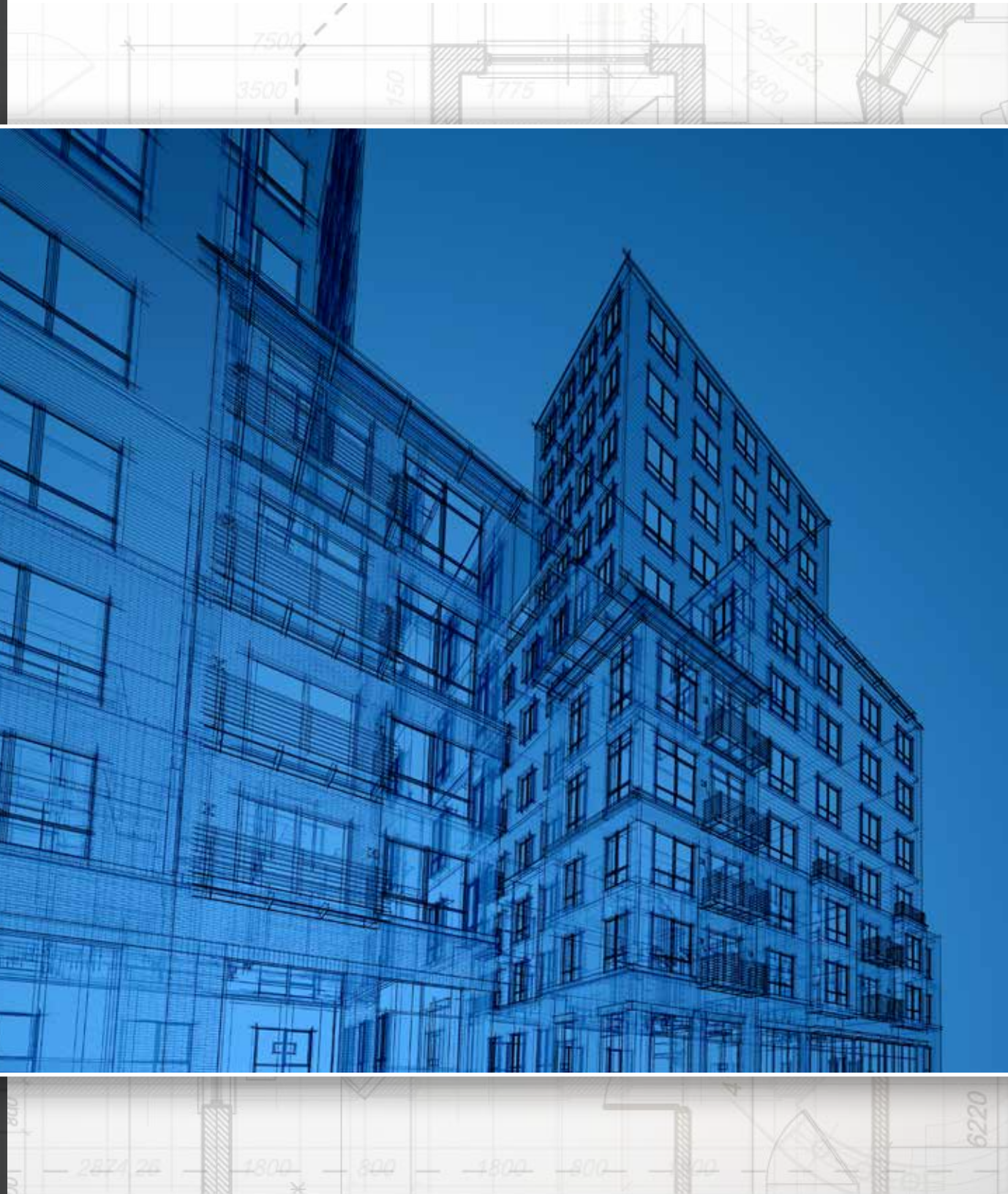




AltusGroup

# 2022 Canadian Cost Guide

Your guide to better understanding Canadian real estate development and infrastructure construction costs



