

# Canada's Core Public Infrastructure Survey, 2016

## Solid Waste Assets

C6A00001

This organization does not own or lease this asset.

CONFIDENTIAL once completed.

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

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 data-sharing 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](http://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

**Solid waste assets** include the following:

**Collection assets:** Waste, recyclable and organic materials collection methods include curbside collection, back door pick-ups, and automated collection. The waste, recyclable or organic materials may be taken to an intermediate site or to a final disposal site. Include collection assets owned by your organization or leased by your organization through a capital lease agreement.

**Transfer stations assets** include facilities at which wastes transported by vehicles involved in collection are transferred to other vehicles that will transport the wastes to a disposal (landfill or incinerator) or recycling facility. Include transfer station assets owned by your organization or leased by your organization through a capital lease agreement.

**Waste diversion assets** include composting facilities, materials recovery facilities, anaerobic digestion facilities owned by your organization or leased by your organization through a capital lease agreement.

**Waste disposal assets** include engineered landfills (active), dump sites (active), closed sites (inactive engineered landfills and dumps), incinerators and energy from waste facilities owned by your organization or leased by your organization through a capital lease agreement.

## Inventory and physical assessment of solid waste assets

### 1. What was your organization's final inventory count of solid waste assets as of December 31, 2016?

If you do not own or lease an asset listed below, please check **Does not apply**.

	Count	Does not apply
<b>Solid waste assets</b>		
Transfer station assets	C6B01101 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01201 <input type="checkbox"/>
<b>Waste diversion assets</b>		
Composting facilities	C6B01102 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01202 <input type="checkbox"/>
Materials recovery facilities	C6B01103 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01203 <input type="checkbox"/>
Anaerobic digestion facility	C6B01104 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01204 <input type="checkbox"/>
<b>Waste disposal assets</b>		
Engineered landfills (active)	C6B01105 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01205 <input type="checkbox"/>
Dump sites (active)	C6B01106 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01206 <input type="checkbox"/>
Closed sites (inactive engineered landfills and dumps)	C6B01107 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01207 <input type="checkbox"/>
Incinerators	C6B01108 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01208 <input type="checkbox"/>
Energy from waste facilities	C6B01109 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	C6B01209 <input type="checkbox"/>

INFORMATION COPY  
DO NOT USE TO REPORT

**2. As of December 31, 2016, indicate the count distribution of your organization's solid waste 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							
<b>Solid waste assets</b>							
Transfer station assets	C6C02101	C6C02201	C6C02301	C6C02401	C6C02501	C6C02601	C6C02701
Waste diversion assets							
Composting facilities	C6C02102	C6C02202	C6C02302	C6C02402	C6C02502	C6C02602	C6C02702
Materials recovery facilities	C6C02103	C6C02203	C6C02303	C6C02403	C6C02503	C6C02603	C6C02703
Anaerobic digestion facility	C6C02104	C6C02204	C6C02304	C6C02404	C6C02504	C6C02604	C6C02704
<b>Waste disposal assets</b>							
Engineered landfills (active)	C6C02105	C6C02205	C6C02305	C6C02405	C6C02505	C6C02605	C6C02705
Dump sites (active)	C6C02106	C6C02206	C6C02306	C6C02406	C6C02506	C6C02606	C6C02706
Closed sites (inactive engineered landfills and dumps)	C6C02107	C6C02207	C6C02307	C6C02407	C6C02507	C6C02607	C6C02707
Incinerators	C6C02108	C6C02208	C6C02308	C6C02408	C6C02508	C6C02608	C6C02708
Energy from waste facilities	C6C02109	C6C02209	C6C02309	C6C02409	C6C02509	C6C02609	C6C02709

INFORMATION COPY  
DO NOT USE TO REPORT

**3. What is the condition assessment cycle for your solid waste 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						
		1 year	2 years	3 to 5 years	5 to 10 years	More than 10 years	Does not apply	Do not know
<b>Solid waste assets</b>								
Transfer station assets	C6D03101	01	02	03	04	05	06	07
<b>Waste diversion assets</b>								
Composting facilities	C6D03102	01	02	03	04	05	06	07
Materials recovery facilities	C6D03103	01	02	03	04	05	06	07
Anaerobic digestion facility	C6D03104	01	02	03	04	05	06	07
<b>Waste disposal assets</b>								
Engineered landfills (active)	C6D03105	01	02	03	04	05	06	07
Dump sites (active)	C6D03106	01	02	03	04	05	06	07
Closed sites (inactive engineered landfills and dumps)	C6D03107	01	02	03	04	05	06	07
Incinerators	C6D03108	01	02	03	04	05	06	07
Energy from waste facilities	C6D03109	01	02	03	04	05	06	07

INFORMATION COPY  
DO NOT USE TO REPORT

**4. Please indicate the assessment tool used to complete the physical condition assessment of your organization's solid waste assets in 2016.**

Check all that apply for each solid waste asset owned or leased by your organization.  
Each selected asset in question 1 should have a physical condition assessment below.

