing developed area per station. Optimal response time in this study appears to be correlated with approximately 20 km²/station. This information could help to guide fire station spatial separation.

2.10 Emergency Incident Responses (#/1,000 population served) – Effectiveness

This chart shows the number of emergency incidents responded to per 1,000 of population served by type of incident. Municipalities are in order from lowest to highest based on the average of 2012, 2013, 2014 results.



2.10.1 Emergency Incident Responses (#/1,000 capita) (See Section 3 for definitions of each column heading)

Municipality	Year	Medical Incidents (#)	Other Incidents (#)	Total Incidents (#)	Population Served (#)	Emergency Incidents (# per 1000 population served)
Airdrie	2012	558	692	1,250	45,711	27
	2013	555	778	1,333	49,560	27
	2014	642	860	1,502	54,891	27
Banff	2012	156	213	369	24,118	15
	2013	164	236	400	23,968	17
	2014	194	305	499	26,698	19
Canmore	2013	200	320	520	21,395	24
	2014	237	276	513	20,264	25
Cochrane	2012	341	426	767	17,580	44
	2013	347	463	810	18,750	43
	2014	315	462	777	20,708	38
Lethbridge	2012	3,267	1,843	5,110	89,074	57
	2013	3,354	1,789	5,143	90,417	57
	2014	3,856	1,718	5,574	93,004	60
Medicine Hat	2012	0	1,205	1,205	64,497	19
	2013	0	1,185	1,185	64,497	18
	2014	0	1,362	1,362	64,497	21
Okotoks	2012	345	481	826	28,654	29
	2013	358	605	963	30,387	32
	2014	431	580	1,011	32,557	31
Red Deer	2012	4,072	1,467	5,539	94,862	58
	2013	4,059	1,548	5,607	97,049	58
	2014	4,095	1,657	5,752	98,858	58
Wetaskiwin	2012	11	230	241	15,611	15
	2013	19	283	302	15,598	19
	2014	33	343	376	15,621	24