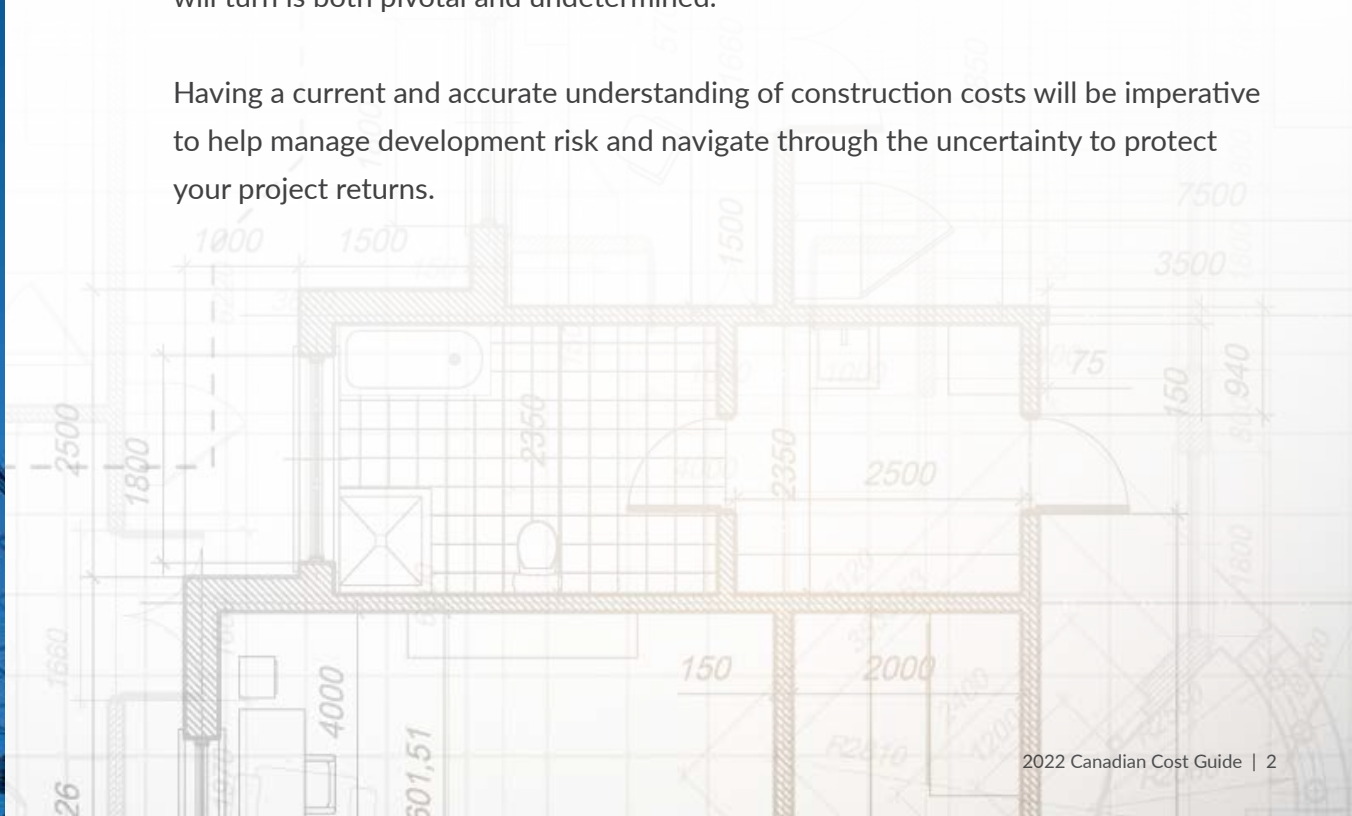
# Table of contents

- About the 2022 construction cost data .....3
- Private sector price per square foot .....4
- Public sector price per square foot .....5
- Frequently asked questions.....7
- Notes on correct use of data.....9
- Appendix ..... 11

## Your guide to better understanding Canadian real estate development and infrastructure construction costs

The Canadian construction industry demonstrated remarkable resilience in 2021, with construction activity in many cities reaching or exceeding pre-pandemic levels. Although robust construction demand is generally welcomed news, it also compounded the cost pressures experienced over the past year. High demand, broken supply chains, volatile commodity prices and persistent labour shortages have conspired to create a perfect storm of rising costs and decreasing predictability. Notwithstanding recent challenges, as the world emerges from pandemic-induced disruptions, greater predictability will emerge. Unfortunately, knowing when the tide will turn is both pivotal and undetermined.

