

OFFICE OF THE
PARLIAMENTARY BUDGET OFFICER



BUREAU DU
DIRECTEUR PARLEMENTAIRE DU BUDGET

Infrastructure Stimulus Fund – Performance Update to March 31, 2010

August 9, 2010

www.parl.gc.ca/pbo-dpb

The *Parliament of Canada Act* mandates the Parliamentary Budget Officer (PBO) to provide independent analysis to Parliament on the state of the nation's finances, trends in the national economy and spending estimates of the government.

Key Points of this Note:

- The PBO has provided a performance update in accordance with the third round of Claim and Progress Reports (CPR) received under the Infrastructure Stimulus Fund (ISF). The third round included 3,486 claims for 2,902 different projects, representing 74% of all ISF projects.
- As of March 31, 2010, total cumulative claimed costs rose to \$517 million (compared to \$106 million as of December 31, 2009), project completion was 24.5% (compared to 17.3% as of December 31, 2009), and the value of work completed was \$1.1 billion (compared to \$674 million as of December 31, 2009).
- The PBO has found that essentially all of the \$4 billion in program spending authorities has been allocated.
- PBO analysis has identified a noticeable delay in project start and end dates against the original projections. This trend highlights potential risks to ISF program outcomes, including projects not being completed at the March 31, 2011 deadline and a potential lapse of program spending authorities.
- The PBO developed a high-level forecasting model to predict potential outcomes of the ISF program. In the best case scenario, all projects are expected to be complete by the program deadline. A mid case (baseline) scenario results in 936 projects not being complete by deadline, with a potential federal lapse of \$293 million. In the worst case scenario, 1814 projects will not be completed and the potential federal lapse amounts to \$500 million.
- The claims datasets the PBO has received from Infrastructure Canada include data inconsistencies that affect the relevance and accuracy of PBO performance analysis. Coupled with the fact that a significant number of projects have not yet submitted progress reports, it is impossible to draw authoritative conclusions about the program performance at this time. Parliamentary monitoring of program performance would be better served by a more consistent reporting regime, with appropriate incentives to ensure timely and accurate progress reporting.
- In the fall 2010, upon the release of the fourth round of CPR by Infrastructure Canada, the PBO will provide a subsequent performance update that includes an update to the forecasted lapse analysis.

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I. Background

The Infrastructure Stimulus Fund (ISF) was introduced as an economic stimulus measure in Budget 2009. It earmarked \$4 billion over two years to provide federal funding to provincial, territorial and municipal construction-ready infrastructure projects. Table 1 details the total funding allocation of the program.

Table 1

Spending Item	Federal Contribution
Provincial and Municipal Projects	\$ 3,663 million
Eligible Federal Projects	\$ 173 million
Eligible Administration Costs	\$ 146 million
Transfers to other Federal Government Agencies	\$ 17 million
Total	\$ 3,999 million

Source: Infrastructure Canada.

Note: Figures are budgeted spending, not actual expenditure.

On June 30, 2010, the PBO received the third round of Claim and Progress Reports (CPR). This dataset includes project updates to March 31, 2010 and signifies the mid-point of the two-year Infrastructure Stimulus Fund program. The PBO has updated its performance assessment based on this third round of CPRs to assist parliamentarians in understanding potential program outcomes and risks:

- Timing of project activity;
- Government's ability to deliver appropriated funding within program timelines; and
- Program's ability to meet its planned objectives to support economic growth and jobs.

II. Performance Update

The third round CPR dataset includes reports for 2,902 different projects for Q1 of 2010, or approximately 74% of the 3,913 ISF projects. This represents a slight increase in reporting from the previous quarter. Table 2 illustrates some performance indicators that the PBO has identified to assess progress of the ISF program.

Table 2

Performance Indicators	Percent of Projects Reporting	Cumulative Claimed Total Costs	Percent Complete	Value of Work Complete
CPR Round 3 (as of March 31, 2010)	74%	\$ 517 million	24.5 %	\$ 1,087 million
CPR Round 2 (as of December 31, 2009)	64%	\$ 106 million	17.3 %	\$ 675 million
CPR Round 1 (as of September 30, 2009)	42%	\$ 24 million	8.0 %	\$ 242 million

Source: Infrastructure Canada, Parliamentary Budget Officer.

Notes:

