CALGARY INSIGHT

Calgary's ageing sewers, and how long sewer pipes last around the world

The age and material of every public sanitary service connection, compared with expected service lives from Canada, Australia, the UK and Germany

Calgary · November 7, 2026 · City of Calgary data read November 7, 2026

QUESTION

Give me a comprehensive report on the ageing sewerage system of Calgary and compare it with the usual life of sewer pipes worldwide. Include a map of Calgary communities shaded by the main measure.

Key findings

1. The typical public sewer connection in Calgary is **31 years** old (half were laid before 1995); **24.8%** (91,258) are more than 50 years old.
2. Measured against typical service lives used by utilities, **32,720** connections (8.9%) are already past theirs; on cautious lives it is **94,697** (25.8%).
3. Clay tile is the swing factor: **74,089** connections, mostly from the 1960s and 1970s; three in four are past a 50-year life but almost none past 100 years.
4. Communities with sewers 60 years or older report **48.02** sewage back-ups a year per 1,000 connections, against **0.95** in the newest: about 51 times as many.
5. Relining has tripled since 2017 to about **800** connections a year, roughly 0.2% of the system; German cities renew about 1.1% of their sewers a year.
6. If nothing were renewed, connections past a typical life would grow from **32,720** today to **104,106** by 2076.

1 What this report asks, and how it answers

Calgary's sewers carry wastewater from every home and business to three treatment plants. Many were laid in the building boom of the 1950s to 1970s. This report asks two questions. How old is Calgary's sanitary sewer system? And how does that age compare with how long sewer pipes usually last around the world?

The City publishes its water mains as open data, with the year each was laid. It does not publish its sanitary sewer mains. It does publish every **public sanitary service connection**: the pipe from the street sewer to each property line, owned and maintained by the City. There are **368,085** of them, about **2,785 km** in all, each with the date it went in and its material.

A service connection is usually laid at the same time as the sewer main in the street it joins. So the age of the connections on a street is a fair guide to the age of the sewer under it. It is not a perfect one: a main can be relined or replaced without touching the connections, and the reverse. This report therefore speaks of the age of "the sewer system" as measured by its connections, and says so wherever it matters.

Ages are worked out to 2026. 396 connections have no date and 18 have a date after 2026; they are left out of the age figures, which use the other **367,671**.

The rest of the report runs in this order: the size of the system; when it was built; what it is made of; how long sewer pipes last elsewhere; how Calgary measures up; the wave of ageing still to come; where the oldest pipes are; whether older sewers back up more; and what renewal looks like today. Each chapter ends by saying what it means for the next.

2 The system at a glance

The City's Water Services reports that its wastewater system serves **over 1.4 million** Calgarians and regional customers. It runs **over 5,000 km** of underground pipes, **43** lift stations and **three** treatment plants: Bonnybrook, Fish Creek and Pine Creek. In 2023 the plants met Alberta's quality standards 100% of the time.

The public part of the service connections adds **2,785 km** of smaller pipe. **368,085** buildings are connected: mostly single-family homes, then duplexes, commercial buildings and triplexes.

Nearly all connections are 100 mm across (a 4-inch pipe). That uniformity matters: it means age and material, not size, are what set one connection apart from another. The next chapter looks at age.

Calgary's wastewater system

Part	Size	Source
People served	over 1.4 million	City of Calgary service plan update
Underground pipes	over 5,000 km	City of Calgary service plan update
Lift stations	43	City of Calgary service plan update
Treatment plants	3	City of Calgary service plan update
Public sanitary service connections	368,085	City of Calgary open data xesp-3jc3
Length of their public part	2,785 km	City of Calgary open data xesp-3jc3

3 When the system was built

Half of all connections went in before **1995** and half after. The typical connection is **31 years** old; the average is **34.4** years.

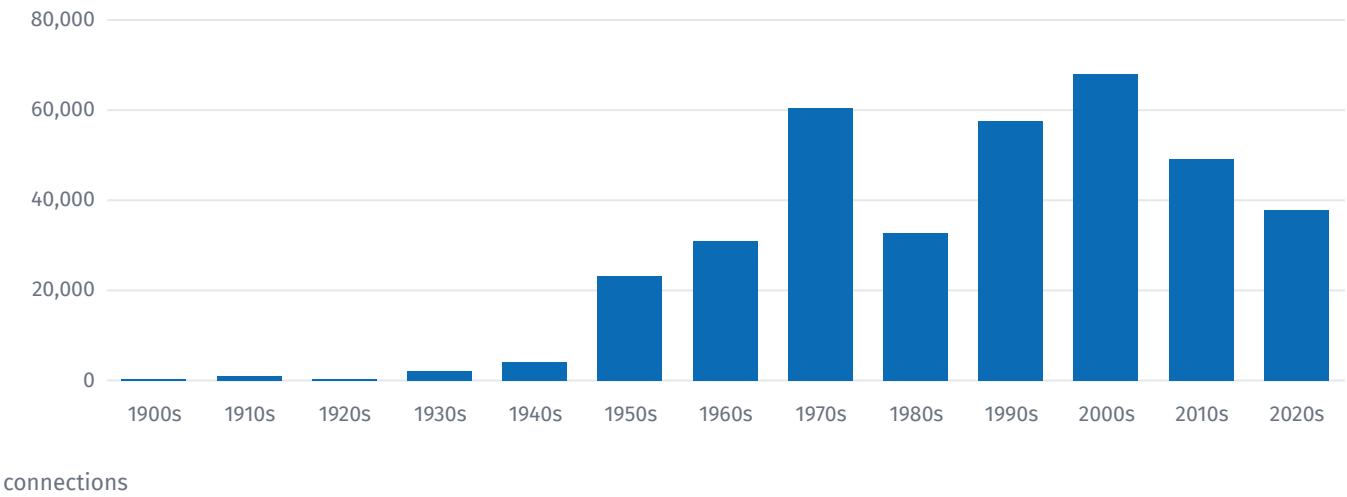
The building came in waves. The 1950s and 1960s added **54,152** connections. The 1970s were the busiest decade of all, with **60,506**. Growth slowed in the 1980s, then the 1990s and 2000s added **125,478** more as the suburbs spread.

Measured against today:

- **91,258** connections (24.8%) are more than 50 years old.
- **8,643** (2.4%) are more than 75 years old.
- **1,206** (0.3%) are more than 100 years old.
- **61,772** (16.8%) were built before 1970.

