Growth or Spending? Calgary's Proposed 15% Property Tax Increase

A ward-level analysis of growth, spending, property assessments and amenity provision, 2021–2030

Data pulled 13 November 2026 · Code and data: github.com/hassanaliarshad110/calgary-data-desk, frozen snapshot branches `taxstudy-v1.5` (scripts, commit 229f4ec) and `taxstudy-v1.3-data-p1/p2/p3` (raw data) · Independent audit: 5 passes, plus v1.4 and v1.5 section audits (Section 5)

Abstract

On 10 November 2026 City administration proposed raising municipal property tax from existing properties by 15% in 2027, then 10%, 7.7% and 6% (compounded +44.4% to 2030). We combine the City's 2027–2030 budget open data, 384 business cases, the full assessment roll (2023–2026, matched home by home), and modelled ward population estimates from the calgaryinsight.ca growth model to address four questions: (1) does the increase track growth and inflation, (2) who would bear it, (3) where growth and amenity inventories diverge, and (4) what 10% or 5% would mean in dollars. Population growth combined with consumer inflation produces a comparison benchmark of +15.6% over 2026–2030, against a proposed cumulative tax-revenue increase of +44.4%; over 2027–2030 the tax steps (+25.6%) track operating spending (+26.8% City data). Real operating spending per resident rises 13.9% (2027–2030) including the water utility and 6.7% without it. Because Calgary taxes homes at one rate, the 15% revenue increase translates to roughly +18% for semi-detached homes, +16% for detached and +8% for condo apartments (indicative, back-tested error up to 2.7 points). On modelled estimates, five wards absorbed 51% of population growth since 2021; they have lower amenity provision by site count per resident than the other nine (amenity provision by inventory count: 33% fewer transit stops and 73% fewer City recreation sites per resident), which is not a measure of capacity or service quality. Separately from the ~$384M the proposed 2027 step would raise, the City's 124 operating requests ask for $354.7M of new money in 2027 (78% ongoing), mostly under the City's Safe city (31%) and Reliable and sustainable infrastructure (29%) themes; the business cases do not show how much would be funded by property tax. The study does not argue for or against the increase. It compares the proposed tax trajectory with population growth, inflation and operating expenditure, examines the distribution of estimated tax changes across property types and wards, and identifies areas where growth and amenity inventories diverge.

Three different "increases"

Level	What it measures	2027 figure	Source
Citywide revenue	Municipal property tax levied on existing properties (budgeted revenue, homes and businesses)	+15% (~$384M)	City (proposed)
Residential tax rate	Rate per dollar of assessed value applied to homes	about +19% (18.7–19.5%)	Our inference from City typical-home figures
Individual bill	Your bill = your assessment × the rate; depends on how your assessment moved	Typical home +16%; by type about +8% to +18% (modelled, ±3 pts)	City (typical home); our estimate (types)

The 15% figure is the first row only. It is not the change on every bill.

Executive conclusion

The evidence establishes	The evidence does not establish
The proposed tax path (+44.4% to 2030) is about three times population growth plus consumer inflation (+15.6%) over the same years.	That spending above that benchmark is unnecessary. City costs also rise with wages, construction prices, ageing infrastructure and service obligations.
From 2027, tax steps (+25.6%) and operating spending (+26.8% to +31.9%) move together; 43% of the spending increase is the water utility, which is rate-funded.	Which specific programs should be funded or cut. The 10% and 5% gaps are scale comparisons, not cut lists.
Because homes share one tax rate, semi-detached and detached owners would likely pay more than 15% and condo owners less, as already happened on 2026 bills.	Any individual 2027 bill. 2027 assessments are unpublished; type estimates carry about ±3 points of uncertainty.
On modelled estimates, growth since 2021 is concentrated (five wards, 51%), and those wards have fewer transit stops and recreation sites per resident.	Service failure or lower service quality. Site counts do not measure capacity, and lower 311 rates are not evidence of better service.
The proposed capital plan (about $4.4B in 2027, about $21B to 2030) would, if spent in full, be about 1.05 to 1.26 times the City's forecast 2026 capital spending ($4.18B) and 1.8 to 2.1 times its 2025 forecast; 42% of the $13B in new capital requests is the Water Utilities service area (water, wastewater, stormwater).	Whether the City will or will not deliver it. Stage labels are not contract status, and unspent capital moves to later years rather than lapsing.

1. Research questions

#	Question	Primary evidence	Section
Q1	Is the increase explained by population growth and inflation?	City population/CPI forecasts; budget open data; Herald totals	4.1–4.2
Q2	Who pays more or less than 15%?	Assessment roll 2023–2026 matched by roll number; CREB benchmarks; tax bylaw	4.3
Q3	Where did growth happen and is service pressure visible?	Growth model by community/ward; 311; City asset inventories	4.4–4.5
Q4	What do 10% or 5% mean in dollars?	City typical-home figures; $25.6M per 1%; business-case totals	4.6
Q5	What does the proposal fund, and what pace does it require?	Business cases (operating and capital); City financial reports; press	4.2.1–4.2.3

2. Data

Source	ID / document	Coverage	Records used
City 2027–2030 Budget (open data)	nnnm-9sfh	Operating (net of recoveries) and capital, by dept/BU, 2027–2032	1,392 rows
Budget request business cases	City PDF, 792 pp. (SHA-256 in README)	All operating and capital requests, Nov 2026	384 cases (124 op, 260 cap)
Current-year assessment roll	4bsw-nn7w	2026 roll (valued 1 Jul 2025)	501,999 RE rows; 499,455 roll numbers
Historical assessment roll	4ur7-wsgc	Roll years 2023–2025	469,439 / 477,666 / 491,208 rows
2026 Property Tax Bylaw 9M2026	Alberta Municipal Affairs	Rates and levy by class	residential rate 0.0038906
Growth model (calgaryinsight.ca)	population.py, dashboard.py	Homes × 2021 Census people per home, scaled to City total	14 wards, residential communities
311 service requests; City assets	311 data; hxfu-6d96 (recreation); parks; transit stops	Nov 2024–Oct 2026	per ward
City Economic Outlook	Spring 2026 Table 4; Fall 2026 Table 1	Population 2021–2030; CPI 2021–2030	—

Source	ID / document	Coverage	Records used
CREB monthly statistics	Calgary packages, Jul 2025 / Jul 2026	Benchmark price YoY by type	5 types × 2 years
City financial reports	Annual Financial Reports 2023–2025; 2023 Progress Update; year-end 2024 update; 2025 Q3 and 2026 Q2 quarterly reports; Budget 2026 (preview and as approved)	Capital and operating budget vs actual and forecasts; year-end surpluses	2023–2026
Press	Calgary Herald (10 Nov), Global News (2 Sep, 10 Nov), CTV, CBC, LiveWire, BuildForce Canada	2026 base, 2028–30 steps, $25.6M per 1%; 2027 capital, debt, positions, staff counts, construction labour outlook	cited inline

Collection: three GitHub Actions jobs (branches taxstudy-probe, taxstudy2-probe, taxstudy3-probe) queried the City portal on 13 Nov 2026 and committed raw outputs to the matching "-out" branches. Historical roll codes (e.g. RE0110, RE0410) were mapped to current codes (R110, R402) by cross-tabulating roll numbers present in both 2025 and 2026; leading zeros were stripped on both rolls.