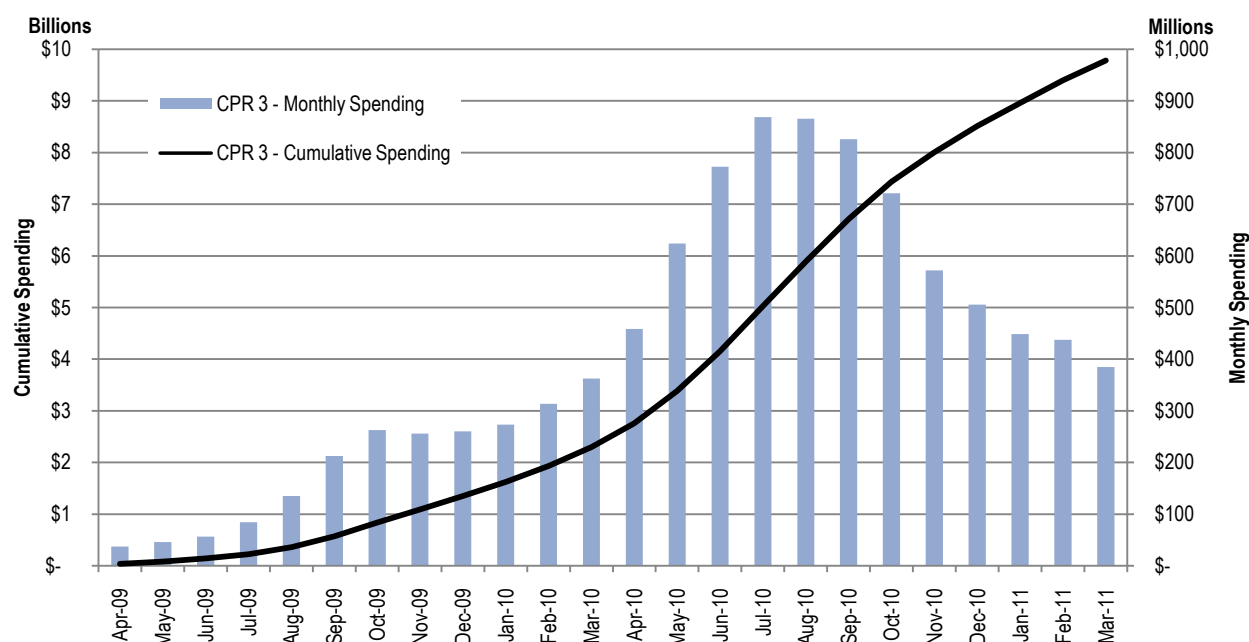
- Percent of Projects Reporting is the proportion of different projects reporting within a CPR Round compared to the final application dataset (as of January 29, 2010) – 3,913 projects. Percentages may be skewed for Round 1 and 2 as projects were being added to the (non-finalized) application dataset during those periods.
- Cumulative Claimed Total Costs are a sum of all contributions (Federal, Provincial, Municipal, and Other). Federal contributions (non-cumulative) for Round 3 were \$165 million, \$38 million for Round 2, and \$12 million for Round 1. Claim amounts have been approved by the Government.
- Percent Complete is an average completion rate of reported projects only. Percent Complete is self-reported by project proponents and is therefore limited in its usefulness.
- Value of Work Complete is a product of each project's Percent Complete multiplied by Total Project Value.

Annex A provides a view of ISF progress through the numbers of claims, value of those claims, percent of projects complete, value of work complete and federal contribution for each CPR round. Annex B illustrates the PBO-modelled ISF planned spending profile. These tables have also been created for each province and territory, and are available at www2.parl.gc.ca/sites/pbo-dpb/BudgetInformation.aspx.

PBO Planned Spending Model

The PBO has developed a model to depict the planned spending activity of ISF projects as a proxy for the timing of economic activity attributable to the program. The model distributes a project's total value, as reported within the project application, between the start and end dates reported for that project. Figure 1 depicts the PBO model for Round 3 of Claim and Progress Reports, including monthly spending values and cumulative spending for the duration of the ISF program.

Figure 1. ISF – CPR Round 3 (as of March 31, 2010) Monthly and Cumulative Spending



Source: Infrastructure Canada, Parliamentary Budget Officer.

Notes:

- Figures are planned spending, not actual expenditure.
- Model assumes a linear distribution of project value between the most current reported start and end dates. In reality, spending on an infrastructure project is not linear and varies for seasonality, project nature/phases and various other factors. A linear model is appropriate for a high-level analysis of aggregated ISF data.
- Some manual adjustments were made, due to data errors, to account for projects that reported end dates in advance of start dates.

III. PBO Findings

Data Limitations for Performance Reporting

All PBO analysis is sourced from the datasets received from Infrastructure Canada, and the PBO continues to find inconsistencies in the datasets. The Percent Complete figure, for example, is based on the judgement of the reporting proponent and has no clear definition, standard or process to calculate its value.

These data inconsistencies impact negatively on the results and accuracy of PBO analysis and does not allow for an authoritative assessment of program performance.

Risks to Program Outcomes

The PBO has used the model to monitor planned spending profiles of the ISF for all three CPR rounds, as well as the application dataset. Comparing these planned spending profiles, the PBO has identified some potential risks to the outcomes of the ISF program:

- The trend from recent progress updates shows delays in both project start and end dates, which has decreased the planned spending in FY 2009-10 and increased it for FY 2010-11. Specifically, the summer months of 2010 see a significant increase in planned project spending when compared to initial projections in the applications database.
- The delay of infrastructure activity and spending may have an impact on construction, engineering, architecture and trade industries. The PBO is continuing research in these areas and attempting to identify the nature and severity of potential impacts.
- The trends in the PBO planned spending profiles (Annex C and D) and the progress benchmarks (Table 1) suggest that not all ISF projects will be complete by the March 31, 2011 deadline and that a lapse of federal funds is likely. In order to better understand this trend, the PBO has created a model to forecast potential program outcomes.

IV. PBO Forecast

In a best attempt under the data limitations described above, the PBO developed a high-level forecast to estimate potential outcomes of the ISF program. The relevance and accuracy of reported percent complete and claimed costs are not sufficient as a basis for forecasting. Thus, the PBO forecast model uses project start and end dates, with the main assumption that a project's federal contribution is distributed evenly or in a linear fashion across the project duration.¹ The PBO has developed three different scenarios under this forecast model, each with different assumptions or definitions for the project start and end dates. See Annex E for a description of the forecast model and the three scenarios.