Having a current and accurate understanding of construction costs will be imperative to help manage development risk and navigate through the uncertainty to protect your project returns.



## About the 2022 construction cost data

Construction costs are impacted by global and local economic conditions, market trends, and advances in building materials, practices, and approaches. We have considered all these factors when producing our annual guide, to provide you with a budget range of construction hard costs across all asset classes in the Canadian marketplace.

Our proprietary database of historical projects is based on over 1,300 engagements in 2021, and real projects:

### Data based on



TOTAL

**\$299**  
billion

**4,310**  
projects

**1,057M+**  
square feet



RESIDENTIAL

**\$126**  
billion

**1,995**  
projects

**720M+**  
square feet



ICI

**\$73**  
billion

**1,940**  
projects

**337M+**  
square feet



INFRASTRUCTURE

**\$100**  
billion

**375**  
projects

This guide is designed to be an accessible tool for initial budgeting or to benchmark an estimate, however we strongly advise that you seek independent professional advice to produce a precise estimate and pro forma figures that reflect the specific conditions and details of your unique development and infrastructure undertakings.

# Private sector price per square foot

	Vancouver		Calgary		Edmonton		Winnipeg		GTA		Ottawa		Montreal		Halifax		St. John's	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
<b>RESIDENTIAL</b>																		
<b>CONDOMINIUMS/APARTMENTS</b>																		
Up to 6 Storeys (Hybrid Construction)	225	340	185	270	185	270	185	265	230	305	185	265	180	260	160	230	165	235
Up to 12 Storeys	235	350	220	280	220	280	190	280	275	355	195	275	185	275	170	240	175	245
13-39 Storeys	245	375	230	280	230	280	195	275	285	345	205	290	195	280	180	250	n/a	n/a
40-60 Storeys	275	380	235	285	235	285	205	280	285	370	230	310	205	295	n/a	n/a	n/a	n/a
60+ Storeys	295	380	n/a	n/a	n/a	n/a	n/a	n/a	320	420	260	340	n/a	n/a	n/a	n/a	n/a	n/a
Premium for High Quality	up to	225	up to	215	up to	215	up to	210	up to	230	up to	185	up to	185	up to	175	up to	180
<b>WOOD FRAMED RESIDENTIAL (DIMENSIONAL LUMBER)</b>																		
Row Townhouse with Unfinished Basement	135	210	125	175	125	175	115	155	150	220	120	165	120	170	105	140	120	160
Single Family Residential with Unfinished Basement	150	275	125	200	125	200	120	190	165	260	125	205	130	190	100	155	120	155
3 Storey Stacked Townhouse	175	240	145	185	145	185	140	185	185	240	155	185	140	190	130	170	145	180
Up to 4 Storey Wood Framed Condo	195	290	160	215	160	215	155	215	215	285	165	220	150	200	140	165	150	175
5 to 6 Storey Wood Framed Condo	215	300	160	220	160	220	160	220	225	300	175	230	160	220	140	175	160	185
Custom Built Single Family Residential	450	1,135	405	895	405	895	405	875	480	1,050	455	955	400	800	260	520	300	630