3. Methods

3.1 Population

Homes = assessment roll, class RE, property type LI, sub-property use R*, by community and year built. Residents from new homes = homes × 2021 Census people per home (+ rentals). The main view scales every community's 2021 count by one factor (1.1001 on this run) and adds measured new-home growth so the sum equals the City's monthly estimate (straight line between April figures). Communities are assigned to the ward holding most of their area. The Census-based residential-community population (1,288,995) is about 2.5% below the City's April 2021 estimate (1,321,600). Ward estimates incorporate a uniform citywide scaling adjustment to align the two; this is not a ward-specific measurement of Census undercoverage. Ward figures are modelled estimates, not official ward counts. The City publishes a citywide estimate and forecast as of April each year, not ward populations; our ward totals sum the residential communities assigned to each ward and are interpolated to the month (November 2026). Community-to-ward assignment: each community goes wholly to the ward that contains most of its area (City community and ward boundary files); communities split by a ward boundary therefore count entirely in one ward.

3.2 Spending benchmarks

Per-resident spending = budget ÷ City April population of the same year; real = ÷ compounded City CPI forecast. Spans are matched (2026→2030 four steps; 2027→2030 three steps). The City's 2027–2030 open data is not comparable with 2023–2026, so the 2026 base uses Calgary Herald totals ($5.118B 2026, $5.963B 2027, $7.867B end of cycle). Water Services (and Waste & Recycling) are shown separately because they are funded mainly through utility rates, not property tax. Population plus consumer inflation is a comparison benchmark only: it is not a measure of justified spending, and spending above it is not by itself evidence of waste. City cost drivers (collective agreements, construction prices, ageing assets, new service obligations) can run above consumer inflation.

3.3 Who pays: rate-multiplier rule

From the City's typical home (tax $229.32 → $266; value $706,000 → $688,000):

```
R = (266 / 229.32) / (688,000 / 706,000) = 1.1903 [range 1.1881–1.1925]
bill change(g) = (1 + g) × R − 1 break-even g = 1.15 / R − 1 = -3.39%
g(type) = −2.55% + (CREB_Jul2026(type) − CREB_Jul2026(detached))
ward change = Σ v·r·(1+g_type)·R / Σ v·r − 1 over every home on the 2026 roll, r = 0.0038906
```

Baseline. The central estimate uses $229.32, the City's published 2026 monthly City tax for its typical single residential property (2026 budget adjustments, calgary.ca/adjustments). Recomputing that bill from the final 2026 bylaw rate gives 706,000 × 0.0038906 ÷ 12 = $228.90. The City's figure was

published with the 2026 budget adjustments, before the final bylaw rate was set (March 31, 2026), which likely explains the $0.42 gap. $228.90 is used only as a sensitivity test: it moves R from 1.1903 to 1.1925 (+0.2 points). The $1 rounding of the City's $266 moves R by ±0.2 points.

R is inferred, not published. A rate rise above 15% can come from a falling residential base, a change in the residential/non-residential split, or both. CREB 'row' is applied to R401/R402 and 'apartment' to R201/R202/R301/R302; other residential codes use CREB total residential. Validation: the same anchoring applied to CREB July 2025 is compared with the actual 2025→2026 same-home medians (Section 5).

3.4 Paired assessment change

Change = value(t) / value(t−1) − 1 for the same roll number and the same home type; medians and interquartile ranges by type. 2025→2026: 486,475 matched accounts, 485,541 with the same type.

3.5 Service pressure

Transit stops and recreation sites: all sites in each ward divided by the ward's modelled residents (one base for counts and rates). Park hectares and 311 rates: per 1,000 residents of residential communities (311 uses mid-period residents), averaged across wards weighted by residents. The five fastest-growing wards (by modelled growth) are compared with the other nine. Counts measure sites, not size, quality or frequency of service.

4. Results

4.1 The tax path against growth and inflation

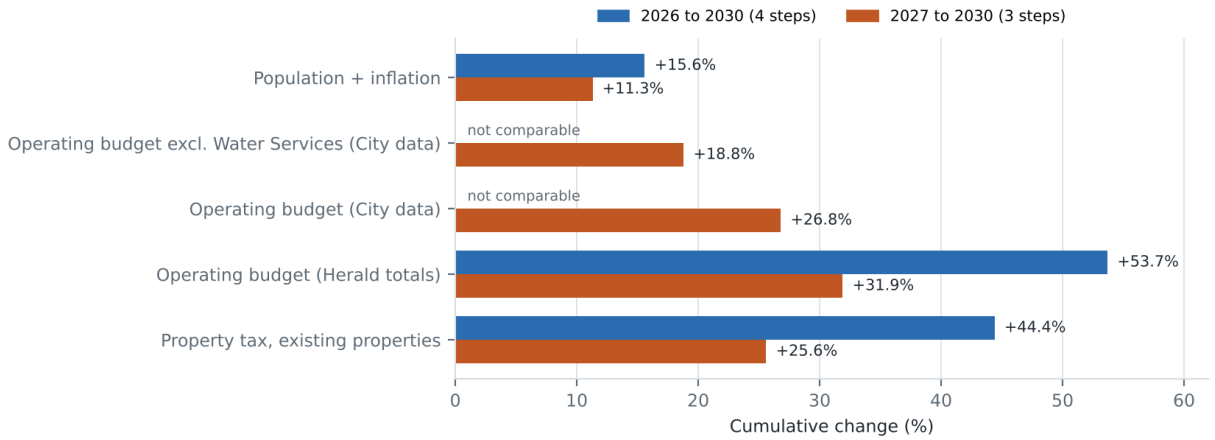


Figure 1. Cumulative change on matching spans. Sources: City Economic Outlook (population, CPI); City budget open data; Calgary Herald; proposed tax path.