Table 3

Forecast Model Scenario	Projects Not Completed by Program Deadline – March 31, 2011		Potential Lapse of Federal Contribution	
	Count	as % of Total	Count	as % of Total
Best Case	0	0.00%	\$0	0.00%
Mid Case	936	23.92%	\$293.0 million	8.00%
Worst Case	1814	46.36%	\$500.5 million	13.66%

Source: Infrastructure Canada, Parliamentary Budget Officer.

Notes:

- Figures "as % of Total" are based on the ISF Program application database (as of January 29, 2010), which includes 3,913 projects with a total of \$3,663 million in federal contributions.
- The "Potential Lapse of Federal Contributions" is based on the conditions of the ISF program where the federal contribution share of any project costs incurred after the March 31, 2011 deadline are not eligible to be claimed.
- Refer to Annex E for a description of the forecast model and the three scenarios.

¹ The PBO believes that the forecast model assumption – a project's federal contribution is distributed evenly across the project duration – is reasonable for high-level analysis of the ISF program. In reality, the activity of infrastructure projects follow a "S-Curve" of project management, where the value of activity at any one point in the project duration varies from another point. For an individual project, the coefficients of the "S-Curve" may depend on the type of infrastructure project (e.g. road construction vs. airport construction), the nature of work (e.g. new construction vs. renewal), region, construction season, size/value of the project, etc. Since the ISF program includes a wide breadth and depth of projects, accurately applying the "S-Curve" effect to project activity would be overly complex and PBO felt that there was a lack of tombstone data to perform this analysis.

With the output of the forecast model, the PBO developed Figure 2 and 3 (below) to illustrate the different scenarios and how they compare against the original (planned) profile from the application database.

Figure 2. ISF – Forecasted Monthly Federal Contributions

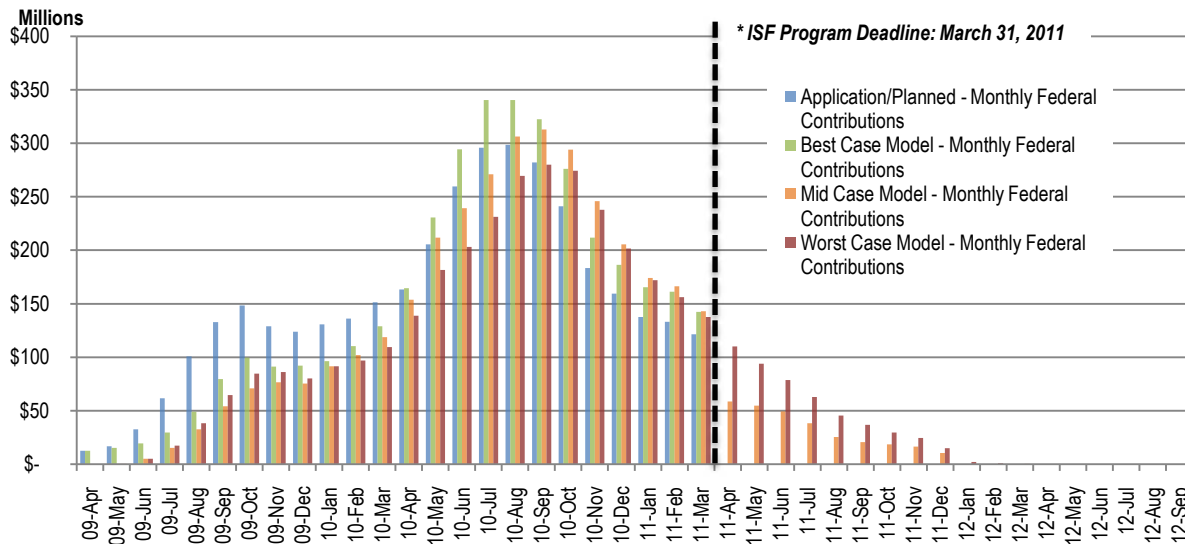
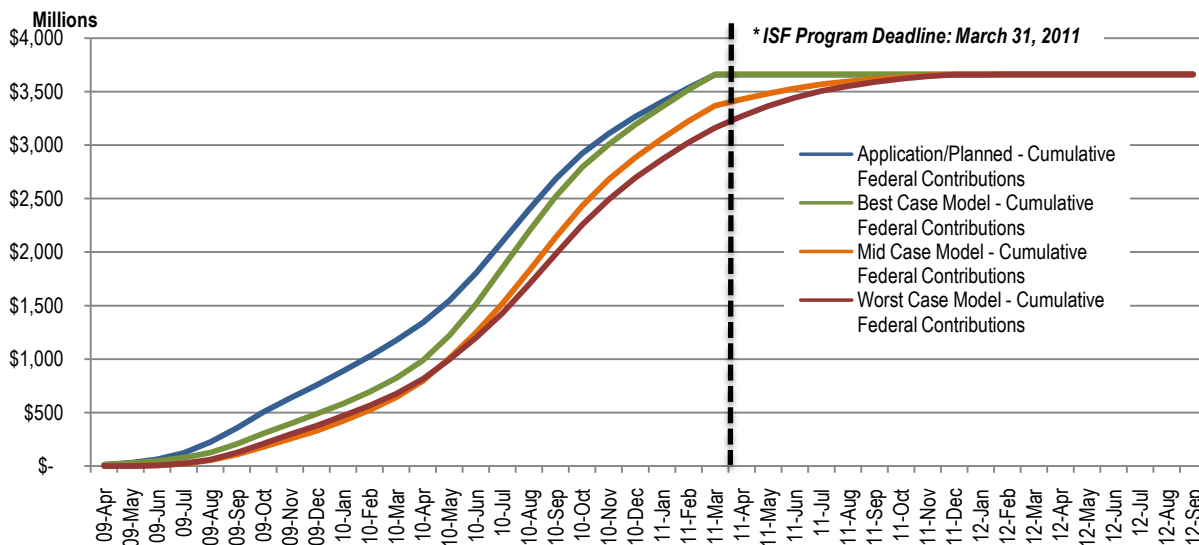


Figure 3. ISF – Forecasted Cumulative Federal Contributions



Source: Infrastructure Canada, Parliamentary Budget Officer.