<b>SENIORS HOUSING</b>																		
Independent / Supportive Living Residences	220	330	165	270	165	270	160	265	285	370	190	290	180	280	170	240	185	250
Assisted Living Residences	250	380	200	280	200	280	195	275	305	395	225	300	220	295	195	260	200	265
Complex Care Residences	305	405	265	385	265	385	260	380	350	435	265	330	265	320	220	305	240	320
<b>COMMERCIAL</b>																		
<b>OFFICE BUILDINGS</b>																		
Under 5 Storeys (Class B)	245	315	185	265	185	265	180	260	245	335	195	255	180	250	170	220	175	225
5 - 30 Storeys (Class B)	245	295	185	270	185	270	180	265	255	360	205	280	185	260	175	245	180	255
5 - 30 Storeys (Class A)	280	350	220	305	220	305	215	300	290	425	240	320	200	285	190	270	195	280
31 - 60 Storeys (Class A)	295	415	250	350	250	350	245	345	335	480	n/a	n/a	255	375	n/a	n/a	n/a	n/a
Interior Fitout (Class B)	55	120	65	100	65	100	60	95	90	130	60	100	70	105	50	90	50	90
Interior Fitout (Class A)	115	215	95	165	95	165	90	160	130	245	95	160	110	170	85	150	85	155
<b>RETAIL</b>																		
Strip Plaza	130	190	190	230	190	230	185	225	125	215	130	200	115	190	105	160	120	165
Supermarket	195	245	170	200	170	200	165	195	175	240	165	230	150	215	130	195	145	190
Big Box Store	185	245	165	200	165	200	160	195	165	225	160	205	150	205	145	190	145	190
Enclosed Mall	280	375	215	300	215	300	210	295	255	360	220	280	220	300	190	270	205	255
<b>HOTELS</b>																		
Budget	195	250	160	215	160	215	155	210	225	280	165	230	165	225	180	225	160	200
Suite Hotel	310	375	235	310	235	310	230	305	320	390	240	325	225	295	205	290	210	275
4 Star Full Service	330	435	250	325	250	325	245	320	340	510	265	380	245	315	225	305	235	300
Premium for Luxury	up to	185	up to	160	up to	160	up to	155	up to	285	up to	155	100	165	up to	105	up to	110
<b>PARKING</b>																		
Surface Parking	5	25	6	21	6	21	6	21	11	27	6	20	5	20	6	16	6	16
Freestanding Parking Garages (Above Grade)	100	140	80	105	80	105	75	100	110	150	85	160	90	120	95	120	105	135
Underground Parking Garages	140	200	130	180	130	180	125	175	195	265	125	195	105	155	115	155	130	160
Underground Parking Garages (Single Level, Open Cut Excavation)	110	150	115	140	115	140	110	135	150	190	105	150	95	130	90	130	105	135
Underground Parking Garages (Premium for Unusual Circumstances)	up to	190	up to	125	up to	125	up to	125	up to	215	up to	185	30	165	up to	155	up to	155
<b>INDUSTRIAL FACILITIES</b>																		
Warehouse	105	145	85	125	85	125	80	120	90	160	90	135	90	160	95	135	95	145
Urban Storage Facility	105	150	80	115	80	115	75	110	90	115	95	120	n/a	n/a	n/a	n/a	n/a	n/a
Data Centre - Tier III	645	1,055	495	980	495	980	490	975	900	1,800	570	1,045	575	1,005	n/a	n/a	n/a	n/a
Pharmaceutical Lab	605	855	415	660	415	660	410	655	950	1,250	465	700	475	730	n/a	n/a	n/a	n/a
Manufacturing Facility	325	425	245	345	245	345	240	340	300	400	285	370	280	375	265	350	265	345