By world standards this is a young system, because Calgary grew so fast so late. But a young average hides an old core. The 1970s peak, the largest single group, turns 50 this decade. The next chapter shows that the pipes from each era are also made of different things, and the material decides how long they last.

Sanitary service connections by decade installed



Age of connections in 2026

Age	Connections	Share
More than 25 years	218,581	59.5%
More than 50 years	91,258	24.8%
More than 60 years	49,648	13.5%
More than 75 years	8,643	2.4%
More than 100 years	1,206	0.3%

4 What the pipes are made of

Calgary's connections fall into three generations of material.

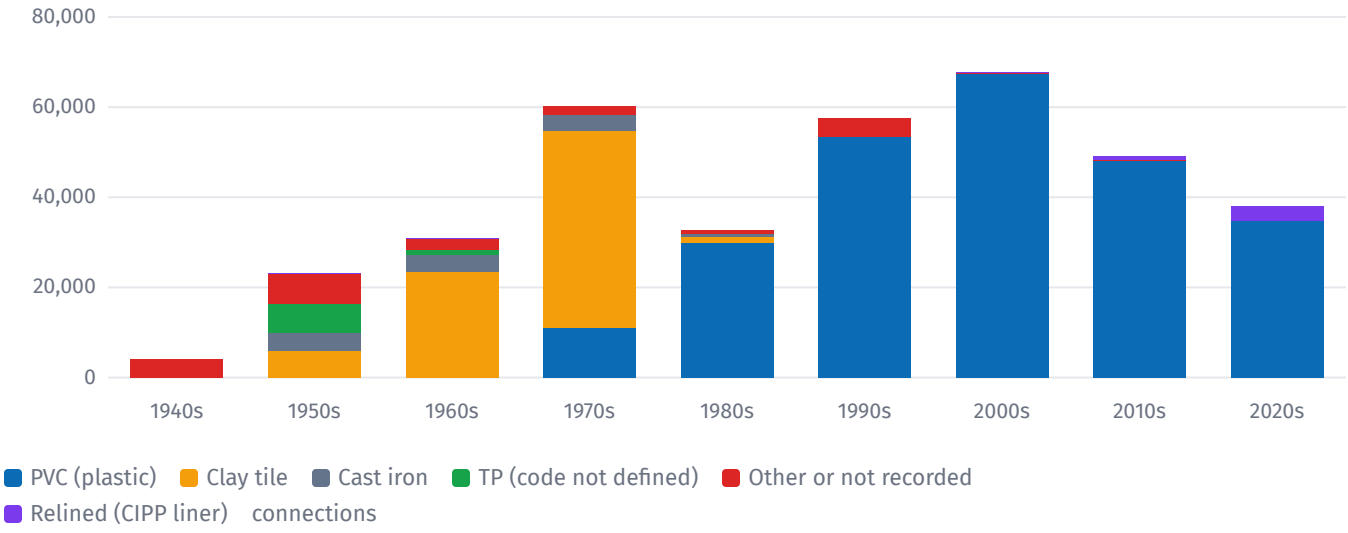
- **Before 1955:** most records say "other" or give no material, with some cast iron. These 24,039 connections have a typical install year of **1953**. Many of these records also have no length, so they are among the least well described in the City's data.

- **1955 to the early 1980s: clay tile. 74,089** connections (20.2%) are clay tile, nearly all laid from the 1950s to the 1970s (43,772 in the 1970s alone). Their typical install year is **1972**, so the typical clay connection is **54** years old. Cast iron (12,218 connections, typically 1965) and a material the City codes "TP" (7,595, typically 1957) belong to the same era. The dataset does not define "TP".
- **From the 1970s: PVC plastic.** PVC became common in the 1970s and is now **66.6%** of all connections, typically from **2003**.

A fourth group is the newest: **4,097** connections relined from inside with a cured-in-place liner (CIPP), most of them since 2017. Relining is how the City renews an old connection without digging it up; the dates on these records are the dates of relining.

Material matters because each lasts differently. The next chapter sets out how long each is expected to last, from utilities around the world.

Connections by decade and material



Connections by material

Material	Connections	Share	Typical year	Typical age	Length (km)
PVC (plastic)	244,796	66.6%	2003	23	2,089.2
Clay tile	74,089	20.2%	1972	54	450.4
Cast iron	12,218	3.3%	1965	61	124.3
TP (code not defined)	7,595	2.1%	1957	69	61.6
Relined (CIPP liner)	4,097	1.1%	2023	3	33.2
Other plastic	760	0.2%	1986	40	7.0
Concrete	77	0.0%	1972	54	0.9
Other or not recorded	24,039	6.5%	1953	73	15.0

5 How long sewer pipes usually last around the world

There is no single world figure for the life of a sewer pipe. Utilities set their own, from their records and engineering judgement, and the figures vary widely. What they agree on is the order: plastic and well-made clay and concrete last longest; cast iron, asbestos cement and unknown materials least.

- **Canada (a city's own plan).** The District of Saanich, BC, sets the life of a gravity sanitary main at 100 years for PVC, polyethylene, reinforced concrete and vitrified clay; 75 years for ductile iron and asbestos cement; and 45 years for unreinforced concrete, liners and unknown materials (2023).
- **Australia.** Sydney Water assumed 130 years for clay and concrete gravity sewers, 85 for PVC and iron, and 55 for asbestos cement. Its reviewers, Halcrow, gave typical ranges of 50 to 150 years for clay, 100 to 150 for plastics, 75 to 100 for concrete, 30 to 100 for iron and asbestos cement, and 50 to 75 for relining (2007).
- **United Kingdom.** Eight UK water companies used sewer lives from 40 to 200 years, most between 40 and 150.
- **Canada, all underground pipes.** Statistics Canada reports that new water, sewer and stormwater pipes laid in 2020 were expected to last 50 to 73 years.
- **Germany.** The national sewer survey found the average public sewer was 39.8 years old; in cities over 250,000 the average was 50 years, and more than 40% of the network was over 50. About 1.1% of the network was renewed each year (2015 survey).
- **Condition, not just age.** In Canada, 13% of sewer pipes under 450 mm were in poor or very poor condition in 2022. In the United States, wastewater earned a D+ in the 2025 national infrastructure report card.

Two lessons follow. Age alone does not prove a pipe has failed: Germany's survey notes century-old brick sewers still in good condition. But age and material together are the best guide a city has where it lacks inspections. This report therefore compares Calgary's connections against three lives for each material: a low one (the short end of the ranges), a typical one (the Canadian city figure) and a high one (the long end). The next chapter applies them.