Bearing in mind the data limitations, it is evident from the forecast model that there is some risk of a material lapse under the ISF Program. Parliament may wish to seek further information from the Government in regards to risk mitigation strategies of ISF projects being incomplete by the March 31, 2011 deadline and the impact on program spending, output and employment.

V. Next Steps

The PBO will continue its performance updates, including updates to the forecasted lapse analysis, as Infrastructure Canada delivers the quarterly CPR rounds. The PBO is also in the process of surveying key provincial and municipal officials involved in administering ISF projects. Once data are available, likely in late summer or early fall, they will be subjected to analysis that should help understand how well the ISF has worked and the general nature of its impacts.

Annex A: ISF Applications, Claims and Progress (All Provinces and Territories)

Project Type / Type de projet	APPLICATIONS / DEMANDES			CLAIMS: R1 2009-09-30/ RÉCLAMATIONS : 30/09/2009				
	Project Value / Valeur des projets (\$)	Applications / Demandes	Federal Contribution / Apport fédéral (\$)	R1 Claims / Réclamations S1 (\$)	R1 Complete / Projets terminés S1 (%)	R1 Value Complete / Valeur des travaux terminés S1 (\$)	R1 Amount Claimed /Valeur des réclamations S1 (\$)	R1 Federal Contribution / Apport fédéral S1 (\$)
Airport / Aéroport	111,772,228	17	37,790,743	12	1.42	1,079,128	227,022	75,674
Brownfield Redevelopment / Réaménagement des terrains contaminés	4,050,000	3	1,350,000	2	45.00	405,000	0	0
Community Centres and Community Services / Centres et services communautaires	291,682,182	73	98,432,539	5	1.60	800,000	0	0
Cultural / Culture	593,596,731	114	213,862,586	32	2.78	2,251,971	0	0
Disaster Mitigation / Atténuation des catastrophes	57,383,500	9	23,102,458	5	5.00	2,987,730	85,719	42,859
Highway and Regional Transit / Autoroutes et transport régional	2,267,559,342	590	1,090,897,750	204	10.26	89,507,324	22,181,709	11,090,855
Local Road / Routes locales	1,528,385,870	1,074	513,486,877	698	9.82	70,388,342	1,119,963	559,981
Municipal Buildings / Édifices municipaux	940,373,880	322	310,510,089	225	7.49	25,262,181	0	0
Parks and Trails / Parcs et sentiers	288,237,923	306	103,212,915	143	5.38	8,922,765	0	0
Port and Cruiseship / Ports et navires de croisière	280,436,603	41	131,534,960	1	4.00	2,448,000	0	0
Public Transit / Transport en commun	572,935,000	53	190,977,195	29	2.83	8,437,050	0	0
Solid Waste Management / Gestion des déchets solides	46,138,317	27	15,397,270	14	9.64	226,073	0	0
Water and Wastewater / Eau potable et eaux usées	2,752,115,656	1,273	911,709,696	269	4.83	29,577,149	0	0
Affordable housing / Logement à prix abordable	60,653,812	11	20,426,447	-		0	0	0
Total	9,795,321,043	3,913	3,662,691,525	1,639	8.02	242,292,714	23,614,413	11,769,369