Note: Rates are above grade only. See page 6 for calculation of total building cost.

# Public sector price per square foot

	Vancouver		Calgary		Edmonton		Winnipeg		GTA		Ottawa		Montreal		Halifax		St. John's		
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	
<b>INSTITUTIONAL</b>	<b>EDUCATIONAL BUILDINGS</b>																		
	Elementary School	250	350	240	310	240	310	235	305	290	375	295	340	290	330	240	290	245	320
	Secondary School	275	375	270	350	270	350	265	345	325	400	315	360	305	350	270	340	280	335
	Private School	285	385	280	360	280	360	275	355	330	400	325	370	315	360	310	365	305	365
	Universities & Colleges - Teaching and Lecture Hall Building	495	715	475	695	475	695	470	690	750	950	420	610	400	590	395	585	400	590
	Universities & Colleges - Laboratories (Level 1 & 2)	620	770	600	750	600	750	595	745	910	1,180	545	820	525	800	500	790	525	800
	Universities & Colleges - Student Residence	300	370	240	325	240	325	235	320	300	420	240	330	210	295	210	300	195	270
	<b>HEALTH CARE</b>																		
	General Hospital/Acute Care	685	920	535	745	535	745	530	740	680	925	600	780	575	840	560	780	560	750
	Medical Clinic/Treatment Centre	375	530	280	450	280	450	275	445	380	540	325	465	315	475	320	465	325	485
<b>CIVIC</b>	<b>TRANSPORTATION BUILDINGS</b>																		
	Regional Airport Terminal	365	480	380	475	380	475	375	470	450	540	315	410	320	410	305	390	310	435
	International Airport Terminal	735	955	570	780	570	780	565	775	750	990	600	750	635	780	585	735	585	735
	Bus Terminal/Garage	325	415	275	320	275	320	270	315	375	450	280	360	280	340	250	335	255	340
	<b>GOVERNMENT BUILDINGS</b>																		
	Fire/EMS Station	420	610	450	580	450	580	445	575	475	685	360	450	340	410	325	355	325	415
	Police Station - Local Detachment	345	400	325	395	325	395	320	390	400	450	335	390	330	370	325	375	330	430
	Police Station - Regional Headquarters	380	530	375	445	375	445	370	440	450	540	345	450	340	445	310	395	310	410
	Court House	460	630	425	540	425	540	420	535	550	700	460	615	450	600	430	465	435	475
	Facilities Maintenance Building	340	425	255	345	255	345	250	340	450	535	300	370	295	360	250	305	260	305
Penitentiary	450	600	420	525	420	525	415	520	540	650	400	515	390	500	390	540	435	540	
Municipal Office (including fit-up)	330	435	335	375	335	375	330	370	375	500	325	385	320	380	260	320	260	320	
Library	335	520	350	500	350	500	345	495	380	680	365	555	360	550	300	465	310	475	
<b>RECREATION/ENTERTAINMENT BUILDINGS</b>																			
Ice Arena	320	430	275	350	275	350	270	345	320	405	295	390	270	360	290	340	300	350	
Community Aquatic Facility	460	650	375	500	375	500	370	495	550	850	485	590	470	580	380	475	370	470	
Multi-Use Recreational Centre (Including Areas, Aquatic, etc.)	500	850	350	450	350	450	345	445	500	820	380	485	340	470	220	340	215	330	
Casino Facility	420	750	450	750	450	750	445	745	575	900	510	815	465	770	390	620	n/a	n/a	
Performing Arts Building	810	1,110	500	760	500	760	495	755	850	1,150	450	760	440	740	400	530	425	550	
Museum / Gallery	485	800	445	735	445	735	440	730	550	750	440	565	415	565	380	510	390	535	
<b>SITE SERVICING</b>	<b>SITE SERVICING</b>																		
	Local Roads - 8m road width (per metre)	3,000	4,100	3,300	3,800	3,300	3,800	3,300	3,800	4,200	5,800	3,300	4,400	3,200	4,200	3,000	3,800	3,400	4,200
	Arterial Roads - 9m road width (per metre)	3,100	4,400	3,500	4,000	3,500	4,000	3,500	4,000	4,500	6,100	3,400	4,900	3,500	5,000	3,200	4,200	3,500	4,500
	Arterial Roads - 12m road width (per metre)	4,000	4,700	4,200	4,800	4,200	4,800	4,200	4,800	5,300	6,900	4,500	5,500	4,400	5,400	4,100	4,900	4,300	4,800
	Private Roads - 6m road width (per metre)	2,600	3,000	2,600	3,400	2,600	3,400	2,600	3,400	3,000	4,000	2,600	3,500	2,600	3,500	2,500	3,100	2,800	3,300
	Residential Row Townhouses (per unit)	20,500	32,000	19,700	30,200	19,700	30,200	19,700	30,200	24,800	35,800	24,800	33,400	22,300	32,100	19,200	27,000	23,100	30,800
	Industrial (per acre)	136,600	236,300	140,000	230,000	140,000	230,000	140,000	230,000	165,000	252,300	150,000	233,000	145,000	224,000	124,400	196,900	153,900	220,600
Commercial (per acre)	173,300	288,900	166,700	312,400	166,700	312,400	166,700	312,400	221,300	370,800	205,000	347,400	195,300	332,600	171,000	274,700	194,900	318,100	

Note: Rates are above grade only. See page 6 for calculation of total building cost.