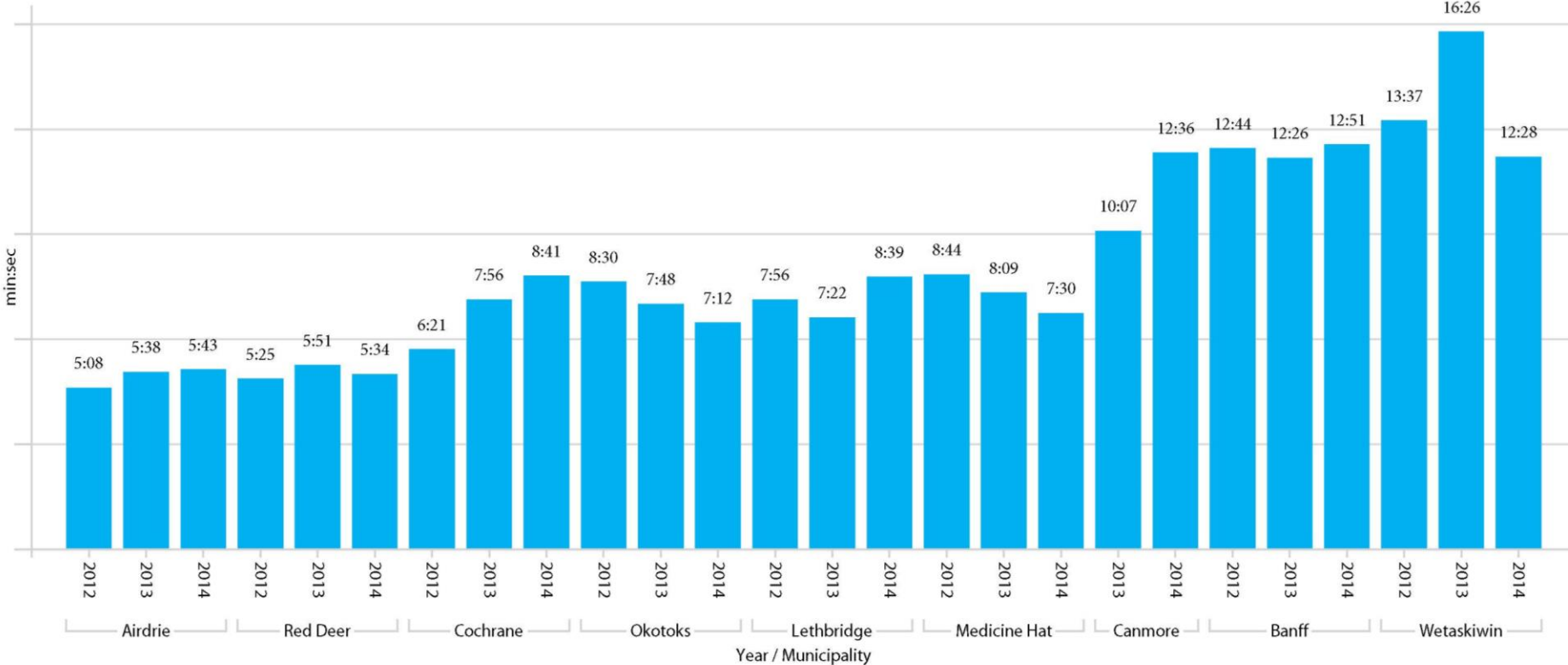
2.10.2 Lessons Learned

- Each municipality decides what type of incident Fire Services will respond to. Incident types in order of increasing severity are called; 1 Alpha, 2 Bravo, 3 Charlie, 4 Delta and 5 Echo (life threatening).

For example, Medicine Hat leaves all medical first responses to EMS for the five levels, while other municipalities provide medical co-response to specific incident types.

2.11 Chute (Turnout) and Travel Response Time (min:sec) – Effectiveness

This chart shows the time to respond to a residential fire emergency incident; the time from when a dispatch call is received to arrival of fire suppression personnel/equipment at the site of the incident. Municipalities are in order from lowest to highest time based on the average of 2012, 2013, 2014 results.



2.11.1 Response Time Data (See Section 3 for definitions of each column heading)

Municipality	Year	Response Time (min:sec)	Fire Suppression Trucks (#)	Firefighters for First Response (#)
Airdrie	2012	5:08	1	4
	2013	5:38	1	4
	2014	5:43	1	4
Banff	2012	12:44	1	7
	2013	12:26	1	7
	2014	12:51	1	7
Canmore	2013	10:07	1	4
	2014	12:36	1	4
Cochrane	2012	6:21	1	4
	2013	7:56	1	4
	2014	8:41	1	4
Lethbridge	2012	7:56	1	3
	2013	7:22	1	3
	2014	8:39	1	3
Medicine Hat	2012	8:44	1	4
	2013	8:09	1	4
	2014	7:30	1	4
Okotoks	2012	8:30	1	4
	2013	7:48	1	4
	2014	7:12	1	4
Red Deer	2012	5:25	1	4
	2013	5:51	1	4
	2014	5:34	1	4
Wetaskiwin	2012	13:37	1	4
	2013	16:26	1	4
	2014	12:28	1	4

NOTES:

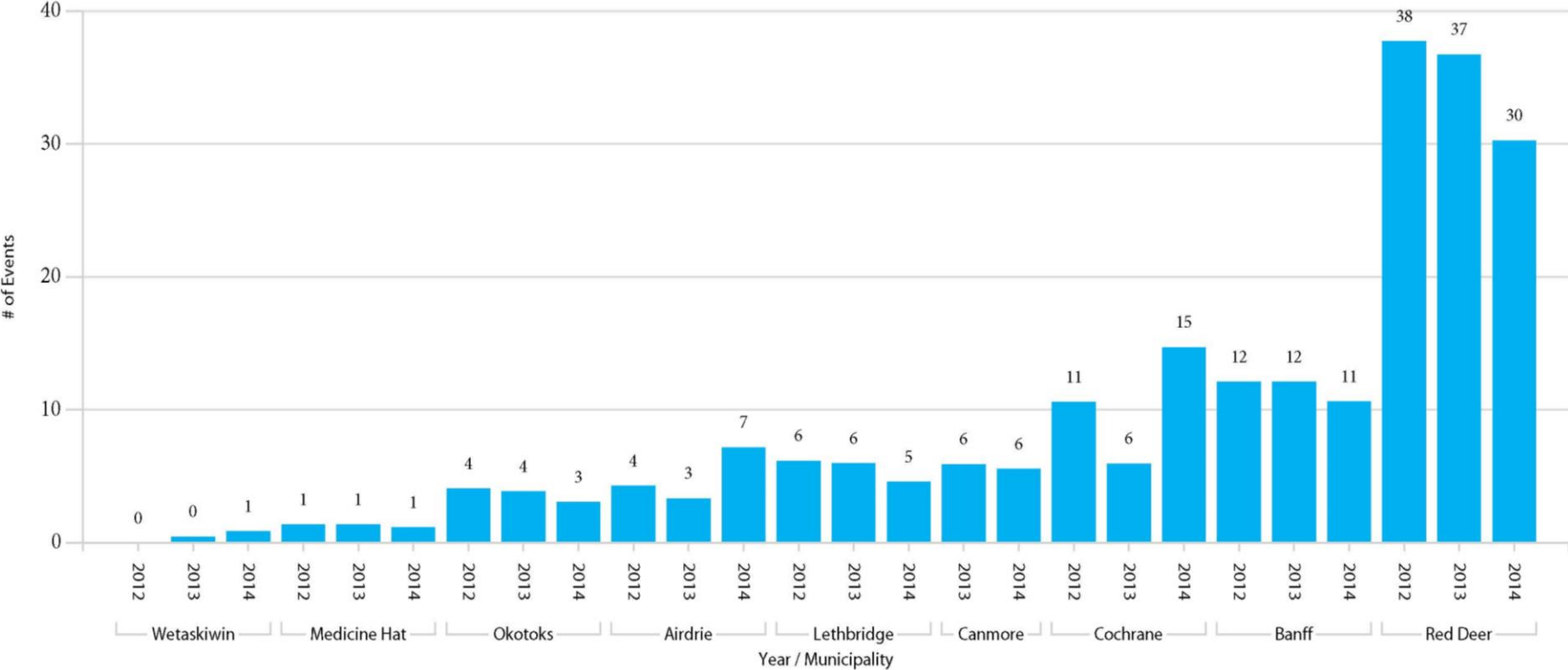
1. Response time is for residential fire emergencies only.

2.11.2 Lessons Learned

- Municipalities with paid on call services have longer response times. Banff, Wetaskiwin and Canmore average response time is 13:17 (min:sec) vs. all others at 7:07 (min:sec).

2.12 Fire Prevention – Public Education Events (#/1,000 capita) – Effectiveness

This chart shows the number of fire prevention events undertaken by a municipal fire service per 1,000 capita based on municipal population. Municipalities are in order from lowest to highest cost based on the average of 2012, 2013, 2014 results.



2.12.1 Fire Public Education Events Data (See Section 3 for definitions of each column heading)

Municipality	Year	Education Events (#)	Municipal Population (#)	Events per 1000 Population (#)
Airdrie	2012	197	45,711	4
	2013	166	49,560	3
	2014	395	54,891	7
Banff	2012	100	8,244	12
	2013	100	8,244	12
	2014	100	9,386	11
Canmore	2013	73	12,317	6
	2014	73	13,077	6
Cochrane	2012	195	18,377	11
	2013	112	18,750	6
	2014	305	20,708	15
Lethbridge	2012	550	89,074	6
	2013	542	90,417	6
	2014	427	93,004	5
Medicine Hat	2012	84	61,180	1
	2013	85	61,180	1
	2014	72	61,180	1
Okotoks	2012	102	24,962	4
	2013	102	26,319	4
	2014	84	27,331	3
Red Deer	2012	3,468	91,877	38
	2013	3,568	97,109	37
	2014	2,985	98,585	30
Wetaskiwin	2012	0	12,525	0
	2013	6	12,598	0
	2014	11	12,621	1

NOTES:

1. Public Education Events are to encourage fire prevention, e.g. hall tours, seminars, home inspections, extinguisher use training and drills, school visits, group hall tours, open houses/pancake breakfasts.

