CONFIDENTIAL once completed.

Si vous préférez recevoir ce document en français, veuillez nous appeler au numéro sans frais suivant :

Canada's Core Public Infrastructure Survey, 2016 Bridge and Tunnel Assets

C1A000

This organization does not own or lease this asset.

This information is collected under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S-19.

COMPLETION OF THIS QUESTIONNAIRE IS A LEGAL REQUIREMENT UNDER THIS ACT.

The purpose of this survey

Statistics Canada is undertaking this survey to provide useful statistical information on the stock, condition, performance and asset management strategies of Canada's core public infrastructure assets owned or leased by the various levels of government and Indigenous entities.

The information compiled by this survey will be used by analysts and policy-makers to better understand the current condition of Canada's core infrastructure. This will enable all levels of government to develop policies to support the efforts in improving Canada's core public infrastructure and help monitor and report progress on achievement of desired outcomes. Your information may also be used by Statistics Canada for other statistical and research purposes.

Confidentiality

Statistics Canada is prohibited by law from releasing any information it collects which could identify any person, business, or organization, unless consent has been given by the respondent or as permitted by the *Statistics Act*. Statistics Canada will use the information from this survey for statistical purposes.

Data-sharing agreements

To reduce respondent burden, Statistics Canada has entered into datasharing agreements with provincial and territorial statistical agencies and other government organizations, which have agreed to keep the data confidential and use them only for statistical purposes. Statistics Canada will only share data from this survey with those organizations that have demonstrated a requirement to use the data.

Section 11 of the *Statistics Act* provides for the sharing of information with provincial and territorial statistical agencies that meet certain conditions. These agencies must have the legislative authority to collect the same information, on a mandatory basis, and the legislation must provide substantially the same provisions for confidentiality and penalties for disclosure of confidential information as the *Statistics Act*. Because these agencies have the legal authority to compel businesses to provide the same information, consent is not requested and businesses may not object to the sharing of the data.

For this survey, there are **Section 11** agreements with the provincial and territorial statistical agencies of Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Yukon. The shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province or territory.

Section 12 of the *Statistics Act* provides for the sharing of information with federal, provincial or territorial government organizations. Under **Section 12**, you may refuse to share your information with any of these organizations by writing a letter of objection to the Chief Statistician and returning it with the completed questionnaire. Please specify the organizations with which you do not want to share your data.

For this survey, there are **Section 12** agreements with the statistical agencies of Prince Edward Island, Northwest Territories and Nunavut, as well as with Infrastructure Canada.

For agreements with provincial and territorial government organizations, the shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province or territory.

Record linkages

To enhance the data from this survey, Statistics Canada may combine it with information from other surveys or from administrative sources.

Further Information

If you require assistance regarding this survey, please contact Statistics Canada by telephone at

Statistics Canada advises you that there could be a risk of disclosure during facsimile or e-mail. However, upon receipt, Statistics Canada will provide the guaranteed level of protection afforded to all information collected under the authority of the *Statistics Act*.

Who should complete this questionnaire?

Canada's Core Public Infrastructure Survey should be coordinated by the organization's asset manager who will ensure that each asset specific questionnaire is completed by its respective manager.

Please return the questionnaire within 21 days.

Please mail the completed questionnaire in the enclosed envelope or fax it to Statistics Canada at 1-888-883-7999.

If you are unable to complete within 21 days **OR** if you need help, call us at

Statistics Canada, Operations and Integration Division, 150 Tunney's Pasture Driveway, Ottawa, Ontario K1A 0T6

Visit our website, www.statcan.gc.ca





Reporting instructions

- Please print in ink.
- Please report for reference year 2016.
- Report dollar amounts in Canadian dollars.
- Exclude sales tax.
- Percentages should be rounded to whole numbers.
- When precise figures are not available, please provide your best estimates.

Information for Survey Participants

Canada's core public infrastructure can vary within each municipality in Canada as a result of size of population, geographic location and overall economic condition. Canada's core public infrastructure survey will be measuring the following key components within the municipality: asset ownership; asset management planning; overall condition of core public asset infrastructure and overall performance of these core public assets.