Expected service life of sewer pipes, in years

Material	Low	Typical (Saanich)	High	Range elsewhere
PVC and other plastic	85	100	150	Sydney 85; Halcrow 100–150
Clay tile (vitrified clay)	50	100	130	Sydney 130; Halcrow 50–150
Cast iron	30	60	85	Saanich storm 60; Sydney 85; Halcrow 30–100
Concrete	45	75	130	Saanich 45 (unreinforced) to 100; Sydney 130
Relined (CIPP liner)	45	50	75	Saanich 45; Halcrow 50–75
Unknown or not recorded	45	45	75	Saanich 45 (unknown)

6 Calgary's connections against those lives

Applying each material's life to each connection's age gives three answers, one for each view of how long pipes last.

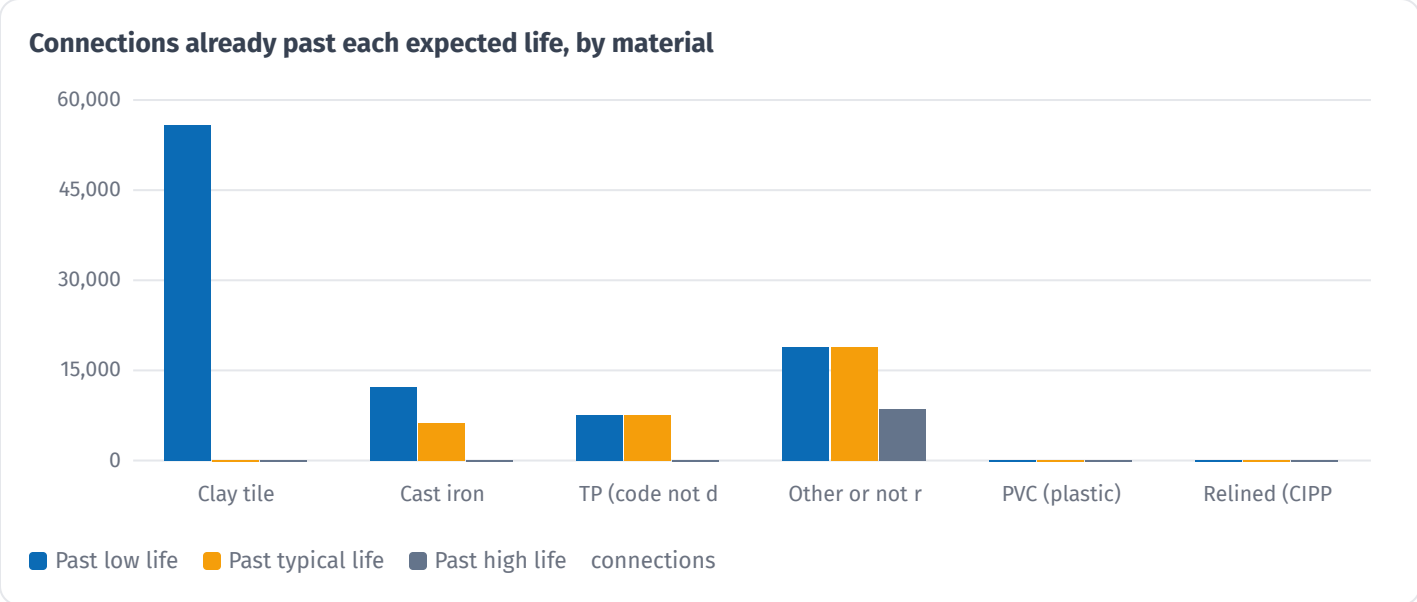
- **Typical life: 32,720** connections (8.9%) are already past it.
- **Low life: 94,697** (25.8%) are past it.
- **High life: 8,535** (2.3%) are past even that.

The difference between the views comes almost entirely from **clay tile**. At a typical life of 100 years, only 3 clay connections are past it. At the low life of 50 years, **55,915** are, three in four of all clay connections. So the question of how long Calgary's clay will last is the biggest single unknown in the system. Clay itself is durable; its weak points are the joints between short lengths, where roots and ground movement get in.

Cast iron is the clearest worry: **6,226** of its 12,218 connections are past a typical 60-year life. The "TP" and "other or not recorded" groups (31,634 connections) are past even a cautious 45 years almost entirely, because they are mostly from the 1940s and 1950s.

PVC is not a concern today: only 6 PVC connections are past 100 years, and those are early records that may be data errors.

These counts describe today. The next chapter looks ahead, because Calgary's busiest building decade is about to age into the same position.



Past each expected life, by material

Material	Connections	Past low	Past typical	Past high
Clay tile	74,089	55,915	3	0
Cast iron	12,218	12,211	6,226	10
TP (code not defined)	7,595	7,582	7,582	5
Other or not recorded	24,039	18,834	18,834	8,512
PVC (plastic)	244,796	19	6	0
Relined (CIPP liner)	4,097	72	69	8

Material	Connections	Past low	Past typical	Past high
All connections	367,671	94,697	32,720	8,535