Over 2026–2030 the tax path is about three times population plus inflation. From 2027 the tax steps (+25.6%) and operating spending (+26.8% to +31.9%) move together, both more than double population plus inflation (+11.3%). Excluding Water Services, which is funded mainly through utility rates and accounts for 43.1% of the increase, City-data operating expenditure rises +18.8% ($5,211.6M to $6,191.3M). This still does not show how much of the remaining spending is funded by property tax; that would need a funding-source reconciliation the City has not published. The 2026→2027 jump in the Herald operating total is +16.5%. July documents (Global News) put the increase needed only to maintain services in 2027 at 5.4%. The benchmark shows scale, not whether spending is justified (Section 3.2).

4.2 Spending per resident and where it grows

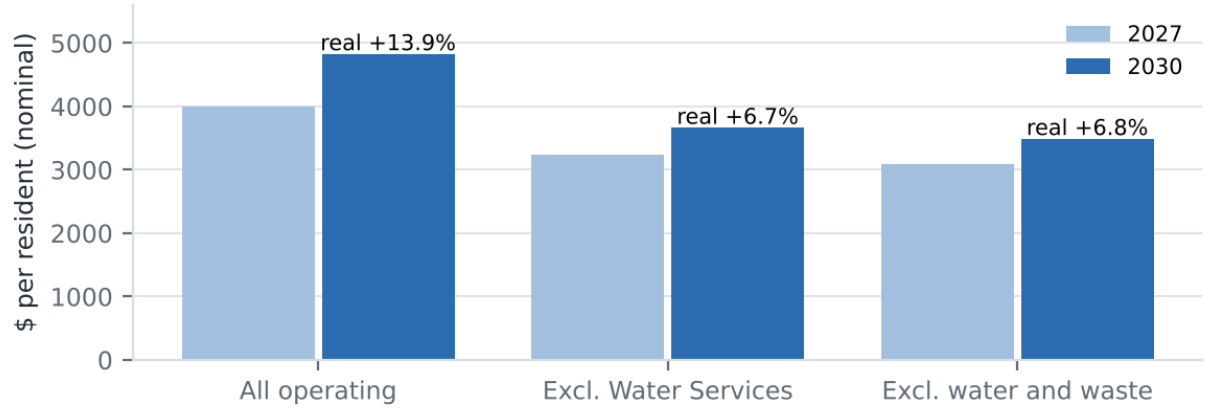


Figure 2. Operating spending per resident, City data (net of recoveries). Real growth deflated by City CPI forecast 2028–2030 (+6.0%).

Business unit	2027 ($M)	2030 ($M)	Change ($M)
Water Services	1,222.0	1,965.3	+743.3
Corporate Programs	900.6	1,480.0	+579.4
Calgary Transit	659.9	823.6	+163.7
Mobility	379.8	447.6	+67.8
Calgary Police Service	742.2	809.5	+67.3
Emergency Management & Community Safety	184.7	231.3	+46.6

Business unit	2027 ($M)	2030 ($M)	Change ($M)
All	6,433.6	8,156.6	+1,723.0

Water Services is 43.1% of the operating increase. New ongoing requests total $595.6M (four years): explicit Council direction $256.5M, implicit $153.9M, risk-based $129.1M, provincial changes $28.2M, Police Commission $27.9M; 1,926 FTEs.

Capital requests ($13.05B, 2027–2031) by City purpose tag: maintenance 42.4%, growth 34.6%, enhancement 20.3%, transformative 2.7%. Utilities Delivery is $5.87B (45.0%); excluding it, maintenance is 58.8%. Only 34 of 260 requests (13.1%; 8.2% of dollars) carry a ward tag; the correlation between residents added and ward-tagged capital is 0.23 (tags record location, not benefit).

Capital periods. The business cases request $13.05B in total: $13.02B for 2027–2030 plus $26.7M scheduled for 2031 and later (hence '2027–2031'). The City's $21B headline is the four-year capital plan: these new requests plus capital approved in earlier budgets (the open data lists $6.9B approved for 2027–2030). The two published totals do not fully reconcile (about $1B); Sections 4.2.2–4.2.3 use $21B only as the City's stated four-year total.

Two spending series, not one. The City's open data (2027–2030, operating expenditures net of recoveries) and the Calgary Herald totals (2026 base and end-of-cycle total operating budget) use different accounting scopes, and no reconciliation between them has been published. They are reported side by side as separate comparisons and are never joined into one trend.

4.2.1 What the 2027 requests would fund

The proposed 15% step would raise about $384M in 2027 (at the reported $25.6M per point). Separately, the City's 124 operating budget requests (98 with a 2027 amount) ask for $354.7M of new money that year: $276.1M ongoing (78%) and $78.6M one-time, with 855 new full-time equivalent (FTE) positions. The two figures should not be subtracted. The business cases do not state which requests would be paid by property tax and which by reserves, fees or other sources, and the levy step must also cover cost growth in existing services, which the business cases do not itemize; July City documents, as reported by Global News, put the increase needed only to maintain services at 5.4% (roughly $138M at $25.6M per point, our arithmetic). Amounts are proposed and grouped by the City's own theme for each request; shares may not sum to 100 because of rounding.

City theme	2027 new money ($M)	Share
Safe city	110.1	31.0%
Reliable and sustainable infrastructure	101.7	28.7%
Functional transportation network	64.0	18.0%
Trusted and collaborative government	37.0	10.4%
Community livability and well-being	26.6	7.5%
Balanced growth and evolving neighbourhoods	15.3	4.3%
All 2027 requests	354.7	100%

Request (City title, shortened)	Business unit	2027 ($M)	Type	City rationale	Page
Securing Sustainable Funding for Infrastructure Maintenance	Corporate Programs	62.4	ongoing	Explicit Council direction	20
Implement the cross-corporate strategies of the Safer Together plan to…	Community Strategies	28.8	mixed	Explicit Council direction	275
Reducing financial barriers to accessing transit - Low Income Transit Pass	Calgary Transit	25.1	ongoing	Implicit Council direction	369
Renew The City’s digital infrastructure supporting finance, supply chain…	Corporate Programs	20.4	one-time	Risk-based considerations	35
Calgary Police Budget Request	Calgary Police Service	20.3	mixed	Commission Requested	224
Increase the number of Transit Peace Officers to improve visibility…	Emergency Management & Community Safety	18.2	mixed	Implicit Council direction	271
Parks Maintenance Funding Levels 2026	Parks & Open Spaces	14.0	ongoing	Explicit Council direction	467

Request (City title, shortened)	Business unit	2027 ($M)	Type	City rationale	Page
Increasing Transit service for customers - RouteAhead Investment	Calgary Transit	12.0	ongoing	Explicit Council direction	359
Industrial Development Incentive Program	City & Regional Planning	10.0	one-time	Explicit Council direction	537
Resourcing Prairie Economic Gateway Delivery	Chief Operating Officer	7.5	mixed	Explicit Council direction	609

The ten largest requests are 62% of 2027 new money; the top three are 33%. By the City's own rationale categories, 49% cites explicit direction from Council and 21% implicit direction (the City's inference), 24% risk-based considerations and 6% the Police Commission's request. Some 2027 amounts start larger programs: the City's note puts the full one-time request for renewing finance, supply-chain and HR systems at $302.9M, and the Industrial Development Incentive Program at $40.0M. The infrastructure maintenance request starts at $62.4M a year in 2027, with further yearly additions requested to 2030 ($18.8M, $15.7M, $11.9M). Page = page of the City's 792-page business-case document. 'Mixed' = ongoing and one-time money in 2027.