Organization refers to municipal, regional, provincial, federal government or Indigenous entities (such as a Band council) who own a core public infrastructure.

Own refers to assets owned by your organization as well as assets leased by your organization through a capital lease agreement.

Asset ownership

Bridge and tunnel assets include the following:

Bridges include highway and expressway bridges, arterial bridges, collector bridges, local bridges and footbridges owned by your organization. **Include** grade separation. **Exclude** bridges in parks and transit exclusive bridges.

Culverts include crossings with diameter greater than or equal to 3 metres owned by your organization.

Tunnels include all tunnels owned by your organization. Exclude tunnels in parks and transit exclusive tunnels.

1.	What was your organization's final inventory count of bridge and tunnel assets as of December 31, 2016?		
	If you do not own an asset listed below, please check Does not apply.		
		Count	Does not apply
	Bridge and tunnel assets		
	Bridges		
	Highway / expressways	C1B01101	C1B01201
	Arterials	C1801102	C1B01202
	Collector	C180 103	C1B01203
	Local	C1801104	C1B01204
	Footbridges Culverts	C1801105	C1B01205
	Culverts (diameter greater than or equal to 3 metres)	C1801106	C1B01206
	Tunnels	C1801107	C1B01207
	120		

Inventory and physical assessment of bridge and tunnel assets

2.	As of December 31, 2016, indicate the count distribution of your organization's bridge and tunnel assets inventory
	based on the year of completed construction.

Each selected asset in question 1 should have a count distribution below.

Year of completed construction									
2016	2010 to 2015	2000 to 2009	1970 to 1999	1940 to 1969	Prior to 1940	Do not know			
Count									

Bridge and tunnel assets							
Bridges							
Highway / expressways	C1C02101	C1C02201	C1C02301	C1C02401	C1C02501	C1C02601	C1C02701
Arterials	C1C02102	C1C02202	C1C02302	C1C02402	C1C02502	C1C02602	C1C02702
Collector	C1C02103	C1C02203	(**************************************	0.00403	C1C02503	C1C02603	C1C02703
Local	C1C02104	C1C02204	C1C02304	C1C02404	C1C02504	C1C02604	C1C02704
Footbridges	C1C02105	C1082205	C1C02305	C1C02405	C1C02505	C1C02605	C1C02705
Culverts (diameter greater than or equal to 3 metres)	CTCS	\$100220	C1C02306	C1C02406	C1C02506	C1C02606	C1C02706
Tunnels	C1C02107	C1C02207	C1C02307	C1C02407	C1C02507	C1C02607	C1C02707

3. What is the condition assessment cycle for your bridge and tunnel assets?

Condition assessment cycle: The period of time required to assess all the assets of a particular type owned by the organization as well as all of the assets of a particular type leased by the organization through a capital lease agreement.

Please select one condition assessment cycle per asset.

			Condition assessment cycle						
Bridges			1 year	2 years			than 10		Do not know
Highway / expressways C1003101 01 02 03 04 05 06 07 Arterials C1003102 01 02 03 04 05 06 07 Collector C1003103 01 02 03 04 05 06 07 Local C1003104 01 02 03 04 05 06 07 Culverts (diameter greater than or equal to 3 metres) C1003106 01 02 03 04 05 06 07	Bridge and tunnel assets								
Highway / expressways C1003102 01 02 03 04 05 06 07 Collector C1003103 01 02 03 04 05 06 07 Local C1003104 01 02 03 04 05 06 07 Footbridges C1003105 01 02 03 04 05 06 07 Culverts (diameter greater than or equal to 3 metres) C1003106 01 02 03 04 05 06 07	Bridges								
Arterials Collector Cilosios of Cilosios		C1D03101	01	02	03	04	05	06	07
Collector C1D03104 01 02 03 04 05 06 07 Local C1D03105 01 02 03 04 05 06 07 Culverts (diameter greater than or equal to 3 metres) C1D03106 01 02 03 04 05 06 07		C1D03102	01	02	03	04	05	06	07
Local C1003105 01 02 03 04 05 06 07 Culverts (diameter greater than or equal to 3 metres) C1003106 01 02 03 04 05 06 07 C100347 0 02 03 04 05 06 07		C1D03103	01	02	03	04	09	06	07
Culverts (diameter greater than or equal to 3 metres) C1003106 01 02 03 04 05 06 07		C1D03104	01	02		04	05	06	07
(diameter greater than or equal to 3 metres) CID0330 O O O O O O O O O O O O O		C1D03105	01	02	(O)	04	05	06	07
	(diameter greater than	C1D03106	01	¹² C5//	03	04		06	
		C1D03167	N	02		04		06	