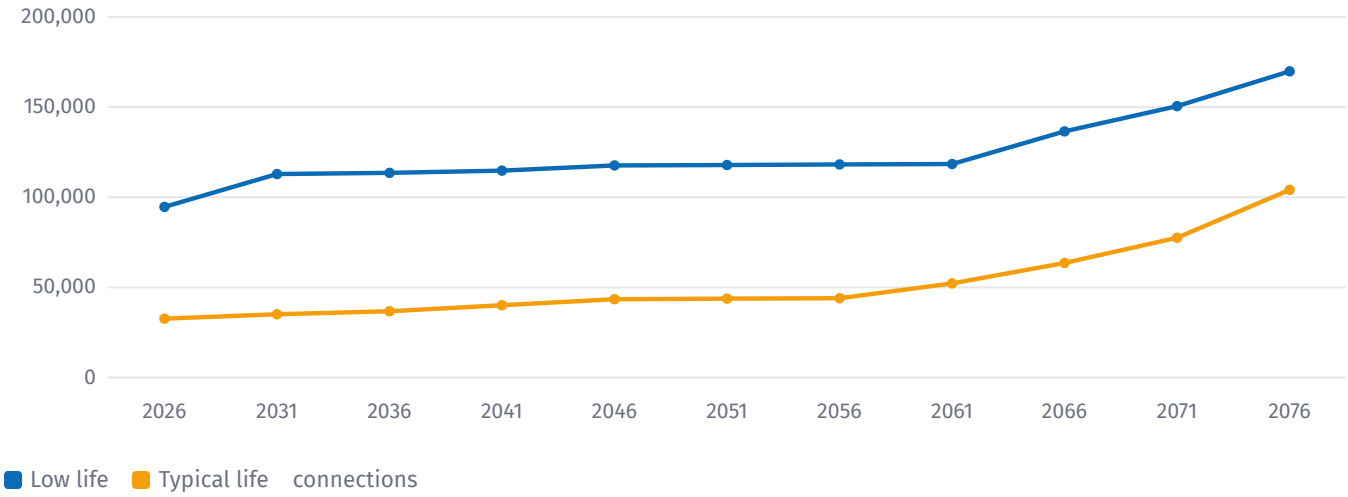
7 The wave still to come

If nothing were renewed, the number of connections past their typical life would grow from **32,720** today to **43,747** by 2051 and **104,106** by 2076. On the cautious low lives, it would grow from **94,697** to **112,835** within five years, as the last of the 1970s clay passes 50, and to **169,885** by 2076.

The shape matters as much as the size. On typical lives, the count rises slowly until about 2056, then steeply, as the 1970s clay tile reaches 100 years and the 1990s and 2000s plastic reaches its own limits later. On low lives, most of the jump comes now, in the 2020s.

These projections are not forecasts of failure. They assume nothing is renewed, and that each material lasts exactly its benchmark life. Their use is to show the size of the job and when it lands. The next question is where in the city it lands.

Connections past their expected life if nothing were renewed



8 Where the oldest sewers are

The map shades each community by the typical age of its sewer connections (the median: half are older, half newer). It covers the 211 communities with at least 50 connections; grey areas have fewer (mostly industrial land and the newest communities still being built). The communities are too many to label, so the tables below give the figures.

The pattern is a set of rings. The oldest sewers are in the inner city, built out from the centre before 1960. The middle ring of 1960s and 1970s suburbs is where the clay tile is. The outer suburbs, built since 1990, are on PVC and are young.

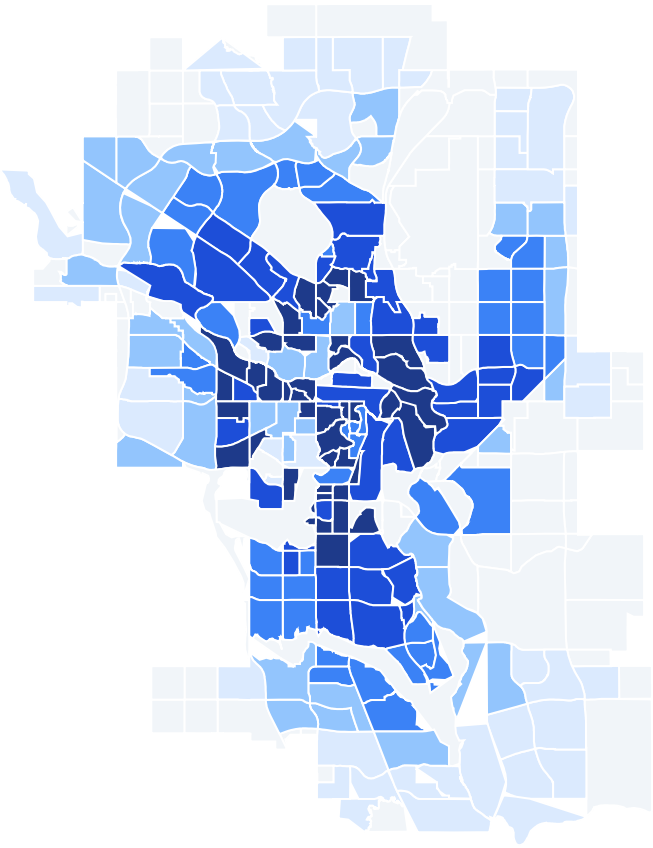
- The **Centre** sector is oldest: its communities' typical connection is 65 years old and 51.8% of its connections are over 50.

- The **Southeast** is youngest: typically about 20 years, with under 5% over 50.
- The 56 communities whose typical connection is **60 years or older** hold **53,807** connections.

The oldest are Rosedale (76 years), Scarboro, Cliff Bungalow, Upper Mount Royal, Ramsay and Inglewood, all with typical connections from the early 1950s. The table lists the twenty oldest with at least 200 connections, with the share past each community's typical life.

Age by itself is a measure of risk, not of failure. The next chapter asks whether older sewers actually cause more problems for residents.

Typical age of sewer connections by community, 2026 (years)



1 to 21 21 to 37 37 to 53 53 to 65 65 to 76 typical (median) age in years

By sector of the city

Sector	Communities	Connections	Typical age	Over 50 years	Back-ups per 1,000 a year
Centre	61	42,563	65	51.8%	37.5
South	47	74,401	48	29.6%	15.6
Northeast	34	50,376	41	18.6%	16.6
Northwest	23	50,664	39	26.5%	17.1

Sector	Communities	Connections	Typical age	Over 50 years	Back-ups per 1,000 a year
West	25	32,447	37	24.2%	16.8
East	19	15,079	37	54.2%	41.9
North	25	54,613	26	11.5%	10.2
Southeast	18	47,527	19	4.4%	4.7

The twenty communities with the oldest sewer connections

Community	Connections	Typical year	Typical age	Past typical life	Back-ups per 1,000 a year
Rosedale	593	1950	76	57.5%	59.87
Scarboro	335	1952	74	69.9%	32.84
Cliff Bungalow	251	1953	73	75.7%	45.82
Hounsfield Heights/Briar Hill	698	1954	72	61.7%	28.65
Inglewood	1,037	1954	72	60.8%	50.63
Ramsay	881	1954	72	63.7%	43.13
Upper Mount Royal	832	1954	72	59.1%	32.45
Banff Trail	1,339	1955	71	65.1%	48.54
Elboya	512	1955	71	67.6%	25.39
Renfrew	1,871	1955	71	58.5%	40.89
Britannia	265	1956	70	58.5%	18.87
Highwood	865	1956	70	54.9%	85.55
Meadowlark Park	283	1956	70	73.5%	70.67
Rutland Park	375	1956	70	80.3%	68.00
Wildwood	1,050	1956	70	74.8%	30.00
Bankview	768	1957	69	60.3%	30.60
Cambrian Heights	768	1957	69	80.3%	59.24
Elbow Park	1,223	1957	69	54.7%	24.94
Kingsland	920	1957	69	83.0%	63.59
Glendale	974	1958	68	56.4%	48.77

9 Do older sewers back up more?

Residents report sewage back-ups to 311. Over the two years from October 2024 to September 2026 there were **12,835** back-up requests placed in a community: **17.45** a year for every 1,000 connections.