4.2.2 The capital plan

The City proposes about $21B of capital from 2027 to 2030 (City budget page), about $4.4B of it in 2027 (as reported by Global News). Of this, $13.05B is in 260 new capital requests (42.4% of it maintenance or replacement by the City's purpose split); the rest is capital approved in earlier budgets ($6.9B in the open data; see the capital-periods note in 4.2). The new requests rise from $1.55B in 2027 to $3.02B, $4.03B and $4.43B ($26.7M in 2031+). The Water Utilities service area (water, wastewater and stormwater) is the largest ($5.48B, 42.0%; water and wastewater alone $5.02B); Utilities Delivery, which also runs waste and recycling, is $5.87B (Section 4.2). Then come all-services corporate needs (fleet, facilities, project development, land, technology; 16.1%), roads and pathways (15.2%) and transit (10.1%). Weighted by each request's purpose split: maintenance or replacement 42.4%, growth 34.6%, service enhancement 20.3%, transformative 2.7%. The median request is $12.1M; 119 are under $10M, 21 are $100M or more and 4 exceed $500M (all water or wastewater); the ten largest are 54.3% of the total and 55.9% of the 2027 amount (the ten largest 2027 amounts are 61.1% of 2027). For the same requests the City lists $19.3B of 2027–2030 needs; the budget funds $13.0B (67.6%) in aggregate, with 52 requests budgeted above their own listed needs, partly from timing.

Request (City title, shortened)	Service area	Total ($M)	2027 ($M)	City stage	Page
Wastewater Treatment Plants Program	Water Utilities	2,293	375	Execute	73
Water Distribution Network Program	Water Utilities	1,143	82	Execute	76
Water Treatment Plants Program	Water Utilities	824	98	Execute	80
Wastewater Collection Network Program	Water Utilities	684	48	Execute	70
Stormwater Management Program	Water Utilities	455	63	Execute	62
Pavement Rehabilitation Program	Roads & Pathways	420	51	Plan & Design	125
Vehicle & Equipment Replacement	All Services	408	100	Execute	141
RouteAhead Implementation Plan Bus Fleet Procurement...	Transit	300	0	Assess & Select	383
GamePLAN - Wave 1 Projects	Recreation	284	9	Identify	180
Facility Asset Sustainment Annual Investment Program	All Services	276	43	Plan & Design	83

Funding group (requests often combine sources)	New capital ($M)	Share
Includes self-supported debt (repaid from utility rates or, for fleet, charges to other City units)	6,343	48.6%
Includes tax-supported debt (repaid from property tax)	4,091	31.3%
Reserves, grants or developer contributions only	2,617	20.1%

Funding groups are assigned by the sources each request lists, in this order: any self-supported debt; otherwise any tax-supported debt; otherwise neither. Fleet self-supported debt ($552M) is repaid through charges to other City units, many of

them tax-supported. As reported, City debt would rise from $4.2B in 2027 to $10B in 2030, about 80% of its debt capacity.

4.2.3 What pace would the plan require?

Year	Capital budget	Spent	Spend rate	Source
2023	$2.78B	$1.46B	52.5%	City 2023 Progress Update
2024	$2.09B	$1.93B	92.4%	City year-end 2024 update
2025	$2.7B	~$2.46B (forecast)	91% (forecast)	City Q3 2025 report
2026	$3.7B approved; $4.47B at Jun 30	$1.38B to Jun 30; ~$4.18B (forecast)	94% (forecast)	City Q2 2026 report
2027	~$4.4B (proposed)	–	–	Global News
2027–2030	~$5.25B a year (proposed)	–	–	calgary.ca ($21B / 4)

The City forecasts capital spending of about $4.18B in 2026 (94% of a budget approved at $3.7B and standing at $4.47B at June 30; $1.38B spent by then). If spent in full, the proposed 2027 capital budget would be about 1.05 times the 2026 forecast and about 1.8 times the 2025 forecast; the four-year average about 1.26 and 2.1 times. The City's 2025 year-end forecasts moved between 91% and 101% during the year; the 2025 year-end actual is in a report that could not be retrieved, and the 2026 figure can still change. By the City's stage labels, 58.4% of new capital (69.6% of 2027) is at Stage 4, Execute; 21.8% is at Identify or Assess & Select. Stage labels are not contract status, which the budget documents do not give. Among works in the four-year plan, the Fish Creek wastewater plant upgrade contract was awarded in January 2025 ($547.1M; the contractor lists completion in 2030). The Green Line, funded mainly from earlier approvals ($16.6M in the new requests), reports more than $200M of construction contracts awarded, station contracts expected late 2026 and its track RFP posted in July 2026. The operating requests (none of the capital requests) add 855 FTEs in 2027 and 1,926 over four years (about 1,800 as reported), mostly in Calgary Transit (579), Emergency Management & Community Safety (383), Calgary Fire (194). For scale, the City's website lists 16,846 employees (basis and scope not stated); City staff excluding police, civic partners and on-call, student and seasonal staff rose from 13,483 (Dec 2022) to 15,751 (Sept 2024) (City data via CBC); the website figure and this series are on different bases. The City attributes part of its first-half 2026 operating savings to vacancies and delayed hiring (Q2 2026 quarterly report). Large projects are built by contractors (for example Graham on Fish Creek; PCL and Graham on Green Line packages). The City's 2026 budget lists cost escalation from a tight labour market and supply chain challenges as a capital-delivery risk; BuildForce Canada forecasts that Alberta's construction labour force will need to add 48,800 workers by 2035, including replacing about 43,700 retirements. Capital budget that is not spent is re-timed to later years: in February 2025 the City moved $893M of its 2025 budget to 2027 and later, so it now falls in or after the 2027–2030 plan period. Separately, consolidated operating expenses were 99.0%, 98.3% and 97.8% of budget in 2023–2025 (Annual Financial Reports); the year-end operating surpluses ($236M, $276M, $259M) reflect both spending below budget and revenue above it, such as investment income, and were transferred to the Fiscal Stability Reserve the following year. The study does not predict delivery; it shows the pace the plan would require.