Project Type / Type de projet	CLAIMS: R2 2009-12-31 / RÉCLAMATIONS : 31/12/2009					CLAIMS: R3 2010-03-31 / RÉCLAMATIONS : 31/03/2010				
	R2 Claims / Réclamations S2	R2 Complete / Projets terminés S2 (%)	R2 Value Complete / Valeur des travaux terminés S2 (\$)	R2 Amount Claimed / Valeur des réclamations S2 (\$)	R2 Federal Contribution / Apport fédéral S2 (\$)	R3 Claims / Réclamations S3	R3 Complete / Projets terminé S3 (%)	R3 Value Complete / Valeur des travaux terminés S3 (\$)	R3 Amount Claimed / Valeur des réclamations S3 (\$)	R3 Federal Contribution / Apport fédéral S3 (\$)
Airport / Aéroport	12	6.08	4,276,234	1,993,740	664,580	17	12.71	4,997,634	866,872	302,832
Brownfield Redevelopment / Réaménagement des terrains contaminés	2	60.00	855,000	0	0	3	40.00	855,210	0	0
Community Centres and Community Services / Centres et services communautaires	7	2.67	1,872,000	1,006,495	335,498	16	8.09	4,473,886	2,176,001	674,570
Cultural / Culture	59	4.87	12,711,701	5,187	2,594	96	10.83	29,837,413	2,790,390	791,558
Disaster Mitigation / Atténuation des catastrophes	6	27.50	5,707,800	331,596	165,798	9	31.78	7,478,150	5,613,512	2,309,015
Highway and Regional Transit / Autoroutes et transport régional	248	20.92	185,146,054	58,520,263	29,223,125	365	23.33	297,361,370	194,478,960	95,739,413
Local Road / Routes locales	980	23.30	222,556,968	5,043,875	1,950,997	1,067	34.50	332,196,287	106,569,577	34,815,797
Municipal Buildings / Édifices municipaux	287	15.79	54,099,540	3,831,542	1,277,181	319	25.52	92,826,061	30,461,097	8,035,783
Parks and Trails / Parcs et sentiers	249	18.00	23,304,490	0	0	257	22.63	33,832,415	18,657,646	6,236,633
Port and Cruiseship / Ports et navires de croisière	2	2.50	2,748,000	0	0	40	7.99	20,139,602	4,977,277	2,488,638
Public Transit / Transport en commun	49	16.16	67,804,657	0	0	50	20.39	93,383,732	16,046,117	5,348,706
Solid Waste Management / Gestion des déchets solides	25	13.20	1,304,502	0	0	27	19.52	4,963,086	1,303,548	434,522
Water and Wastewater / Eau potable et eaux usées	592	7.88	92,112,738	11,690,813	3,894,403	635	12.73	164,693,982	27,354,092	8,067,290
Affordable housing / Logement à prix abordable	-		0	0	0	1	1.00	12,550	0	0
Total	2,518	17.27	674,499,684	82,423,512	37,514,176	2,902	24.47	1,087,051,377	411,295,090	165,244,757

Source: Infrastructure Canada, Parliamentary Budget Officer.

Note: For summary tables on individual provinces or territories, please visit www2.parl.gc.ca/sites/pbo-dpb/BudgetInformation.aspx

Annex B: ISF - CPR Round 3 Planned Spending Profile (All Provinces and Territories)