	1. Based on detailed inspection and analysis guidelines or procedures	2. Based on municipal representative working experience with asset	3. Using proxy information such as age of material, soil environment and estimated service life	4. Do not know
<b>Solid waste assets</b>				
Transfer station assets	C6E04101 <input type="checkbox"/>	C6E04201 <input type="checkbox"/>	C6E04301 <input type="checkbox"/>	C6E04401 <input type="checkbox"/>
<b>Waste diversion assets</b>				
Composting facilities	C6E04102 <input type="checkbox"/>	C6E04202 <input type="checkbox"/>	C6E04302 <input type="checkbox"/>	C6E04402 <input type="checkbox"/>
Materials recovery facilities	C6E04103 <input type="checkbox"/>	C6E04203 <input type="checkbox"/>	C6E04303 <input type="checkbox"/>	C6E04403 <input type="checkbox"/>
Anaerobic digestion facility	C6E04104 <input type="checkbox"/>	C6E04204 <input type="checkbox"/>	C6E04304 <input type="checkbox"/>	C6E04404 <input type="checkbox"/>
<b>Waste disposal assets</b>				
Engineered landfills (active)	C6E04105 <input type="checkbox"/>	C6E04205 <input type="checkbox"/>	C6E04305 <input type="checkbox"/>	C6E04405 <input type="checkbox"/>
Dump sites (active)	C6E04106 <input type="checkbox"/>	C6E04206 <input type="checkbox"/>	C6E04306 <input type="checkbox"/>	C6E04406 <input type="checkbox"/>
Closed sites (inactive engineered landfills and dumps)	C6E04107 <input type="checkbox"/>	C6E04207 <input type="checkbox"/>	C6E04307 <input type="checkbox"/>	C6E04407 <input type="checkbox"/>
Incinerators	C6E04108 <input type="checkbox"/>	C6E04208 <input type="checkbox"/>	C6E04308 <input type="checkbox"/>	C6E04408 <input type="checkbox"/>
Energy from waste facilities	C6E04109 <input type="checkbox"/>	C6E04209 <input type="checkbox"/>	C6E04309 <input type="checkbox"/>	C6E04409 <input type="checkbox"/>

INFORMATION COPY  
DO NOT USE TO REPORT

**5. In 2016, what was the overall physical condition of your organization's solid waste assets?  
Please indicate the percent distribution of your solid waste 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
	%						
<b>Solid waste assets</b>							
Transfer station assets	C6F05101	C6F05201	C6F05301	C6F05401	C6F05501	C6F05601	100 %
<b>Waste diversion assets</b>							
Composting facilities	C6F05102	C6F05202	C6F05302	C6F05402	C6F05502	C6F05602	100 %
Materials recovery facilities	C6F05103	C6F05203	C6F05303	C6F05403	C6F05503	C6F05603	100 %
Anaerobic digestion facility	C6F05104	C6F05204	C6F05304	C6F05404	C6F05504	C6F05604	100 %
<b>Waste disposal assets</b>							
Engineered landfills (active)	C6F05105	C6F05205	C6F05305	C6F05405	C6F05505	C6F05605	100 %
Dump sites (active)	C6F05106	C6F05206	C6F05306	C6F05406	C6F05506	C6F05606	100 %
Closed sites (inactive engineered landfills and dumps)	C6F05107	C6F05207	C6F05307	C6F05407	C6F05507	C6F05607	100 %
Incinerators	C6F05108	C6F05208	C6F05308	C6F05408	C6F05508	C6F05608	100 %
Energy from waste facilities	C6F05109	C6F05209	C6F05309	C6F05409	C6F05509	C6F05609	100 %

INFORMATION COPY  
DO NOT USE TO REPORT

## Asset management and performance

### 6. Does your organization have a solid waste 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.

C6G06101

1  Yes

3  No → Please go to question 8

### 7. How often does your organization update the current solid waste asset management plan?

Mark one only.

C6G07101

1  Every year

2  Every two to four years

3  Every five years or more

4  Does not update

5  Other – please specify

C6G07205

6  Do not know

→ Please go to question 9

### 8. When does your organization plan on implementing a solid waste asset management plan?

Mark one only.

C6G08101

1  In one year

2  In two to four years

3  In five years or more

4  Other – please specify

C6G08204

5  Do not plan to implement an asset management plan

6  Do not know

### 9. What type of asset management information system does your organization use to manage your solid waste assets?

Mark all that apply.

C6G09101

Custom asset management software

C6G09102

Off-the-shelf asset management software

C6G09103

Spreadsheet

C6G09104

Paper records

C6G09105

Other – please specify

C6G09205

C6G09106

No asset management information system

C6G09107

Do not know

INFORMATION COPY  
DO NOT USE TO REPORT



**10a. In 2016, what percentage of total waste generated was diverted as organic material (e.g. compost/green bin)?**

C6G10101      %

C6G10102  Do not know → Please go to question 11a

**10b. Does your organization plan to increase the percentage of total waste diverted as organic material?**

C6G10103

1  Yes

3  No → Please go to question 11a

9  Do not know → Please go to question 11a

**10c. What is your organization's estimated time frame to increase the percentage of total waste diverted as organic material?**

Mark one only.