2.12.2 Lessons Learned

- How the decision is made on the number and type of public education events?
 - For Red Deer, the bulk of these events are home inspections, e.g. day-to-day hazards, smoke alarms, flammables near furnace, trip hazards. Red Deer has a plan to inspect every home on a 10 year cycle.
 - Okotoks has started a home inspection program.
 - Future fire benchmarks should consider public education versus fire loss.

2.13 Fire Services Service Data (see Section 3 for definitions of each column heading)

This data consolidates the information about Fire services for each municipality.

Part 1

Municipality	Year	Fire Incidents (#)	Medical Incidents (#)	Rescue Incidents (#)	Response Time (min:sec)	Fire Suppression Vehicles (#)	Firefighters for First Response (#)	Municipal Population (#)	Population Served (#)	Fire Service Staff (#)
Airdrie	2012	692	558	0	5:08	1	4	45,711	45,711	60
	2013	778	555	0	5:38	1	4	49,560	49,560	60
	2014	860	642	0	5:43	1	4	54,891	54,891	64
Banff	2012	129	156	84	12:44	1	7	8,244	24,118	29
	2013	195	164	41	12:26	1	7	8,244	23,968	30
	2014	239	194	66	12:51	1	7	9,386	26,698	30
Canmore	2013	309	200	11	10:07	1	4	12,317	21,395	60
	2014	267	237	9	12:36	1	4	13,077	20,264	60
Cochrane	2012	310	341	116	6:21	1	4	18,377	18,377	60
	2013	322	347	141	7:56	1	4	18,750	18,750	56
	2014	356	315	106	8:41	1	4	20,708	20,708	50
Lethbridge	2012	1,464	3,267	379	7:56	1	3	89,074	89,074	83
	2013	1,440	3,354	349	7:22	1	3	90,417	90,417	83
	2014	1,351	3,856	367	8:39	1	3	93,004	93,004	83
Medicine Hat	2012	969	0	236	8:44	1	4	61,180	64,497	84
	2013	924	0	261	8:09	1	4	61,180	64,497	84
	2014	1,080	0	282	7:30	1	4	61,180	64,497	84
Okotoks	2012	304	345	177	8:30	1	4	24,962	28,654	45
	2013	334	358	271	7:48	1	4	26,319	30,387	45
	2014	355	431	225	7:12	1	4	27,331	32,557	45
Red Deer	2012	1,053	4,072	414	5:25	1	4	91,877	94,862	110
	2013	1,082	4,059	466	5:51	1	4	97,109	97,049	110
	2014	1,222	4,095	435	5:34	1	4	98,585	98,858	120
Wetaskiwin	2012	183	11	47	13:37	1	4	12,525	15,611	28
	2013	212	19	71	16:26	1	4	12,598	15,598	24
	2014	265	33	78	12:28	1	4	12,621	15,621	24

Part 2

Municipality	Year	Inspectable Properties (#)	Inspections (#)	FTE Inspectors (#)	Duty Crew Inspectors (#)	Fire Stations (#)	Fire Prevention Events (#)	Geographic Area (KM ²)	Developed Area (KM ²)	Dwelling Units (#)
Airdrie	2012	400	400	1	60	3	197	86.00	56.00	17,174
	2013	442	442	1	60	3	166	86.00	56.00	18,230
	2014	682	682	2	64	3	395	86.00	56.00	20,003
Banff	2012	700	244	0	0	1	20	4.80	4.80	3,129
	2013	700	248	0	0	1	20	4.80	4.80	3,129
	2014	740	420	1	0	1	20	4.80	4.80	3,129
Canmore	2013	44	44	0	6	1	73	69.80	12.41	8,303
	2014	44	44	0	6	1	73	69.80	12.41	8,303
Cochrane	2012	468	264	2	0	1	195	31.00	30.95	8,739
	2013	493	146	2	0	1	112	31.00	30.95	8,739
	2014	519	200	2	0	1	305	31.00	30.95	8,739
Lethbridge	2012	1,321	810	7	0	4	550	122.80	62.00	37,738
	2013	1,779	1,075	7	0	4	542	122.80	63.00	38,279
	2014	1,862	1,392	7	0	4	427	122.80	63.00	38,803
Medicine Hat	2012	1,723	1,648	4	72	3	84	120.00	61.30	28,321
	2013	1,416	1,340	4	72	3	85	120.00	61.30	30,028
	2014	2,200	2,015	4	72	3	72	120.00	61.30	30,275
Okotoks	2012	590	590	0	14	2	102	19.20	19.24	9,059
	2013	631	631	0	14	2	102	19.20	19.24	9,288
	2014	603	603	0	14	2	84	19.20	19.24	9,873
Red Deer	2012	3,074	3,074	8	0	5	3,468	107.12	75.23	39,227
	2013	3,108	3,108	8	0	5	3,568	107.12	75.23	40,893
	2014	3,140	3,140	8	0	5	2,985	107.12	75.23	41,308
Wetaskiwin	2012	1	0	0	0	2	0	18.20	18.20	6,047
	2013	12	12	0	0	2	6	18.20	18.20	6,047
	2014	21	21	0	0	2	11	18.20	18.20	6,047