4.3 Who pays more than 15%

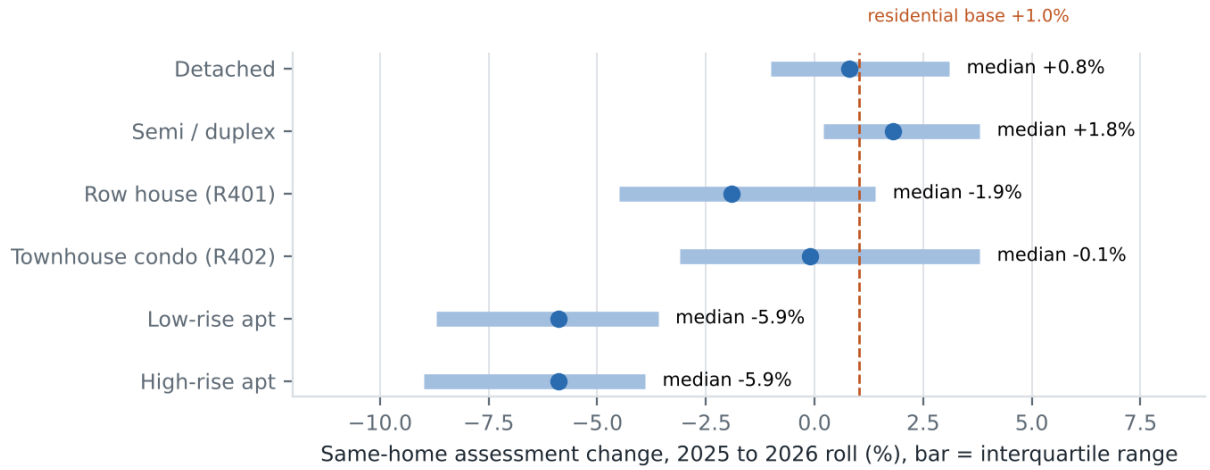


Figure 3. Same-home assessment change by type, 2025→2026 roll (valuation dates 1 Jul 2024 → 1 Jul 2025). Dot = median; bar = interquartile range.

Home type	Homes 2026	Median value	Median Δ 25→26	Δ 23→26	Share above base
Detached house	306,536	$718,000	+0.8%	+26.7%	46%
Semi-detached / duplex	36,820	$580,000	+1.8%	+27.4%	63%
Row house / townhouse (code R401)	12,760	$519,500	-1.9%	+33.6%	27%
Townhouse condo (code R402)	49,917	$427,000	-0.1%	+39.9%	41%
Low-rise condo apartment	51,411	$291,000	-5.9%	+43.2%	9%
High-rise condo apartment	29,723	$329,500	-5.9%	+22.2%	6%

Home type	CREB Jul-2026 YoY	Assumed 2027 assessment Δ	Modelled 2027 City tax Δ (central)	Range (±3 pts)
Semi-detached	-0.30%	-0.98%	+17.9%	+15% to +21%
Detached	-1.87%	-2.55%	+16.0%	+13% to +19%
Row	-6.10%	-6.78%	+11.0%	+8% to +14%
Apartment condominium	-8.37%	-9.05%	+8.3%	+5% to +11%

Modelled municipal tax changes for each home type, not confirmed individual bills. The range reflects the back-tested error of the CREB proxy (up to 2.7 points).

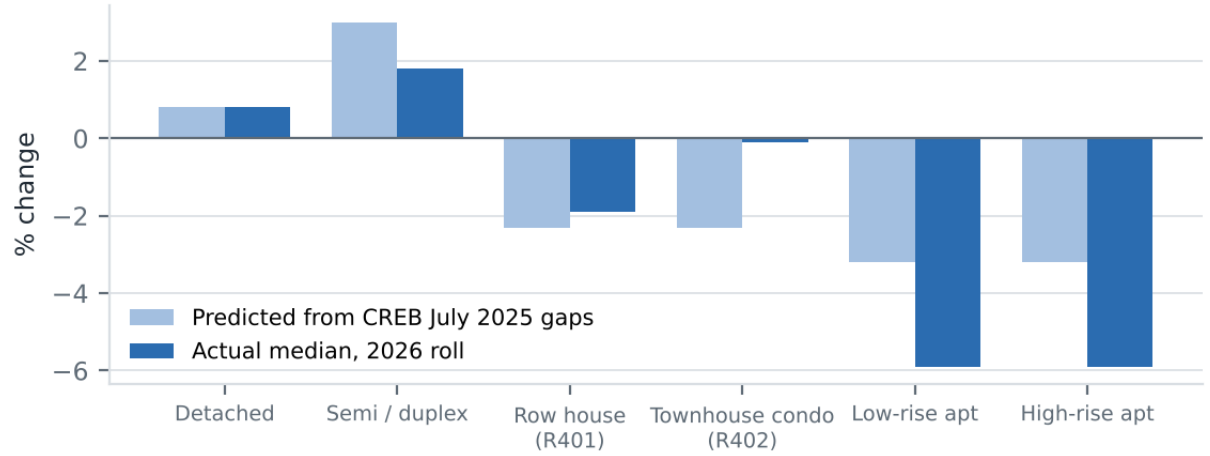


Figure 4. Back-test of the anchoring method on the 2026 roll. Errors: semi +1.2, row codes −0.4 / −2.2, apartments +2.7 points. Direction correct for every type; CREB understated the condo apartment decline.