The rate climbs steeply with the age of the sewers:

- Communities whose typical connection is **0 to 14 years** old: **0.95** back-ups a year per 1,000 connections (26 communities).
- Communities whose typical connection is **15 to 29 years** old: **3.83** back-ups a year per 1,000 connections (39 communities).
- Communities whose typical connection is **30 to 44 years** old: **6.77** back-ups a year per 1,000 connections (28 communities).
- Communities whose typical connection is **45 to 59 years** old: **31.58** back-ups a year per 1,000 connections (46 communities).
- Communities whose typical connection is **60 years or more** old: **48.02** back-ups a year per 1,000 connections (56 communities).

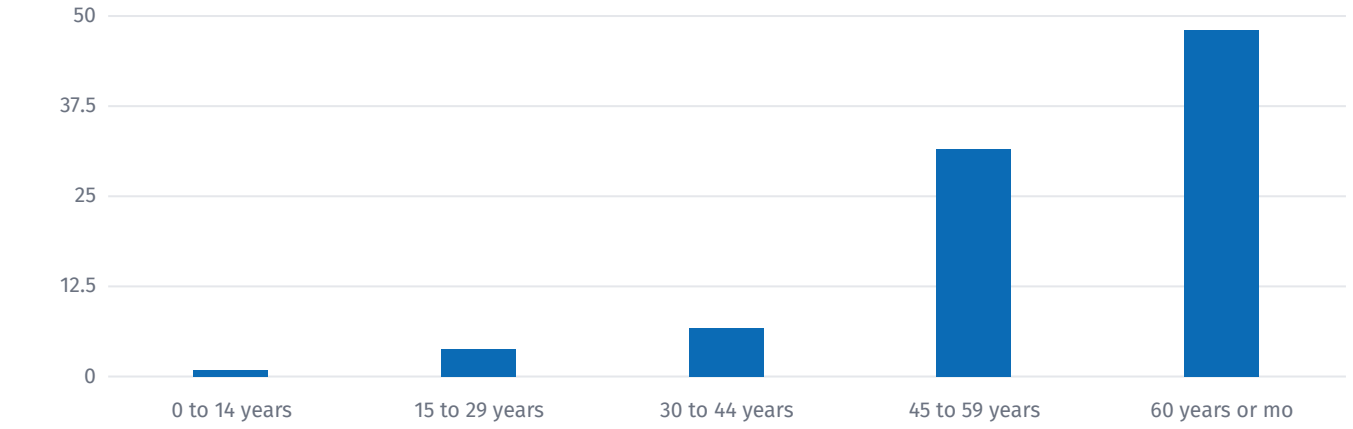
That is about **51 times** the rate of the newest communities. Across the 195 communities with at least 200 connections, the rank correlation between typical age and the back-up rate is **0.883** (1 would be a perfect match), a very strong link.

Two cautions. First, a back-up request does not say where the blockage was: many are in the owner's part of the pipe, inside the property line, which is just as old as the City's part. Second, older communities differ in other ways too: mature trees whose roots get into joints, older basements, and older plumbing. So the link shows where problems are concentrated, not that the City's pipe is always the cause.

The highest rates are in Southview (136.86 a year per 1,000), Sunalta, Highwood, Forest Lawn and Greenview. Several, such as Greenview, Thorncliffe and Chinook Park, are clay-tile communities of the late 1950s and early 1960s, not the oldest in the city. That fits the clay-joint weakness described earlier, and points to where the low view of clay's life may be the right one.

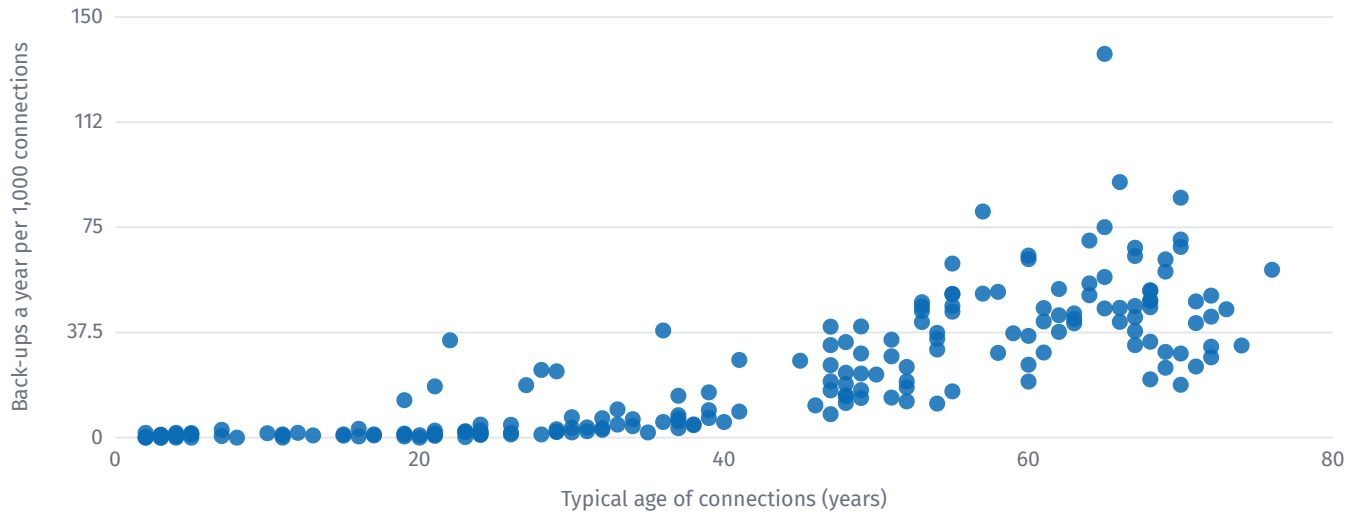
Back-ups reported to 311 have held steady at about 6,600 to 7,500 a year since 2016. The ageing system has not yet shown up as a citywide rise; the strain is local. The next chapter looks at what the City is doing about it.