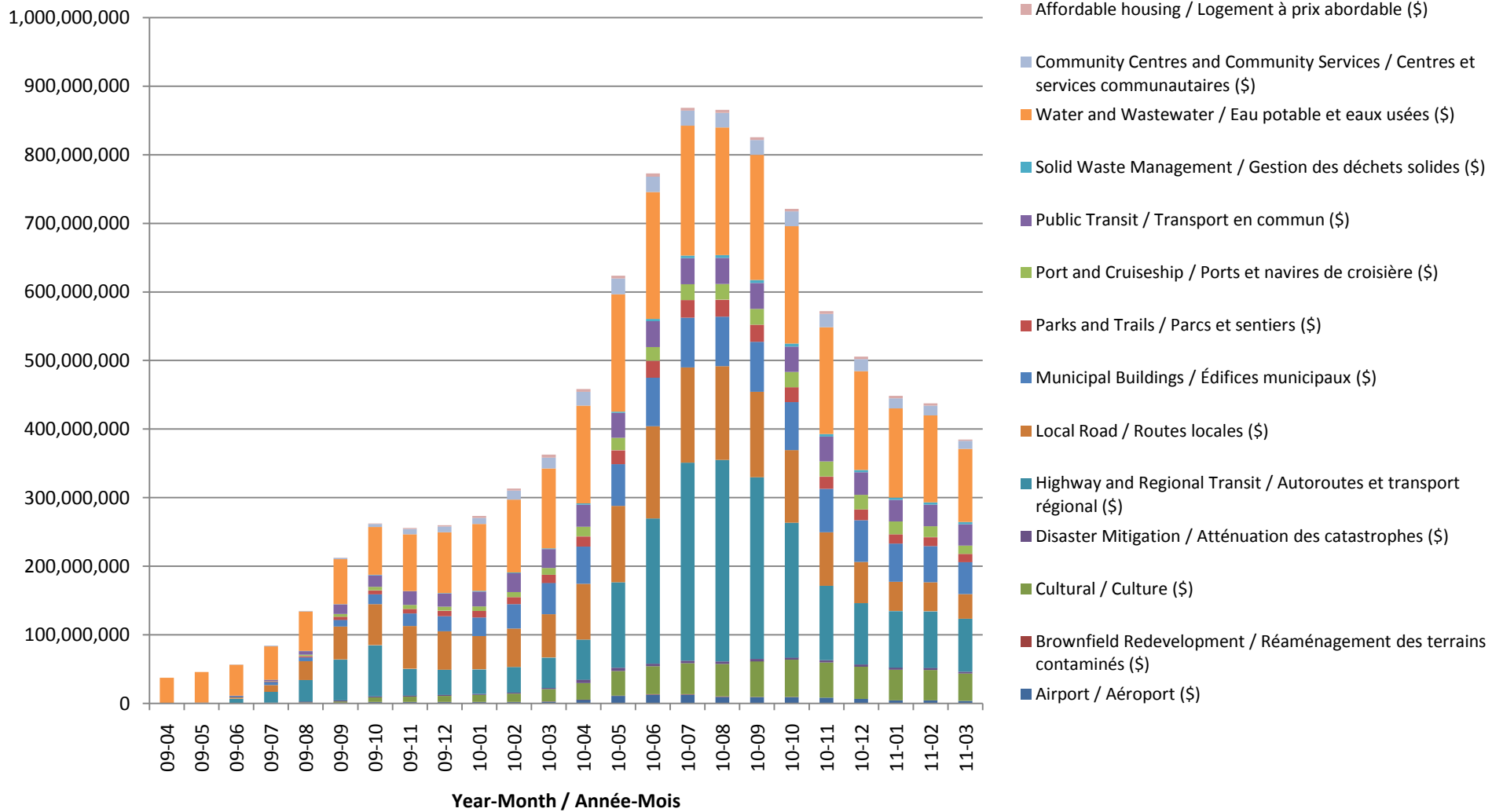
Year-Month / Année-Mois	Airport / Aéroport (\$)	Brownfield Redevelopment / Réaménagement des terrains contaminés (\$)	Cultural / Culture (\$)	Disaster Mitigation / Atténuation des catastrophes (\$)	Highway and Regional Transit / Autoroutes et transport régional (\$)	Local Road / Routes locales (\$)	Municipal Buildings / Édifices municipaux (\$)	Parks and Trails / Parcs et sentiers (\$)
09-04	0	0	0	0	183,503	0	0	1,109
09-05	0	0	0	0	430,020	35,079	486,187	53,337
09-06	0	0	0	2,273	6,928,619	1,893,914	2,241,558	146,924
09-07	0	18,852	361,706	819,499	15,687,774	9,861,126	4,672,824	990,723
09-08	0	30,758	1,348,832	1,463,726	31,369,719	27,305,829	5,531,462	2,134,464
09-09	981,218	30,758	2,022,195	1,496,008	59,487,026	48,068,758	9,866,677	4,518,426
09-10	1,954,265	137,797	6,676,709	1,500,178	74,634,239	59,907,121	14,266,415	5,690,437
09-11	1,957,316	169,016	7,851,931	1,625,303	38,854,950	62,398,215	18,315,575	6,590,186
09-12	1,957,408	169,016	8,945,408	1,625,303	36,572,898	56,049,757	21,903,536	7,850,691
10-01	1,957,408	169,016	10,185,664	1,625,303	35,739,306	48,702,132	26,961,765	9,613,728
10-02	1,957,408	169,016	12,127,585	1,625,303	37,265,223	55,892,170	35,807,033	10,294,286
10-03	2,595,318	169,016	18,089,675	1,811,675	44,375,966	62,915,281	45,894,717	11,884,075
10-04	5,491,502	169,016	24,112,453	4,955,581	58,507,692	81,038,399	54,492,393	14,765,898
10-05	11,029,364	169,016	35,964,314	4,980,035	124,614,773	111,196,465	60,968,361	20,319,388
10-06	12,984,803	586,500	40,750,846	3,737,530	211,810,700	134,436,792	70,764,344	24,587,978
10-07	12,893,235	586,500	45,230,984	3,694,685	288,769,786	138,744,375	72,738,997	25,469,288
10-08	9,603,157	586,500	47,307,138	3,694,685	293,910,651	136,547,111	72,299,609	24,789,242
10-09	9,123,362	452,851	51,803,557	3,569,700	264,802,722	124,470,385	73,218,504	24,765,196
10-10	9,120,622	417,484	54,076,400	3,357,873	196,601,578	105,781,043	70,116,556	21,564,032
10-11	8,487,547	0	51,298,458	3,357,873	108,527,980	77,904,654	63,409,178	17,763,217
10-12	6,755,772	0	46,696,357	3,357,873	89,504,677	60,035,614	60,920,023	15,688,556
11-01	4,538,882	0	44,439,523	3,357,873	82,393,608	42,708,798	55,752,687	13,441,417
11-02	4,538,882	0	44,248,781	3,181,020	82,393,608	42,377,223	52,699,028	13,024,759
11-03	3,628,685	0	40,140,722	2,530,014	77,222,153	35,730,783	46,873,587	12,074,021
Total	111,556,153	4,031,111	593,679,239	57,369,314	2,260,589,168	1,524,001,022	940,201,016	288,021,378

Year-Month / Année-Mois	Port and Cruiseship / Ports et navires de croisière (\$)	Public Transit / Transport en commun (\$)	Solid Waste Management / Gestion des déchets solides (\$)	Water and Wastewater / Eau potable et eaux usées (\$)	Community Centres and Community Services / Centres et services communautaires (\$)	Affordable housing / Logement à prix abordable (\$)
09-04	0	0	0	37,076,409	0	0
09-05	0	0	0	44,716,133	0	0
09-06	0	0	0	45,363,207	76,232	0
09-07	214,012	1,856,227	19,841	48,855,426	762,322	0
09-08	2,074,360	5,041,855	122,791	57,692,053	821,922	0
09-09	3,806,667	14,079,989	546,465	65,578,981	1,778,495	122,942
09-10	5,083,747	17,195,767	633,324	69,441,092	4,461,588	935,678
09-11	6,053,893	19,451,045	639,874	82,719,765	7,505,140	1,697,619
09-12	6,140,240	19,098,464	613,788	88,478,278	8,644,224	1,879,319
10-01	6,553,528	21,651,149	943,404	97,409,224	9,032,916	2,840,068
10-02	7,141,564	27,390,143	1,271,581	106,417,385	12,919,004	2,943,307
10-03	9,712,987	27,390,143	1,271,581	116,357,244	16,027,023	4,234,870
10-04	13,998,663	32,281,174	1,763,294	142,533,890	20,105,869	4,234,870
10-05	18,074,621	36,115,073	1,955,486	171,231,272	22,893,698	4,332,071
10-06	19,915,090	37,881,538	3,328,380	184,948,885	22,457,718	4,581,710
10-07	23,247,522	37,881,538	3,591,148	189,402,355	22,087,672	4,177,377
10-08	22,958,807	37,881,538	4,291,482	185,918,449	21,514,027	4,040,957
10-09	22,958,807	37,863,754	4,291,482	182,741,161	21,514,027	4,040,957
10-10	22,400,524	36,952,627	4,221,541	171,401,777	21,305,878	3,954,944
10-11	22,194,883	36,115,025	3,808,630	155,852,476	19,318,079	3,892,824
10-12	21,328,965	32,878,380	3,129,350	144,076,597	17,749,398	3,658,193
11-01	18,533,031	31,638,877	3,234,083	130,024,154	14,948,261	3,650,372
11-02	15,874,691	31,638,877	3,234,083	126,737,375	14,104,001	3,650,372
11-03	11,935,012	31,257,561	3,234,083	106,621,217	11,642,714	1,824,334
Total	280,201,612	573,540,746	46,145,692	2,751,594,807	291,670,209	60,692,784