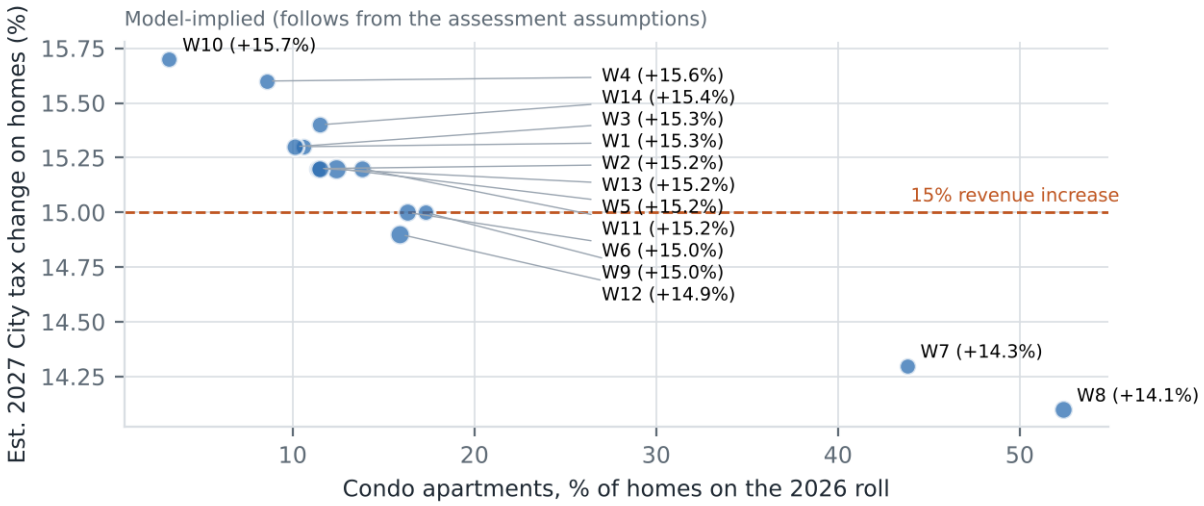


Figure 5. Model-implied relationship, not independent evidence: the model assumes condo apartment assessments fall more than houses, so wards with more condo apartments are estimated to get smaller increases. Citywide check: +15.0%. Sensitivity: with raw CREB changes (no anchoring) wards range +14.9% to +16.5%; with apartments a further 2.7 points lower (the back-test error) +13.4% to +15.6%. In both, Wards 8 and 7 stay lowest and Wards 10 and 4 highest.

4.4 Growth by ward

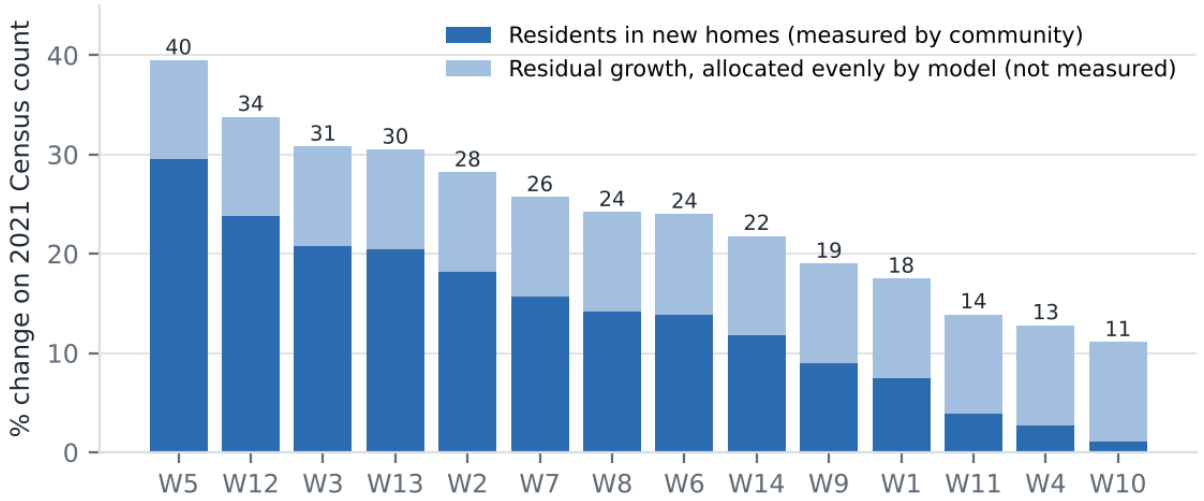


Figure 6. Modelled estimate (not an official ward count). Dark: residents in new homes, measured by community. Light: growth new homes do not explain, allocated evenly by the model (not measured by ward); it includes the uniform scaling to the City's 2021 estimate. Like-for-like citywide growth on the City's estimates: +20.9%. Residents are rounded to the nearest 100.

Allocation sensitivity. Share of added residents in the five fastest-growing wards (5, 12, 3, 13, 2) under different allocations of growth that new homes do not explain: even by 2021 population (main) 50.8%; equal per ward 50.2%; proportional to new-home growth 60.5%. The finding that about half or more of growth went to these five wards holds under all three.

Ward	Residents now (model)	2021 Census	Δ (Census base)	Δ new homes	Homes added	Share of added	Res. tax / resident	Est. 2027 Δ	Condo apt %
1	102,700	87,400	+17.5%	+7.5%	2,523	4.9%	$964	+15.3%	10.6%
2	121,600	94,840	+28.2%	+18.2%	7,256	8.7%	$826	+15.2%	11.4%
3	112,000	85,640	+30.8%	+20.8%	5,960	8.5%	$747	+15.3%	10.1%
4	100,100	88,740	+12.8%	+2.7%	1,151	3.7%	$853	+15.6%	8.6%
5	148,100	106,185	+39.5%	+29.5%	9,018	13.6%	$567	+15.2%	12.4%
6	121,700	98,160	+24.0%	+13.9%	5,796	7.6%	$1,062	+15.0%	16.3%

Ward	Residents now (model)	2021 Census	Δ (Census base)	Δ new homes	Homes added	Share of added	Res. tax / resident	Est. 2027 Δ	Condo apt %
7	97,600	77,670	+25.7%	+15.7%	6,011	6.4%	$1,116	+14.3%	43.8%
8	118,900	95,750	+24.2%	+14.2%	7,653	7.5%	$1,181	+14.1%	52.4%
9	100,400	84,380	+19.0%	+9.0%	3,322	5.2%	$685	+15.0%	17.3%
10	99,300	89,440	+11.1%	+1.1%	467	3.2%	$557	+15.7%	3.2%
11	116,700	102,440	+13.9%	+3.9%	1,859	4.6%	$958	+15.2%	13.8%
12	135,000	100,875	+33.8%	+23.8%	9,557	11.0%	$859	+14.9%	15.9%
13	118,900	91,120	+30.5%	+20.5%	6,910	9.0%	$831	+15.2%	11.5%
14	105,200	86,355	+21.8%	+11.8%	4,143	6.1%	$920	+15.4%	11.5%
City	1,598,100	1,288,995	+24.0%	+14.0%	71,626	100%	$863	+15.0%	17.5%

4.5 Amenity provision by inventory count, and 311

Measure	Five fastest (W5, 12, 3, 13, 2)	Other nine	Difference
Transit stops per 1,000 (all stops in ward ÷ residents)	2.99	4.47	-33%
City recreation sites per 100,000 (all sites in ward ÷ residents)	2.67 (17 sites / 635,573)	9.87 (95 / 962,502)	-73%
Local park ha per 1,000 (residential communities, resident-weighted)	2.46	2.79	-12%
311 requests per 1,000 a year (resident-weighted)	201	314	-36%

Interpretation: the five fastest-growing wards have lower amenity provision by inventory count per resident. Counts do not measure capacity, size, quality or accessibility; one large complex counts the same as a small facility. 311 request rates are lower in the fastest-growing wards. This should not be interpreted as evidence of better service delivery or lower infrastructure pressure: request rates also reflect reporting habits, awareness of 311, access and the age of the housing stock.