Part 3 – Services Provided

Municipality	Year	Motor Vehicle Accidents	Search & Rescue	Heavy USAR	Medical Basic	Medical Advanced	Hazmat	Swift Water Rescue	Underwater Rescue & Recovery	High Angle Rescue	Low Angle Rescue	Confined Space	Ice Rescue	Trench Rescue	Services (#)
Airdrie	2012	Y	Y	Y	Y						Y	Y	Y	Y	8
	2013	Y	Y		Y						Y	Y	Y	Y	7
	2014	Y	Y		Y				Y		Y	Y	Y	Y	8
Banff	2012	Y	Y		Y						Y				4
	2013	Y	Y		Y						Y				4
	2014	Y	Y		Y						Y				4
Canmore	2013	Y	Y		Y	Y	Y	Y		Y	Y	Y	Y	Y	11
	2014	Y	Y		Y	Y	Y	Y		Y	Y	Y	Y	Y	11
Cochrane	2012	Y	Y		Y			Y			Y		Y	Y	7
	2013	Y	Y		Y			Y			Y		Y	Y	7
	2014	Y	Y		Y			Y			Y		Y	Y	7
Lethbridge	2012	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	11
	2013	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	11
	2014	Y	Y			Y	Y	Y	Y	Y	Y	Y	Y	Y	11
Medicine Hat	2012	Y		Y			Y	Y	Y	Y	Y	Y	Y	Y	10
	2013	Y		Y			Y	Y	Y	Y	Y	Y	Y	Y	10
	2014	Y		Y			Y	Y	Y	Y	Y	Y	Y	Y	10
Okotoks	2012	Y	Y		Y	Y		Y			Y		Y		7
	2013	Y	Y		Y	Y		Y			Y		Y		7
	2014	Y	Y		Y	Y		Y			Y		Y		7
Red Deer	2012	Y				Y	Y	Y		Y	Y	Y	Y	Y	9
	2013	Y				Y	Y	Y		Y	Y	Y	Y	Y	9
	2014	Y				Y	Y	Y		Y	Y	Y	Y	Y	9
Wetaskiwin	2012	Y			Y					Y	Y	Y	Y		6
	2013	Y			Y					Y	Y	Y	Y		6
	2014	Y			Y					Y	Y	Y	Y		6

2.14 Lessons Learned, General

New Performance Measures to Consider

1. Response Times

This report shows response times for residential fire emergencies. In the future, add other response times for other emergencies, e.g. commercial fire emergencies, false alarms, medical first response i.e. less than 4 responders, and other.

2. Training Cost

Compare off-shift training cost with on-shift training cost.

3. Inspections

Add fire inspections for commercial properties.

The performance measure could be; number of first inspections /total # of inspectable properties.

This measure was attempted for this report; however, the definitions for first inspections and what is an “inspectable property” need further refinement.

3 Database Manual - Fire

3.1 Municipal Fire Systems

The Fire Service is defined as the prevention and/or mitigation of a life and/or property emergency incident. Fire Services provides efficient, effective emergency response and, fire prevention and education services to those who live, work, and visit in a municipality. The scope of the Fire Service includes activities related to suppression of fire, medical response incidents, rescue and prevention of fire and other hazards. The goal is to;

- Protect life, property and the environment
- Enhance community safety and raise awareness about hazards
- Acquire and use of the most effective technology, equipment and other resources to ensure delivery of a competent and professional fire service.