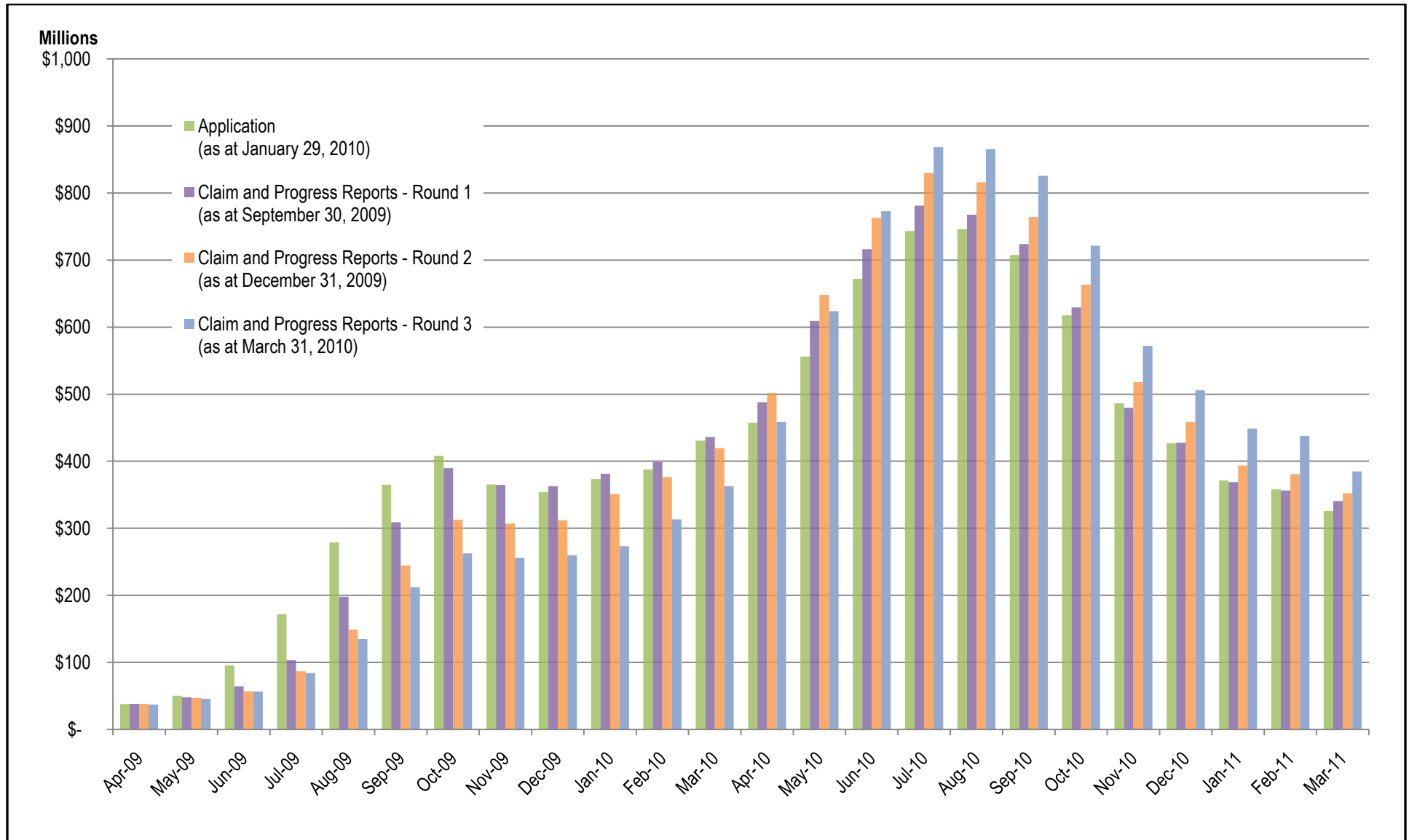
Source: Infrastructure Canada, Parliamentary Budget Officer.