Sewage back-ups a year per 1,000 connections, by typical age of the community

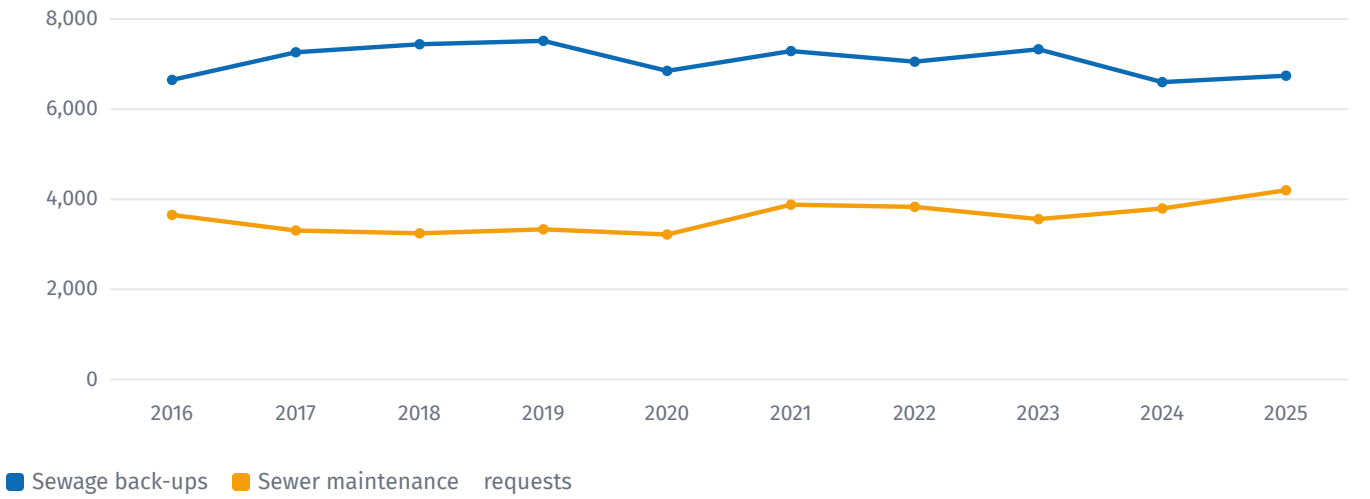


per 1,000 connections a year

Typical sewer age against back-ups, by community



Sewer requests to 311 by year



Highest back-up rates (communities with at least 200 connections)

Community	Connections	Typical age	Clay tile	Back-ups (2 years)	Per 1,000 a year
Southview	643	65	5.3%	176	136.86
Sunalta	373	66	0.3%	68	91.15
Highwood	865	70	2.1%	148	85.55
Forest Lawn	1,909	57	3.6%	308	80.67
Greenview	293	65	81.2%	44	75.09
Meadowlark Park	283	70	0.4%	40	70.67
Thorncliffe	2,511	64	44.7%	353	70.29
Rutland Park	375	70	0.0%	51	68.00
Sunnyside	657	67	0.0%	89	67.73
Crescent Heights	1,394	60	0.0%	181	64.92
Chinook Park	494	67	89.5%	64	64.78
Manchester Industrial	220	60	1.8%	28	63.64
Kingsland	920	69	6.2%	117	63.59
Albert Park/Radisson Heights	1,466	55	27.4%	182	62.07
Rosedale	593	76	0.0%	71	59.87

10 Renewal today, and what it can achieve

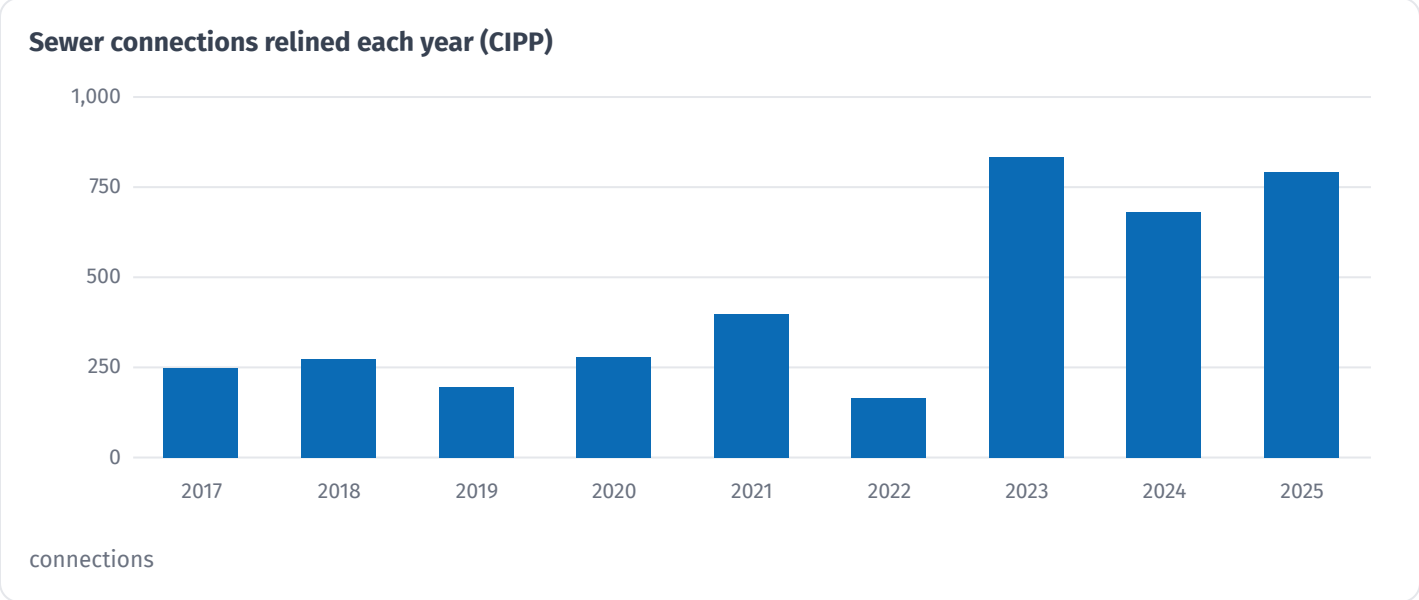
The City renews sewer connections in two ways: relining from inside (CIPP) and replacing. The open data shows both.