3.2 Narrative Data Definitions

The Narrative includes general information that describes characteristics unique to each municipality.

3.2.1 Municipality Geographic Features

- Obstacles; e.g. highways, railways, rivers
- Topography; e.g. hills/mountains

3.2.2 Service Area Characteristics

- Urban (dense)
- Rural (dispersed)
- Isolated (mutual aid)
- Wild land interface
- Residential vs. Commercial/Industrial

3.2.3 Labour Training Level

- FTE - NFPA1001 (Part 1&2)/100
- Casuals - NFPA 1001 (Part 1)

3.2.4 Staff Composition (Composite = Full-time + Paid-on-call)

- Full-time career, #
- Paid-on-call, #
- Full-time career, # on shift /24 hours, average

3.3 Data Definitions - Costs

All costs for Benchmarking are OPERATING COSTS ONLY.
Capital costs are not to be included.

3.3.1 Total Fire Direct Costs (\$/year)

Direct costs are all operating costs to provide the activities of the fire service department.

NOTE: Direct costs are those for the activities without which there would be no service provided.

Includes

1. Fire Incidents, e.g. response to fire detection alarms, including false alarms, providing fire suppression when found, hazardous materials, explosions
2. Medical Response, e.g. fire vehicle personnel providing first medical treatment at incidents
3. Rescue, e.g. auto extractions, incidents including hiking, mountain climbing, involving water in rivers and lakes
4. Fire Prevention, e.g. investigations, education, fire code administration, inspections for fire safety, re-inspections for fire safety compliance
5. Cost of that portion of the Chief's and officers' time dedicated to fire service Activities 1, 2, 3, and 4, where applicable

Examples of direct operating costs

1. Labour, e.g. wages and benefits
2. Professional registrations, e.g. AB College of Paramedics
3. Personal protective equipment
4. Off-Shift training for certified staff
5. Operation of a dispatch call centre or contracting dispatch for emergency response
6. Consumables, e.g. materials and small equipment (not capitalized for amortization)
7. Fuel cost for fire vehicles
8. Repairs and maintenance cost for fire vehicles, e.g. contractor cost, if not handled the Fleet Department's budget,
9. Repair, maintenance and utilities cost for fire services buildings, e.g. contractor cost, if not within the Facilities Department's budget
10. Insurance, e.g. for property, 3rd party liability, fire vehicle insurance, if not within the Fleet Department's budget.
11. Mutual aid contract costs (see main Definition 4 below)

Excludes costs for

1. Repair and maintenance of hydrants
2. Water consumed for fire suppression
3. Emergency Medical Services (EMS), e.g. ambulance
4. Disaster response planning and coordination

3.3.2 Labour Direct Costs (\$/year), already included above in Total Direct Cost
Labour costs are all costs for the internal labour wages and benefits used for the fire service.

3.3.3 Off-Shift Training Costs for Certified Staff (\$/year), already included above in total Direct Cost

Includes

1. Off-site training program fees
2. Conference fees
3. Staff wages and benefits delivering Off-Shift Training
4. Wages and benefits for staff involved with training/conference programs
5. Travel expenses involved with Off-Shift Training/conference programs

Excludes

1. Cost to “back-fill” the positions of those involved in Off-Shift Training
1. On-shift training

3.3.4 Mutual Aid Costs (\$/year), already included above in Total Direct Cost)

Cost of services for mutual aid from fire services outside the municipality.

Includes

1. Standing contracts
2. Fee for service

3.3.5 Dispatch Costs (\$/year), already included above in Total Direct Cost

Cost of dispatch services, contracted or internal. For internal dispatch services (LBG, MHT, RDR), estimate what portion of the total dispatch department cost applies to dispatch for Fire.

3.3.6 Indirect Costs (\$/year)

Indirect are all costs for the activities to support the activities of the Fire Services department.

NOTE: Indirect costs are for those activities that support direct delivery of the service without which the service would be disrupted in a short time.