A transit stop is not a measure of frequency or capacity; a recreation site is not a measure of size; park hectares do not measure access or upkeep; 311 requests are not a count of infrastructure failures. Ward-level correlations with growth (n = 14, descriptive only): transit stops -0.71 (dropping the fastest ward -0.64, the two fastest -0.53, leave-one-out -0.83 to -0.64); recreation -0.55 (-0.52, -0.46; -0.68 to -0.47); 311 rate -0.29 (-0.2, -0.11; -0.49 to -0.2). The transit and recreation associations keep their sign and weaken but do not vanish when the fastest wards are removed; the 311 association is weak. Citywide 311: 269.2 per 1,000 (prev. 271.6).

4.6 Scenarios for 2027

These are revenue gaps against the proposed 15%, not savings or cuts. They do not show that spending could fall by these amounts without affecting services. All dollar amounts are estimates based on the reported figure of about $25.6M per percentage point, assumed constant across scenarios; the City has not published a scenario table, and our own estimate from the 2026 levy is $25.2M per point.

2027 increase	Est. revenue (at $25.6M per 1%)	Typical home $/month	Δ vs 2026 /month	Δ /year	Revenue gap against the proposed 15%	Gap as % of new 2027 requests (all / ongoing)
15%	$384M	$266.00	+$36.68	+$440	—	—
10%	$256M	$254.43	+$25.11	+$301	$128M	36.1% / 46.4%
5%	$128M	$242.87	+$13.55	+$163	$256M	72.2% / 92.7%

Four-year path on the typical home: $229 → $266 → $293 → $315 → $334 a month (+$1,257/yr by 2030; +34.4% real). The gap ratios are a scale comparison, not a cut list: the 15% also funds cost growth in the existing budget, and the business cases do not state how much of the requests would be paid by property tax (Section 4.2.1).

How the scenarios are calculated: revenue = increase × $25.6M per 1% (reported City figure). Typical-home bill = $229.32 × (1 + increase) × 1.0087, where 1.0087 = 266 ÷ 229.32 ÷ 1.15 is the City's own ratio between its typical-home change and the 15% revenue change; it is held constant across scenarios. Denominators for the gap ratios: all new 2027 requests = $276.1M

ongoing + $78.6M one-time = $354.7M (e.g. $128M ÷ $354.7M = 36.1%); ongoing only = $276.1M ($128M ÷ $276.1M = 46.4%). Both come from the totals of the City's 384 business cases.

5. Validation and sensitivity

Check	Result
Independent re-run of all scripts	Figure files byte-identical (auditor pass 1 and 2; analysis_where.py re-run byte-identical in the v1.4 audit; analysis_capital.py re-run byte-identical in both v1.5 audits)
Rate multiplier R	1.1881–1.1925 from $1 rounding of $266 and the 2026 bylaw rate ($228.90/month); reported as ~19% (18.7–19.5%)
Anchoring consistency	Type changes applied to every home give a citywide residential increase of +15.0% (target 15%)
CREB back-test (2026 roll)	Direction correct for all types; absolute error ≤ 2.7 points; apartment decline understated
Population base	Census base vs City 2021 estimate: −2.5%; like-for-like growth +20.9% (vs +24.0% on Census base)
Matched spans	All growth benchmarks compared over identical year spans (2026→2030, 2027→2030)
Population allocation	Five-ward share of growth 50.2% to 60.5% across allocations of residual growth
Ward tax ranking	Wards 8 and 7 lowest, 10 and 4 highest under the central, raw-CREB and apartments −2.7-point assumptions
Correlation robustness	Transit and recreation associations keep their sign after dropping the fastest one or two wards and under leave-one-out; n = 14
Recreation rate	Count and rate on one base (all sites ÷ ward residents): 17 ÷ 635,573 = 2.67 per 100,000
Audit	Pass 1 (Claude Fable): 7 high, 12 medium, 3 low findings, all addressed. Pass 2: 1 new error (span mismatch) and 4 minor, fixed. Pass 3 (external review of the PDF, 8/10): baseline, terminology, 311 interpretation, model qualification and amenity wording, all addressed in v1.1. Pass 4 (second external review): recreation base, levied vs collected, model-implied correlation, Census wording, population and correlation sensitivity, capital periods, spending series, ±3-point ranges, gap labelling; all addressed in v1.2. Pass 5 (third external review, 9/10): operating growth excluding water, four questions, subtitle, abstract scope, $25.6M qualification, full links and frozen snapshot branches; all addressed in v1.3. v1.4 (new Section 4.2.1): audit with independent recomputation, 12 findings (levy step not to be netted against requests, approval wording, theme labels, rounding), all addressed; final check by Claude Fable. v1.5 (Sections 4.2.2–4.2.3): audit with independent recomputation, 24 findings, all addressed; final check by Claude Fable, which found the 2026 capital comparator missing (added from the City's Q2 2026 report) and 13 minor items, all addressed.

6. Limitations

1. 2027 assessments are unpublished (roll mailed January 2027); type and ward bill changes are indicative proxies (±3 points).

2. R is inferred from rounded City figures; the residential/non-residential split for 2027 is unknown.

3. 2028–2030 tax steps, the $25.6M per 1% and the 2026 operating base come from news reports, not City documents we could read.

4. Ward populations are model estimates; growth not explained by new homes is spread evenly and is not measured by ward.

5. Amenity counts measure sites, not capacity or service frequency; correlations use n = 14 and are descriptive.

6. Ward capital tags record location, not benefit, and cover 8.2% of requested dollars.

7. R401/R402 home-type labels are inferred from value, zoning and building age, not from a City code list.

8. Consumer inflation is used as a benchmark; City cost inflation (wages, construction) can differ.

9. Property tax figures are tax levied (billed), estimated from the roll and the 2026 bylaw, not tax collected.

10. 2025 and 2026 capital spending are City forecasts (Q3 2025 and Q2 2026), not year-end actuals; the $21B (City) and $13.05B (requests) differ in scope and do not fully reconcile; stage labels are not contract status; the new FTEs are in operating requests; staff counts come from sources on different bases.