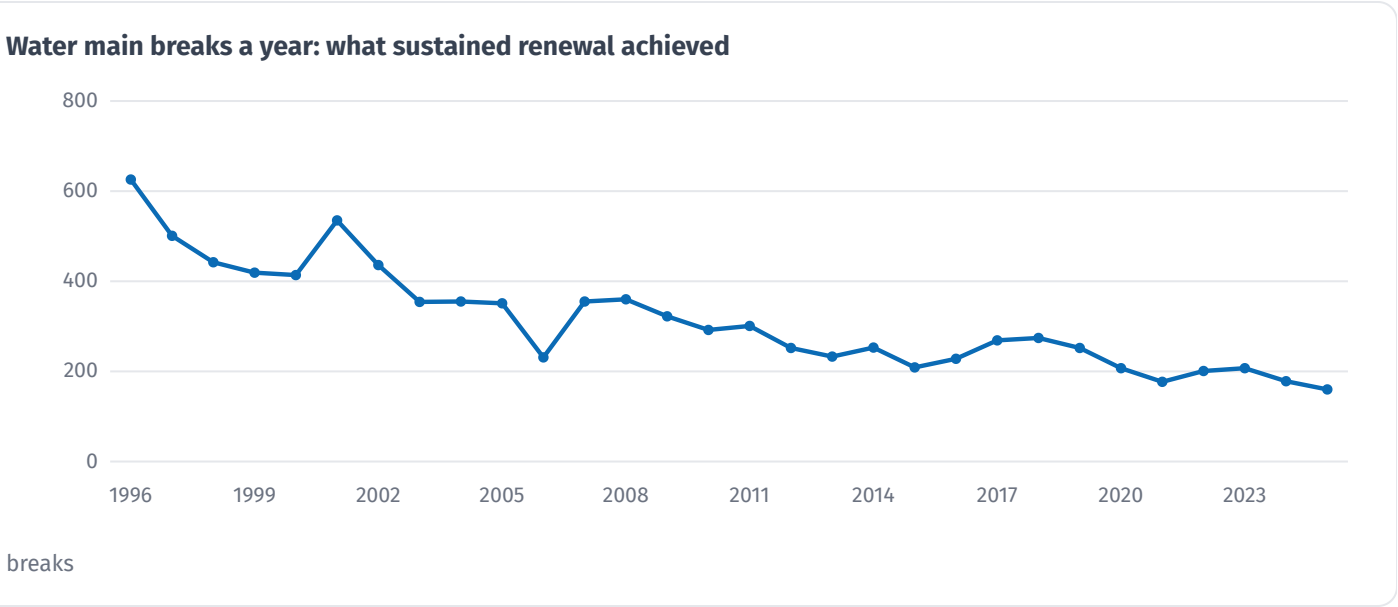
- **Relining** has picked up. Recorded relinings rose from about 250 a year in 2017 and 2018 to **833** in 2023, **682** in 2024 and **791** in 2025.
- **Replacement and rebuilding.** In the 82 communities whose typical connection dates from 1975 or earlier, **10,859** connections (10.3%) are new plastic or relined since 2010. Some of these are City renewals; many come with infill redevelopment, when a new home gets a new connection.

At around 800 relinings a year, the City relines about 0.2% of its connections each year. Germany's cities renew about 1.1% of their sewer network a year. Relining is not the only renewal, and the City's main-line work is not in the open data, so this is not a full comparison. But it does show the scale: at 800 a year, relining all 32,720 connections already past a typical life would take about 41 years.

Calgary's water mains show what sustained renewal can do. Water main breaks fell from **535** in 2001 to **160** in 2025, a fall of 70%, after years of replacing and relining cast iron. The water network is similar in age to the sewer connections: its typical main dates from 1990, 26.5% of its 5,391 km is over 50, and 774 km is still cast iron.

The City's own risk reports add the large pipes this data cannot see. Nine large wastewater river crossings are of unknown condition, rated a severe risk, with about **$400 million** needed over ten years. In 2023 the wastewater collection and treatment capital budget was **$263.9 million**, of which 44.5% was spent in the year.





Conclusion

Calgary's sewer system is young on average and old at its core. Measured by its 368,085 public service connections, the typical sewer is 31 years old, younger than Germany's city networks, because Calgary built so much so recently. The chapter on when the system was built showed the waves behind that average: an inner city laid before 1960, a 1950s-to-1970s boom, and young suburbs since 1990.

The chapter on materials showed that each wave used a different pipe: unrecorded materials and cast iron first, clay tile in the boom, PVC since. The world benchmarks showed that utilities expect plastic and clay to last about a century, and cast iron, unknown and relined pipe far less. Put together, 32,720 connections are past a typical life today, mostly the old cast iron and unrecorded pipe of the inner city. On cautious lives the count is 94,697, and the difference is the 1970s clay tile. The wave chapter showed that this decade is when the cautious view bites, and the 2050s and 2060s when the typical view does.

The map placed that risk in rings: oldest in the Centre, clay in the middle suburbs, young in the outer ones. The back-up chapter then showed the risk is not only on paper: back-ups run about 51 times as often in the oldest communities as in the newest, and some of the worst rates are in 1960s clay-tile communities, which supports the cautious view of clay. The renewal chapter showed the City has stepped up relining, and the water mains show that sustained renewal works, cutting breaks by 70%. But at today's pace, relining alone would take decades to reach the connections already past a typical life.

The thread through every chapter is the same: Calgary's sewer problem is not yet citywide, but it is concentrated, predictable from age and material, and about to grow as the largest building decade ages. The data to plan for it exists for connections; the missing piece is the same open record for the sewer mains themselves.

Options to consider

	Option	Priority
1	**Publish the sanitary sewer main inventory as open data** The water main inventory is already open (install year, material, length). The same record for sanitary mains would let anyone check the age and material of the pipe under each street, not just the connections. Based on: Chapter 1 and the limitations: only connections are published.	High
2	**Settle the life of 1960s and 1970s clay tile with targeted inspection** Clay tile is 74,089 connections and decides whether 61,977 more connections are past their life. Camera inspection of a sample in the clay communities with the highest back-up rates (Greenview, Thorncliffe, Chinook Park) would show which view of clay's life applies in Calgary. Based on: Chapters 6 and 9: the low/typical gap is clay; some of the highest back-up rates are clay communities.	High
3	**Define and fill in the unknown materials** 31,634 connections, mostly from the 1940s and 1950s, have no material or the undefined code 'TP'. They are the oldest group and the least described. Based on: Chapter 4: typical years 1953 and 1957.	Medium
4	**Weigh relining priority by back-up rate as well as age** The 56 communities with a typical connection of 60 years or more report 48.02 back-ups a year per 1,000 connections. Ranking relining by back-ups per connection, not age alone, would put Southview, Sunalta, Highwood and Forest Lawn ahead of some older but quieter communities. Based on: Chapter 9.	Medium