Includes costs to

1. Manage the operations for fire services, e.g. salaries/office costs for managers (may be a portion of the person’s cost, e.g. a protective services manager who is also responsible for other services such as policing)
2. Training; soft-skills (if not covered by HR budget)
3. Conferences
4. Planning

- 5. External engineering not provided by an internal engineering department.
- 6. Insurance

3.3.7 Amortization Costs – Fire Services Assets (\$/year)

Amortization costs for fire service capital assets, owned by the municipality.

Includes

- 1. Vehicles
- 2. Equipment
- 3. Buildings

3.3.8 Overhead Costs (\$/year)

Overhead costs are all operating costs of activities necessary for the continued functioning of the municipality but not directly within with the services being offered.

Includes

Costs for overhead services, e.g. human resources, IT, security, engineering, planning, financial services, Council, Administration, tax funded debt interest.

NOTE: Total Overhead Costs will be allocated to each Service Area using a calculation in the database. The calculation includes these factors; for Fleet – number and value of

vehicles, for Facilities – area, sq. ft., and for All Other Overhead – Service Area Total Cost and number of FTEs.

3.3.9 Out of Scope Costs (\$/year)

Out of Scope Costs are all operating costs for activities not captured in the Direct Costs for Fire Services.

Includes

- 1. Repair and maintenance of hydrants
- 2. Water consumed for fire suppression
- 3. Emergency medical services (EMS), e.g. ambulance
- 4. Planning and coordinating for disaster response

The total of these costs will be used by Finance to ensure all operating costs for the Fire Control Service Area are accounted for as recorded in the municipality’s annual Non-Consolidated Financial Statements.

3.4 Data Definitions – Service

The Service Data describes characteristics of the service common to each municipality.

3.4.1 Municipal Fire Service

The aim of Fire Services is the prevention/mitigation of a life/property emergency incident.

Includes

1. Fire Incidents, e.g. response to fire detection alarms, including false alarms, providing fire suppression when found, hazardous materials, explosions
2. Medical Response, e.g. fire vehicle personnel providing first medical treatment at incidents
3. Rescue, e.g. auto extractions, incidents including hiking, mountain climbing, involving water in rivers and lakes
4. Fire Prevention, e.g. investigations, public education, fire code administration, inspections for fire safety, re-inspections for fire safety compliance

Excludes

1. Repair and maintenance of hydrants
2. Water consumed for fire suppression
3. EMS (Emergency Medical Services), e.g. ambulance
4. Planning and coordinating for disaster response

3.4.2 Emergency Incident Responses (#/year)

Emergency incident responses are defined as the number of individual emergency incidents, annually, in the municipality.

Includes for Fire;

1. Fire Incidents
2. Medical Response
3. Rescues

Excludes

1. EMS responses

3.4.3 Residential Fire Losses (#/year)

A residential fire loss is any fire incident that results in a property loss cost to the resident.

Includes

The number of residential structural fires with property damage losses.

Excludes

The dollar amount of residential structural fires.

3.4.4 Fire Stations (#)

The number of fire stations in a municipality.

3.4.5 Station Notification Response Time, (min:sec)

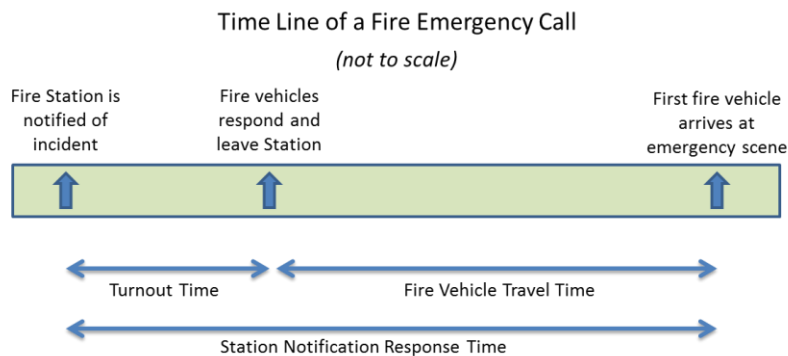
Response Time is the amount of time, in minutes and seconds, to actual goth percentile; from the time the station is notified to arrival at a scene of the emergency.

Includes

1. A four member EFR (Effective Response Force)
2. A fire truck apparatus arriving at the incident with lights and sirens capable of fire suppression.