20000 011	Please indicate the assessment too oridge and tunnel assets in 2016. Check all that apply for each bridge and to			ssillent of your organiz	auon s
Based on detailed inspection and analysis, guidelines or procedures working experience with asset Bridge and tunnel assets Bridges CIEA401 CIEA402 CIEA403 CIEA403					
Highway / expressways		Based on detailed inspection and analysis, guidelines or	Based on municipal representative working experience	Using proxy information such as age of material, soil environment, estimated	4. Do kno
Highway / expressways	Bridge and tunnel assets				
Highway / expressways	Bridges				
Arterials C1E04103 C1804209 C1E04303 C1E04403 Collector C1E04104 C1E0204 C1E04304 C1E04404 Local C1E04105 C1E04205 C1E04305 C1E04405 Footbridges C1E0406 C1E04306 C1E04406 Culverts (diameter greater than or equal to 3 metres) C1E04207 C1E04307 C1E04407	Highway / expressways	C1E04101	C1E04201	C1E04301	C1E04401
Collector C1E04104 C1E04204 C1E04304 C1E04404 C1E04405 Footbridges C1E04105 C1E04205 C1E04305 C1E04305 C1E04306 C1E04306 C1E04406 C1E04406 C1E04406 C1E04207 C1E04307 C1E04307 C1E04407	Arterials	C1E04102	C1E04202	C1E04302	C1E04402
Local C1E04105 C1E04205 C1E04305 C1E04305 C1E04305 C1E04306 C1E04406 C1E04406 C1E04207 C1E04307 C1E04407	Collector	C1E04103	Charleson	C1E04303	C1E04403
Culverts (diameter greater than or equal to 3 metres) C1E0407 C1E04206 C1E04206 C1E04306 C1E04306 C1E04406 C1E04407	Local	C1E04104	C1E0(204	C1E04304	C1E04404
(diameter greater than or equal to 3 metres) C1EONO7 C1EO4207 C1EO4207 C1EO4307 C1EO4407	Footbridges	C1E04105	C1E04205	C1E04305	C1E04405
	(diameter greater than	01804106	C1E04206	C1E04306	C1E04406
	Tunnels	C1EO 107	C1E04207	C1E04307	C1E04407

5. In 2016, what was the overall physical condition of your organization's bridge and tunnel assets?

Please indicate the percent distribution of your bridge and tunnel assets by using the following condition rating scale.

Very poor: The asset is unfit for sustained service. Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable.

Poor: Increasing potential of affecting service. The asset is approaching end of service life; condition below standard and a large portion of system exhibits significant deterioration.

Fair: The asset requires attention. The assets show signs of deterioration and some elements exhibit deficiencies.

Good: The asset is adequate. Acceptable, generally within mid stage of expected service life.

Very good: Asset is fit for the future. Well maintained, good condition, new or recently rehabilitated.

Each selected asset for question 1 should have a percent distribution below.

Each reporting asset must total to 100%.