Next steps

Step	Who	How we will know
Ask Water Services whether the sanitary main inventory can be published like the water main inventory	Councillor offices, with Water Services	A sanitary main dataset on the open data portal
Request the results of any CCTV inspection of clay-tile connections and mains, by community	Water Services	A Calgary-specific life for clay tile in the next asset plan
Track back-ups per 1,000 connections by community each year	Water Services and 311	Rates falling in the communities with the highest rates today

How this was worked out

1. Every public sanitary service connection in the City's open data (xesp-3jc3, 368,085 records, read November 7, 2026) was placed in its community by the start point of its line, using the City's community boundaries (surr-xmvs).
2. Ages are 2026 minus the install year. 396 records with no date and 18 dated after 2026 are left out of age figures (367,671 used).
3. Materials were grouped: PVC; other plastic (PLA, HDPE, PEX, PE); clay tile (TIL); cast iron (CI, DI); concrete (CON); relined (CIPP); TP (as coded, not defined in the dataset); other or not recorded (OTHER and blank).
4. Each connection was compared with a low, typical and high expected life for its material (table in chapter 5). 'Past its life' means its age is greater than that life.

5. The wave projection repeats the comparison for future years, assuming no renewal.
6. Typical age of a community is the median age of its connections. The map shows communities with at least 50 connections; rankings and the back-up analysis use those with at least 200.
7. Sewage back-ups are 311 requests of type 'WATS - Sewage Back-up' (open data iahh-g8bj), without duplicates, October 1, 2024 to September 30, 2026, by community; rates are per 1,000 connections a year. The rank correlation is Spearman's, across communities.
8. Water mains (w6h9-w33i, active mains) and water main breaks (dpcu-jr23) are used for comparison.

Data sources

Source	Publisher	Period used	Notes
Public Sanitary Service Lines (xesp-3jc3) https://data.calgary.ca/d/xesp-3jc3	City of Calgary	all records, read Nov 7, 2026	
Community District Boundaries (surr-xmvs) https://data.calgary.ca/d/surr-xmvs	City of Calgary		
311 Service Requests (iahh-g8bj) https://data.calgary.ca/d/iahh-g8bj	City of Calgary	2016 to 2026	
Public Water Main (w6h9-w33i) https://data.calgary.ca/d/w6h9-w33i	City of Calgary		
Water Main Breaks (dpcu-jr23) https://data.calgary.ca/d/dpcu-jr23	City of Calgary	1996 to 2025	
Wastewater Collection & Treatment service plan update (2023 results) https://wwwsptest.calgary.ca/content/dam/www/ca/city-manager/documents/2023-2026-service-plans/updates/wastewater-collection-treatment.pdf	City of Calgary		
Breakdown of Critical Assets in Poor and Very Poor Condition (IP2026-0102, Attachment 1) https://livewirecalgary.com/wp-content/uploads/2026/02/Attach-1-Breakdown-of-Critical-Assets-in-Poor-and-Very-Poor-Condition-IP2026-0102.pdf	City of Calgary		
Asset Management Strategy, Useful Life Summary (v1, June 2023) https://www.saanich.ca/assets/Local~Government/Documents/Engineering/AMStrategy-v1-AppG-UsefulLife.pdf	District of Saanich		
Review of Sydney Water Corporation's asset lives and asset value estimates (Nov 2007) https://www.ipart.nsw.gov.au/sites/default/files/documents/review_of_sydney_water_corporations_asset_lives_and_asset_value_estimates_-_final_report_-_november_2007_-_halcrow_pacific.pdf	Halcrow Pacific for IPART (NSW)		
Canada's Core Public Infrastructure Survey: Water infrastructure, 2020 https://www150.statcan.gc.ca/n1/daily-quotidien/220726/dq220726a-eng.htm	Statistics Canada		

Source	Publisher	Period used	Notes
State of the Sewer System in Germany (DWA survey 2015) https://de.dwa.de/files/_media/content/03_THEMEN/Entwaesserungssysteme/Kanalumfrage/State%20of%20the%20Sewer%20System%20in%20Germany.pdf	DWA (German Association for Water, Wastewater and Waste)		
State of Clean Water and Sanitation Systems in Canada (2025, data 2022) https://canadianinfrastructurecouncil.ca/state-of-clean-water-and-wastewater-systems	Canadian Infrastructure Council		
Wastewater earns D+ on ASCE 2025 Infrastructure Report Card https://www.wwdmag.com/utility-management/news/55277011/wastewater-earns-d-on-asce-2025-infrastructure-report-card	Water & Wastes Digest		

What this cannot tell you

- The City does not publish its sanitary sewer mains as open data. Service connections are used as a guide to the age of the sewer in each street; a main may have been relined or replaced separately.
- Material is not recorded for 24,039 connections, and the code 'TP' (7,595) is not defined in the dataset. Many of these records also lack a length.
- Expected lives are benchmarks from other utilities, not inspections. Actual life depends on soil, installation, joints, roots and flows. Age is a guide to risk, not proof of failure.
- Sewage back-up requests include blockages in the owner's part of the pipe; they show where problems are concentrated, not who owns the cause.
- Renewal of sewer mains, and replacements not recorded as a new connection, are not in the open data, so the renewal rate here is a partial view.
- Large trunk sewers, river crossings, lift stations and plants are outside this data; the City's own risk report is quoted for them.

Appendix: every data request

Every data request made for this report, in order. Anyone can repeat them on data.calgary.ca, or with the files named here, to check the figures.

	Step	Query or source	Result	Time
1	City open data xesp-3jc3	`all records: installed_date, material_type, bldg_type, status_ind, pipe_length, pipe_diameter, geometry`	368,085 rows	17:49
2	City open data surr-xmvs	`comm_code, name, sector, class, multipolygon`	313 communities	17:49
3	City open data w6h9-w33i	`all records: year, material, diam, length, status_ind, geometry`	60,740 rows	17:49
4	City open data iahh-g8bj	`service_name in sewage back-up, sewer maintenance, catch basin; not duplicates; by year, and by community Oct 2024 to Sep 2026`	grouped counts	17:49

	Step	Query or source	Result	Time
5	City open data dpcu-jr23	`count of breaks by year`	71 years	17:52

Made from public data: City of Calgary open data and the other sources listed above (City of Calgary data read November 7, 2026). Check key figures against the sources before quoting them in public. Options are ideas to consider, not City policy.