Excludes:

1. Cold Responses
2. 911 time (where applicable)
3. Dispatch time (no control over it)



3.4.6 Municipal Population (#)

Municipal population is the number of permanent residents in the municipality as measured by the most recent census.

3.4.7 Population Served (#)

Population served is the number of people having access to the municipality fire service.

Includes

1. Municipal population
2. Non-resident population (second home owners, temporary workers)
3. Average visitor population (Banff, Canmore)
4. Population beyond the municipal boundaries served under contract by the municipal fire service.

NOTE: The Banff fire service receives a significant # of calls outside the municipal boundaries, e.g. Trans-Canada Highway

3.4.8 Developed Area (KM²)

Developed area is the area developed for use by residential, commercial and industrial purposes.

3.4.9 Geographic Area (KM²)

The geographical area is within the municipal boundaries and includes the developed area.

3.4.10 Dwelling Units (#)

A dwelling unit is a single family residential household serviced by the municipality. For Benchmarking, the number of dwelling units is as reported in the most recent census report.

Includes

1. Detached homes
2. Duplexes
3. Triplexes
4. Other multiplexes

3.4.11 Fire Prevention – Inspections (#)

Number of comprehensive first commercial inspections and re-inspections completed by Level 1 or 2 inspectors (FTEs and/or Duty Crew) completed per year, excludes re-inspections.

3.4.12 Fire Prevention – Inspectable Properties (#)

This is the number of properties that require fire safety inspections and re-inspections by Level 1 or 2 inspectors (FTEs and Duty Crew).

3.4.13 **Fire Prevention – Public Education Events (#)** This is the number of events held per year, e.g. hall tours, seminars, home inspections, extinguisher training and drills, school visits, group hall tours, open houses/ pancake breakfasts.

3.4.14 Services provided (specialized services)

1. Motor Vehicle Incidents (heavy extrication => large trucks, farm equip)
2. Search & Rescue
3. Heavy USAR
4. Medical Response (Basic Life Support)
5. Medical Response (Advanced Life Support)
6. HazMat Technician Services
7. Swift water Rescue
8. Underwater Rescue and Recovery
9. High Angle Rescue
10. High Low Angle Rescue
11. Confined Space
12. Ice Rescue
13. Trench Rescue

3.5 Performance Measure (PM) Calculations

All calculations are made in the database system based on finalized data input from municipalities.

Efficiency

1. Fire Services Total Cost 1 (\$/capita)

$$\frac{\text{Total Fire Direct Costs} + \text{Fire Indirect Costs} + \text{Prorated Overhead Costs} + \text{Amortization of Fire Assets}}{\text{Municipal Population}}$$

2. Fire Services Total Cost 2 (\$/population served)

$$\frac{\text{Total Fire Direct Costs} + \text{Fire Indirect Costs} + \text{Prorated Overhead Costs} + \text{Amortization of Fire Assets}}{\text{Population Served}}$$

3. Fire Services Total Cost 3 (\$/KM²)

$$\frac{\text{Total Fire Direct Costs} + \text{Fire Indirect Costs} + \text{Prorated Overhead Costs} + \text{Amortization of Fire Assets}}{\text{Geographic Area}}$$

4. Labour Costs vs. Total Fire Direct Costs (%)

$$\frac{\text{Labour Direct Costs}}{\text{Total Fire Service Direct Cost}} \times 100$$

5. Amortization Costs (\$/capita)

$$\frac{\textit{Amortization Cost of Fire Service Assets}}{\textit{Municipal Population}}$$

Effectiveness

6. Fire Station Coverage (area KM²/fire station)

$$\frac{\textit{Geographic Area}}{\textit{Number of Fire Stations}}$$

7. Emergency Incident Responses (#/1000 population served)

$$\frac{\textit{Number of Emergency Incident Responses (Fire, Medical and Rescues)}}{\textit{Population Served} \div 1,000}$$

8. Chute (Turnout) and Travel Response Time (min:sec)

$$\textit{Response Time (Station Notification to Arrival) to 90th Percentile for residential fire emergencies}$$

9. Fire Prevention – Public Education Events (#/1,000 municipal population)

$$\frac{\textit{Number of Events per year}}{\textit{Municipal Population} \div 1000}$$