7. Reproducibility

Repository: github.com/hassanaliarshad110/calgary-data-desk. Frozen snapshot branches (not updated after release): `taxstudy-v1.5` at commit 229f4ec (scripts, figure files, this report builder) and `taxstudy-v1.3-data-p1` (d050cc6), `-p2` (7e1713b), `-p3` (56cc601) (raw probe outputs pulled 13 Nov 2026). Requirements: Python 3.12+ (standard library for the analysis; matplotlib and reportlab for the PDF) and a checkout of the main branch.

```
git clone -b taxstudy-v1.5 https://github.com/hassanaliarshad110/calgary-data-desk.git ta
for b in taxstudy-v1.3-data-p1:p1 taxstudy-v1.3-data-p2:p2 taxstudy-v1.3-data-p3:p3; do
  git clone -q --depth 1 -b ${b%%:*} https://github.com/hassanaliarshad110/calgary-data-desk.git
ta/taxstudy/${b##*:}; done
cd ta/taxstudy && export STUDY=$(pwd) REPO=/path/to/calgary-data-desk
python3 analysis_budget.py && python3 analysis_assess.py && python3 analysis_wards.py
python3 analysis_where.py business-cases.json
python3 analysis_capital.py business-cases.json budget-vs-actual.json
```

Script	Output	Feeds
probe/taxstudy.py	p1/ (dashboard build, tax by community)	Growth, 311, amenities, tax per resident
probe/taxstudy2.py	p2/ (2026 homes, budget open data)	Operating/capital budget
probe/taxstudy3.py	p3/ (rolls 2022–2026 by roll number)	Paired changes, back-test, ward bill change
analysis_budget.py	fig_budget.json	Sections 4.1, 4.2, 4.3 (rule), 4.6
analysis_assess.py	fig_assess.json	Section 4.3 (paired, back-test)
analysis_wards.py	fig_wards.json	Sections 4.3 (ward), 4.4, 4.5
analysis_capital.py	fig_capital.json	Sections 4.2.2–4.2.3 and Executive conclusion (reads business-cases.json and budget-vs-actual.json, pinned; cited press and City figures are listed with sources in the script)
analysis_where.py	fig_where.json	Abstract and Section 4.2.1 (reads business-cases.json, pinned in the snapshot; SHA-256 of the City PDF recorded in the file; and fig_budget.json)

Hard-coded inputs and their sources are listed in taxstudy/README.md. Ward figures move slightly with the run date because the City total is interpolated monthly.

Sources

Every title and address is a clickable link; addresses are given in full.

Source (click to open)	Full address
City of Calgary, 2027 Budget page and financial impact (15%, typical home $229 to $266, $21B capital)	https://www.calgary.ca/our-finances/2027-budget.html
City of Calgary, 2026 budget adjustments (typical home $229.32 a month)	https://www.calgary.ca/adjustments
City of Calgary, proposed 2027–2030 Budget document (Nov 10, 2026)	https://pub-calgary.escribemeetings.com/FileStream.ashx?DocumentId=377372

Source (click to open)	Full address
City of Calgary, 2027–2030 operating and capital budget requests (792 pp.)	https://www.calgary.ca/content/dam/www/ca/city-manager/documents/2027-2030-budget/2027-2030-operating-capital-budget-requests.pdf
Open data: 2027–2030 Budget (nnnm-9sfh)	https://data.calgary.ca/Government/2027-2030-Budget/nnnm-9sfh
Open data: Current Year Property Assessments (4bsw-nn7w)	https://data.calgary.ca/d/4bsw-nn7w
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Open data: Recreation facilities (hxfu-6d96)	https://data.calgary.ca/d/hxfu-6d96
2026 Property Tax Bylaw 9M2026 (rates and levy)	https://municipalaffairs.gov.ab.ca/cfml/FinancialTaxRateSearch/pdf/tr_bylaws/2026_Bylaw_CALGARY_0046.pdf
Calgary and Region Economic Outlook, Spring 2026 (Table 4, population)	https://www.calgary.ca/content/dam/www/cfod/finance/documents/corporate-economics/calgary-and-region-economic-outlook/Calgary-and-Region-Economic-Outlook-2026-Spring.pdf
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Calgary Herald via Yahoo News (Nov 10, 2026): operating totals, +$204/month by 2030	https://ca.news.yahoo.com/calgary-draft-budget-proposes-largest-160350073.html
CTV News (Nov 10, 2026): 15/10/7.7/6 path	https://www.ctvnews.ca/calgary/article/calgary-budget-proposes-largest-single-year-property-tax-increase-in-about-30-years/
LiveWire Calgary (Nov 10, 2026): $25.6M per 1%	https://livewirecalgary.com/2026/11/10/calgary-four-year-budget-breakdown-money-spent/
Global News (Sept 2, 2026): 20.2% request list, 5.4% to maintain services	https://globalnews.ca/news/12044564/calgary-2027-budget-requests-property-tax-estimate/
CBC News (Nov 2026): Edmonton proposed budget	https://www.cbc.ca/news/canada/edmonton/proposed-edmonton-operating-budget-calls-for-property-tax-hikes-between-3-9-and-4-9-9.7406008
Global News (Nov 10, 2026): $4.4B capital in 2027, $21B/$13B, debt $4.2B to $10B, 1,800 positions	https://globalnews.ca/news/12144269/calgary-budget-proposes-15-property-tax-increase/
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City of Calgary, 2023 Annual Financial Report	https://www.calgary.ca/content/dam/www/cfod/finance/documents/Finance-2023-Annual-Report.pdf
City of Calgary, 2024 Annual Financial Report	https://www.calgary.ca/content/dam/www/cfod/finance/documents/Finance-2024-Annual-Report.pdf
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LiveWire Calgary (Jul 22, 2025): Q2 2025 capital forecast 101%	https://livewirecalgary.com/2025/07/22/citys-spring-spending-surplus-steady-despite-dicey-economy/
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CBC News: City of Calgary staff counts 2022 to 2024	https://www.cbc.ca/news/canada/calgary/city-calgary-administration-headcount-growth-staff-1.7414092
BuildForce Canada (Jul 20, 2026): Alberta construction outlook to 2035	https://www.buildforce.ca/en/press-release/construction-activity-rises-in-alberta-to-2035-as-non-residential-growth-offsets-moderating-residential-demands/
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