## Public sector price per square foot (continued)

	British Columbia		Alberta		Ontario (GTA Region)		Ontario (Ottawa Region)	
	Low	High	Low	High	Low	High	Low	High
<b>LIGHT RAIL TRANSIT</b>								
Guideway - Underground (Tunnel) (per km)	78,330,000	186,060,000	68,990,000	163,910,000	75,680,000	179,960,000	69,660,000	165,640,000
Guideway - Underground (Cut and Cover) (per km)	35,700,000	344,820,000	31,400,000	303,660,000	34,540,000	333,300,000	31,780,000	306,770,000
Guideway - At Grade (per km)	2,310,000	30,140,000	2,000,000	26,570,000	2,200,000	29,150,000	2,030,000	26,860,000
Guideway - Elevated (per km)	3,050,000	62,580,000	2,630,000	55,130,000	2,860,000	60,500,000	2,680,000	55,750,000
Stops - At Grade (per unit)	1,210,000	6,070,000	1,060,000	5,340,000	1,170,000	5,860,000	1,070,000	5,400,000
Stations - Underground (per unit)	47,460,000	194,780,000	41,790,000	171,570,000	45,870,000	188,320,000	42,270,000	173,340,000
Stations - At Grade (per unit)	5,250,000	41,690,000	4,620,000	36,650,000	5,060,000	40,260,000	4,710,000	37,020,000
Stations - Elevated (per unit)	26,670,000	79,170,000	23,520,000	69,720,000	25,740,000	76,560,000	23,750,000	70,410,000
Operations and Maintenance Facility (per sf)	210	1,220	185	1,070	200	1,180	190	1,090
Systems (per km)	5,460,000	25,310,000	4,730,000	22,370,000	5,280,000	24,530,000	4,820,000	22,580,000
<b>HIGHWAYS</b>								
Multi-Lane Highways (per lane km)	2,090,000	2,940,000	1,810,000	2,640,000	2,020,000	3,910,000	1,860,000	2,860,000

Note: All building costs include the above grade scope of work only; complete with foundations. To calculate the total construction cost you need to also include the below grade scope of work (see the Parking section of the cost tables).

Here is how the calculation is applied separately for above and below grade:

40-storey office building in Toronto | 800,000 square feet above grade | 200,000 square feet below grade

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Above grade 800,000 square feet x \$400/square foot = \$320 million

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Below grade 200,000 square feet x \$230/square foot = \$46 million

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**Total \$366 million**

## Frequently asked questions

### **If I am budgeting a building that has no underground parking area, can I use just the applicable rate for the above grade without adding any underground parking cost?**

Yes, the above grade costs include the cost of a slab on grade and associated footings.

### **In the Parking section, when would the Underground Parking Garages – Premium for Unusual Circumstances apply and what would it include?**

Underground parking garage costs can vary significantly depending on their site specifics, location, soil conditions, ground water conditions, shape, and depth. Examples where additional costs may be incurred, include:

- Non-typical foundations due to poor soil stability
- Bath tubbing the underground due to groundwater or municipal regulations
- Soil conditions that increase excavation costs and/or shoring costs
- Unusually constricted site conditions (e.g., proximity to adjacent structures)
- Footprint shapes that increase the ratio of exterior wall area relative to floor area
- Non-typical floor heights and/or specifications
- Remediation of contaminated soils or groundwater

### **Why does the cost of the same asset type differ so much between cities in some cases?**

The Cost Guide numbers reflect the probable costs of the identified type of building as it would typically be defined in that market. Not only do the costs of labour and materials differ between markets, the standards/ specification of each building type may differ as well.

For example, the specification of a mid-quality condominium in Vancouver will typically be a higher specification than what is provided for a mid- quality condominium in Halifax. In addition, there are climatic & code variances between cities. For instance, the HVAC system required in Calgary will be different than the HVAC system required in Vancouver.

These differences are also reflected in the numbers. The difference in the Cost Guide numbers is a composite of both the differences in labour and material cost and the differences in design.

### **In the Condominiums/Apartments section, what is the Premium for High Quality item, what does it include, and when does it apply?**

The Cost Guide numbers are representative of the level of finishes and design that would be considered “typical” of a mid-quality condominium/ apartment in that city. If aspects of your building’s design are beyond what would be considered typical, you should be adding this premium. The delineation of what is and is not premium differs from market to market, but could include such things as: premium quality floor finishes, kitchen cabinetry, appliances, luxury building amenities, upgrades to exterior enclosure, etc.