C6G10104

1  In one year

2  In two to four years

3  In five to ten years

4  In eleven years or more

5  Do not know

**10d. What is your organization's target rate of total waste diverted as organic material?**

C6G10105      %

C6G10106  Do not know

INFORMATION COPY  
DO NOT USE TO REPORT

**11a. In 2016, what percentage of total waste generated was diverted as recyclable material (e.g. plastics, glass, paper, etc.)?**

C6G11101      %

C6G11102  Do not know → Please go to question 12a

**11b. Does your organization plan to increase the percentage of total waste diverted as recyclable material?**

C6G11103

1  Yes

3  No → Please go to question 12a

9  Do not know → Please go to question 12a

**11c. What is your organization's estimated time frame to increase the percentage of total waste diverted as recyclable material?**

Mark one only.

C6G11104

1  In one year

2  In two to four years

3  In five to ten years

4  In eleven years or more

5  Do not know

**11d. What is your organization's target rate of total waste diverted as recyclable material?**

C6G11105      %

C6G11106  Do not know

**12a. Does your organization have a gas capture system within your landfills?**

C6G12101

1  Yes

3  No → Please go to question 13

**12b. Is the captured gas utilized (e.g. electricity generation, pipeline quality gas, etc.)?**

C6G12102

1  Yes

3  No

INFORMATION COPY  
DO NOT USE TO REPORT

## Assets value and expenses of solid waste

### 13. What is the 2016 estimated replacement value, required renewal budget, and actual renewal budget of solid waste 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)			
<b>Solid waste assets</b>			
Transfer station assets	C6H13101 \$ _____,000	C6H13201 \$ _____,000	C6H13301 \$ _____,000
<b>Waste diversion assets</b>			
Composting facilities	C6H13102 \$ _____,000	C6H13202 \$ _____,000	C6H13302 \$ _____,000
Materials recovery facilities	C6H13103 \$ _____,000	C6H13203 \$ _____,000	C6H13303 \$ _____,000
Anaerobic digestion facility	C6H13104 \$ _____,000	C6H13204 \$ _____,000	C6H13304 \$ _____,000
<b>Waste disposal assets</b>			
Engineered landfills (active)	C6H13105 \$ _____,000	C6H13205 \$ _____,000	C6H13305 \$ _____,000
Dump sites (active)	C6H13106 \$ _____,000	C6H13206 \$ _____,000	C6H13306 \$ _____,000
Closed sites (inactive engineered landfills and dumps)	C6H13107 \$ _____,000	C6H13207 \$ _____,000	C6H13307 \$ _____,000
Incinerators	C6H13108 \$ _____,000	C6H13208 \$ _____,000	C6H13308 \$ _____,000
Energy from waste facilities	C6H13109 \$ _____,000	C6H13209 \$ _____,000	C6H13309 \$ _____,000





**Solid waste assets** include the following:

**Collection assets:** Waste, recyclable and organic materials collection methods include curbside collection, back door pick-ups, and automated collection. The waste, recyclable or organic materials may be taken to an intermediate site or to a final disposal site. Include collection assets owned by your organization or leased by your organization through a capital lease agreement.

**Transfer station assets** include facilities at which wastes transported by vehicles involved in collection are transferred to other vehicles that will transport the wastes to a disposal (landfill or incinerator) or recycling facility. Include transfer station assets owned by your organization or leased by your organization through a capital lease agreement.

**Waste diversion assets** include composting facilities, materials recovery facilities, anaerobic digestion facilities owned by your organization or leased by your organization through a capital lease agreement.

**Composting:** A managed, biological process through which organic matter is degraded under aerobic conditions to a relatively stable, humus-like material called compost.

**Material recovery facility:** A facility in which recyclable materials are removed from waste, or mixed recyclable materials are sorted into distinct categories and prepared for shipment.

**Anaerobic digestion:** A controlled and managed biological process that uses microorganisms to break down organic material in the absence of oxygen.

**Waste disposal assets** include engineered landfills (active), dump sites (active), closed sites (inactive engineered landfills and dumps), incinerators and energy from waste facilities owned by your organization or leased by your organization through a capital lease agreement.

**Engineered landfill:** A landfill designed to meet or exceed jurisdiction of authority requirements for the protection of the environment and human health. The design incorporates both the attributes of the natural environment and supplements them with the necessary engineered systems to achieve the required level of protection.

**Incineration:** The burning of waste in an incinerator is essentially a rapid oxidation process that generates heat and converts the waste to the gaseous products of combustion, namely carbon dioxide and water vapour, which are released to the atmosphere.

**Energy from waste:** Technologies that process waste using high temperatures to reduce the quantity of material requiring disposal, stabilize the material requiring disposal, and recover energy and potentially material resources.

**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.

**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.

INFORMATION COPY  
DO NOT USE TO REPORT

INFORMATION COPY  
DO NOT USE TO REPORT