	Very poor	Poor	Fair	Good	Very good	Do not know	Total
Bridge and tunnel assets				%			
Bridges			Õ	()	•		
Highway / expressways	C1F05101	C1F05201	C1F05307	C1F0 401	C1F05501	C1F05601	100%
Arterials	C1F05102	C1F05202	C1F05302	C1F05402	C1F05502	C1F05602	100%
Collector	C1F05103	C1E(\$203	C1F05303	C1F05403	C1F05503	C1F05603	100%
Local	C1F05104	C1F05204	C1F05304	C1F05404	C1F05504	C1F05604	100%
Footbridges	C1/05105	C1005205	C1F05305	C1F05405	C1F05505	C1F05605	100%
Culverts (diameter greater than or equal to 3 metres)	C1F05/06	C1F05206	C1F05306	C1F05406	C1F05506	C1F05606	100%
Tunnels	C1F05107	C1F05207	C1F05307	C1F05407	C1F05507	C1F05607	100%

Ass	set management and performance
6.	Does your organization have a bridge and tunnel asset management plan? An Asset Management Plan defines how a group of assets is to be managed over a period of time. The asset management plan describes the characteristics and condition of infrastructure assets, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, and financing strategies to implement the planned actions.
	¹ Yes
	³ No → Please go to question 8.
7.	How often does your organization update the current bridge and tunnel asset management plan?
	Mark one only.
	C1607101
	Every year
	Every two to four years
	Every five years or more
	Does not update
	Other – please specify
	C1G07205
	Do not know
	Do not know Please go to question 9
	MFO NO
8.	When does your organization plan on implementing a bridge and tunnel asset management plan?
	Mark one only.
	In one year
	In two to four years
	In five years or more
	Other – please specify
	5 De not plan to implement an accet management plan
	Do not plan to implement an asset management plan
	Do not know

9.	What type of asset management information system does your organization use to manage your bridge and tunnel assets? Mark all that apply.
	Custom asset management software
	Off-the-shelf asset management software
	Spreadsheet
	Paper records
	Other – please specify
	C1609205
	No asset management information system
	Do not know
	Do Hot know
10.	Does your organization own any bridges that are currently tolled?
	C1G10101
	Yes
	No No
11.	Do you plan on tolling any bridges within the next 5 years?
	Yes
	³ No
	-W, 12,
12.	In 2016, were you required to perform unplanned maintenance on your bridge assets?
	Unplanned maintenance are any interruptions that do not fall under scheduled maintenance or planned events that would disrupt service (i.e. marathon, parade, major event). These interruptions include weather related incidences (i.e. flood, snowstorm), security related incidences (i.e. public act of violence, accidents), and maintenance related incidences.
	C1G12101
	Yes Please go to question 13
	No → Please go to question 14
13.	In 2016, how many times was unplanned maintenance on your bridge assets required?
	Mark one only.
	1 to 10
	² 11 to 20
	³ 21 to 50
	Greater than 50
	5 Do not know

14. In 2016, were you required to perform unplanned maintenance on your tunnel assets?

Unplanned maintenance are any interruptions that do not fall under scheduled maintenance or planned events that would disrupt service (i.e. marathon, parade, major event). These interruptions include weather related incidences (i.e. flood, snowstorm), security related incidences (i.e. public act of violence, accidents), and maintenance related incidences.

Yes - Please go to question 15

→ Please go to question 16

15. In 2016, how many times was unplanned maintenance on your tunnel assets required?

Mark one only.

1 to 10

11 to 20

21 to 50

MICORNATION COPPEDOR Greater than 50

Do not know

Assets value and expenses of bridges and tunnels

16. What is the 2016 estimated replacement value, required renewal budget, and actual renewal budget of bridges and tunnels assets owned by your organization?

Estimated replacement value: the approximate cost at the present time required to replace an asset, including demolition costs. Does not include land costs or overhead such as administration.

2016 required renewal budget: the budget required for rehabilitation, reconstruction, or replacement of the assets to bring rating of all assets to a rating of "good" within the 2016 reference year. These include any activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives.

2016 actual renewal budget: the actual funds spent for the rehabilitation, reconstruction a replacement of the assets. These include any activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives.

Required renewal budget and actual renewal budget does not include cost of regular maintenance and repairs. Maintenance and repairs: Ordinary maintenance and repairs of fixed assets are activities that owners or users of fixed assets are obliged to undertake periodically in order to be able to utilise assets over their expected service lives (they are current costs that cannot be avoided if the fixed assets are to continue to be used). Maintenance and repairs do not change the fixed asset or its performance, but simply maintain it in good working order or restore it to its previous condition in the event of a breakdown.