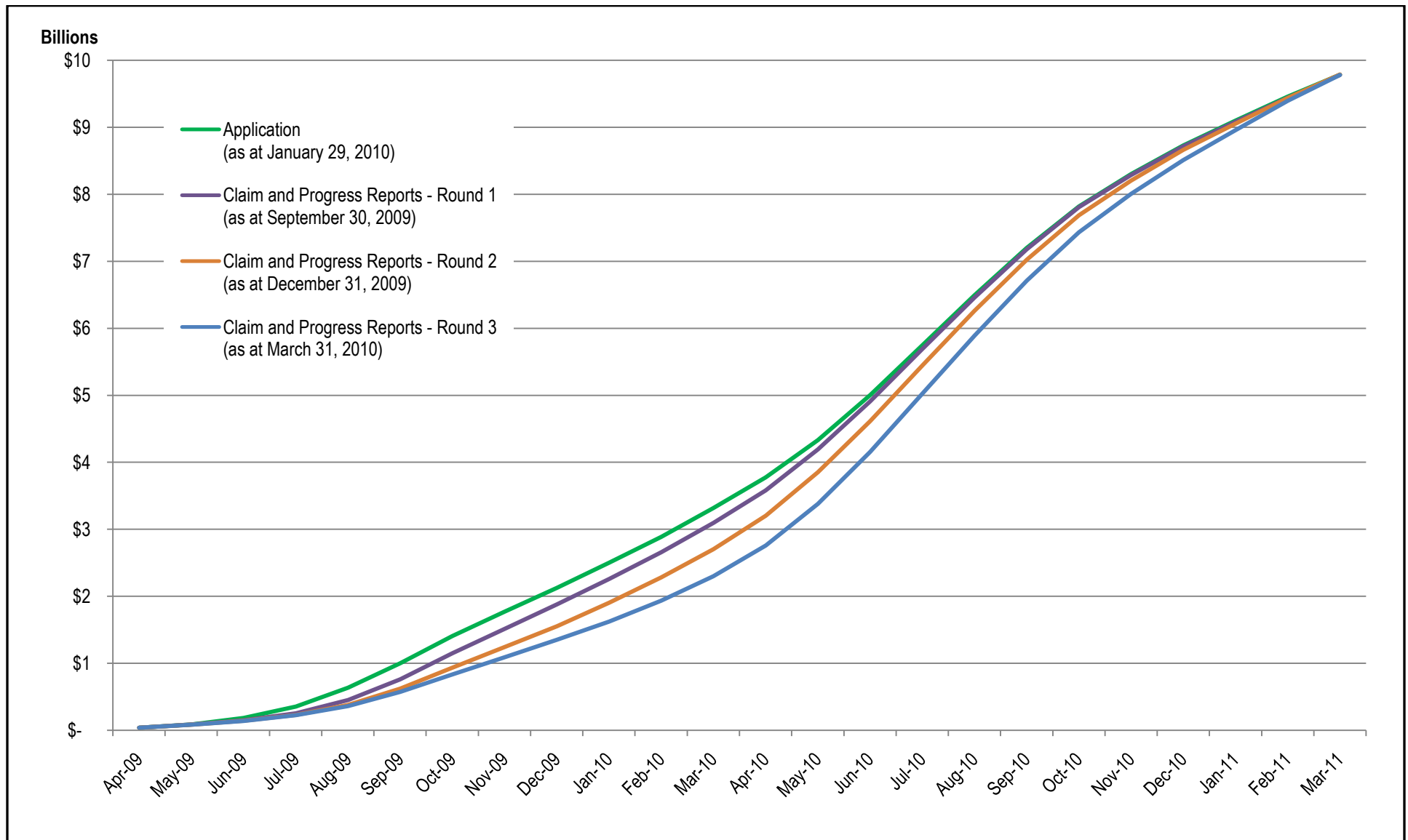
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Annex B: ISF - CPR Round 3 Planned Spending Profile (All Provinces and Territories) ... cont'd



Annex C: ISF - Planned Monthly Spending Profiles (All Provinces and Territories)



Annex D: ISF - Planned Cumulative Spending Profiles (All Provinces and Territories)

Annex E: ISF Forecast Model and Scenarios

Model: The project's federal contribution distributed over the duration of that project.

Assumption: The distribution is linear or at a constant rate per month.

Best Case Scenario:

Start Date Assumption: Retrieve a start date reported, in order of descending priority.

- (i) Actual Start Date current round,
- (ii) Forecasted Start Date current round,
- (iii) Actual Start Date past round(s),
- (iv) Forecasted Start Date past round(s),
- (v) Application Construction Start Date.

End Date Assumption: Retrieve an end date reported, in order of descending priority.

- (i) Forecasted End Date current round,
- (ii) Forecasted End Date past round(s),
- (iii) Application Construction End Date.

Mid Case Scenario:

Start Date Assumption: Retrieve a start date reported or calculate a start date, in order of descending priority.

- (i) Actual Start Date current round,
- (ii) Forecasted Start Date current round,
- (iii) Application Start Date + (Project Duration* × Average Delay[†]).

End Date Assumption: Retrieve a start date reported or calculate an end date, in order of descending priority.

- (i) Forecasted End Date current round,
- (ii) Start Date (from assumption above) + Project Duration*.

Worst Case Scenario:

Start Date Assumption: Retrieve a start date reported or calculate a start date, in order of descending priority.

- (i) Actual Start Date current round,
- (ii) Forecasted Start Date current round,
- (iii) Application Start Date + (Project Duration* × Average Delay[†]).

End Date Assumption: Calculate an end date reported.

- (i) Start Date (from assumption above) + Project Duration*.

* Project Duration = Application End Date – Application Start Date.

[†] Average Delay: for projects reporting in the current round, average of projects' delay (as % of duration)
= (Actual or Forecasted Start Date current round – Application Start Date) ÷ Project Duration*
≈ 36.5% (for CPR Round 3; this figure is a constant for all calculations).