Each asset should correspond to question 1.

	2016					
	Estimated replacement value		Required renewal budget	Actual renewal budget		
		-\	Thousands of dollars (000's	s)		
Bridge and tunnel assets	4		V.			
Bridges		X (J	I		
Highway / expressways	\$	000	\$,000	\$,0	000	
Arterials	стнжиго		\$,000	\$,0	000	
Collector	C1H16103 \$,0		\$,000	C1H16303	000	
Local	\$,0		\$,000	\$,0)00	
	C1H16105	C	C1H16205	C1H16305		
Footbridges	,0	000	\$,000	,0	000	
Culverts (diameter greater than	С1Н16106		C1H16206	C1H16306		
or equal to 3 metres)	Q (1H16107		\$,000	ф ,U		
Tunnels	,0		\$,000	,0		

			2016		
			Thousands of dollars (000's)		
Bridge assets	\$	\$,000		
Tunnel assets	5	\$			
New bridge and tu	as the expected useful life (in years) of n	on of assets, and donated assets.	s owned by your organization?		
	e of an asset refers to the service life or the prod quisition regardless of their lives reported for inco		Expected usefu (in years)		
Bridge and tun	nel assets	CO.	(iii youlo)		
Highway / ex		×0	С1Н18101		
Arterials	ZMATICS OF THE PROPERTY OF THE	4	C1H18102		
Collector	SEM, OS		C1H18103		
Local	7k0,70,		C1H18104		
Footbridges	1100		C1H18105		
Culverts	er than or equal to 3 metres)		C1H18106		
(diameter greate			C1H18107		

F	eedback		
		Hours	Minutes
1.	How long did it take to complete this questionnaire? Include the time spent gathering the necessary information.		
2.	We invite your comments about this questionnaire.		
	COPT POR		
	MFORMATION TO THE PROPERTY OF		

Glossary

Bridge and tunnel assets include the following:

Bridges include highway and expressway bridges, arterial bridges, collector bridges, local bridges and footbridges owned by your organization. **Include** grade separation. **Exclude** bridges in parks and transit exclusive bridges.

Culverts include crossings with diameter greater than or equal to 3 metres owned by your organization.

Tunnels include all tunnels owned by your organization. **Exclude** tunnels in parks and transit exclusive tunnels.

Condition assessment cycle: The period of time required to assess all the assets of a particular type owned by the organization as well as all of the assets of a particular type leased by the organization through a capital lease agreement.

Asset Management Plan: defines how a group of assets is to be managed over a period of time. The asset management plan describes the characteristics and condition of infrastructure assets, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, and financing strategies to implement the planned actions.

Unplanned maintenance are any interruptions that do not fall under scheduled maintenance or planned events that would disrupt service (i.e. marathon, parade, major event). These interruptions include weather related incidences (i.e. flood, snowstorm), security related incidences (i.e. public act of violence, accidents), and maintenance related incidences.

Estimated replacement value: the approximate cost at the present time required to replace an asset, including demolition costs. **Does not include** land costs or overhead such as administration.

2016 required renewal budget: the budget required for rehabilitation, reconstruction, or replacement of the assets to bring rating of all assets to a rating of "good" within the 2016 reference year. These include any activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives. **Does not include** cost of regular maintenance and repairs.

2016 actual renewal budget: the actual funds spent for the rehabilitation, reconstruction a replacement of the assets. These include any activities which increase the performance or capacity of existing fixed assets or significantly extend their previously expected service lives. **Does not include** cost of regular maintenance and repairs.

Maintenance and repairs: Ordinary maintenance and repairs of fixed assets are activities that owners or users of fixed assets are obliged to undertake periodically in order to be able to utilise assets over their expected service lives (they are current costs that cannot be avoided if the fixed assets are to continue to be used). Maintenance and repairs do not change the fixed asset or its performance, but simply maintain it in good working order or restore it to its previous condition in the event of a breakdown.

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