### **What is the methodology used to determine the Cost Guide numbers?**

The Cost Guide numbers are determined through a combination of our historical data for each asset class in each city, overlaid with expert opinion and knowledge provided by the senior managers in each of our offices across the country.

## Frequently asked questions (continued)

### **I want to measure cost escalation from year to year. Will comparing the current Cost Guide numbers to previous Cost Guide numbers provide me a useful measure of annual cost escalation?**

We do not recommend using the Cost Guide to measure cost escalation. It is meant to be used as a tool for clients who are considering an appropriate conceptual budget for a building type in a specific market at a particular point in time. Its methodology thus allows all variables (design, costs, etc.) to vary from year to year and location to location to constantly reflect what is 'typical' of each market each year. What is typical of one city may not be typical of another city. Similarly, what is typical of a building type today, may not have been typical of the same building type 5 years ago.

To provide an accurate measure of cost escalation – and isolate only the changes due to escalation of costs – all other variables would need to remain static.

### **Can I apply the zoning floor areas calculated by my Architect to the unit rates in the Cost Guide?**

Using zoning floor areas to calculate costs is a common and potentially costly error. The Cost Guide rates are calculated using the Canadian Institute of Quantity Surveyors' definition of floor area, whereas zoning floor area definitions differ from municipality to municipality and often exclude significant areas of the building from the calculation. Thus, using the floor area measured per zoning definitions can result in underestimating costs by as much as 12%. If you do not have floor plans for your building when preparing your budget, you will need to "gross up" the zoning floor areas to account for the variance in definition. If you do have floor plans for your building, we strongly recommend having the floor areas properly measured in accordance with the Canadian Institute of Quantity Surveyors', Method of Measurement of Construction Works.

### **Can Cost Guide numbers be used for insurance purposes and estimating replacement costs?**

A replacement cost estimate should be prepared by a qualified cost professional and with respect to your unique asset, especially when it comes to unique properties with a greater level of design. Relying on generic estimates, untailored to your needs, can leave you exposed.

### **Previous Cost Guides (pre-2020) included the Canadian Cost Index, which compared the relative costs between cities. Why is this no longer included?**

We no longer produce this index for a couple reasons. First, no single index number is universally applicable to all building types. In a single city, some building types may be a premium versus the benchmark city, while other building types are a discount versus the benchmark city. For example, the cost of a 30-storey residential tower could be higher than the benchmark city, while the cost of a wood frame townhouse project is less expensive.

Second, in many cases the design of the building in the indexed city will be significantly different than that of the benchmark city. Consider the scenario of indexing the cost of a building in Iqaluit to that of Toronto. A building built in Iqaluit will have substantive differences in design compared to a similar building built in Toronto (due to environmental considerations, site, code, local design standards, etc.). Although this is an extreme example for the purpose of illustrating a point, the same issue applies to some degree when indexing construction costs of any city to those of another.

For these reasons, we recommend that you consult a professional who can consider the complexities on a case-by-case basis, rather than relying upon an index.



# Notes on correct use of data

## Guide only

The construction cost data contained herein are of a general nature only and subject to confirmation with respect to specific circumstances.

The unit rates for the building types described are an average range exclusively for that particular type of building. The unit rates assume that a level, open site exists with no restrictions from adjoining properties. It is assumed that stable soil conditions prevail. Average-quality finishes (unless otherwise stated), both to the exterior and interior are also assumed. Judgement factors must be applied within the average range to allow for:

- Quality
- Schedule
- Extent of site works
- Location
- Site restrictions
- Design method
- Type of contract
- Building shape, size and height
- Market conditions
- User requirements
- Topography and soil conditions
- Procurement advantage of developer/contractor

## Correct measurement & use of square foot

In preparing a “cost per square foot” guide, we must outline how we define the area used as the denominator to calculate this value. We have adopted the Canadian Institute of Quantity Surveyors’ definition which dictates:

1. Measure each floor to the outer face of the external walls.
2. No deductions for opening at stairs, elevators or vertical ducts are made.
3. A deduction is made for a non-service vertical protrusion, e.g., atrium space.
4. Mezzanine floors are generally included.
5. Balconies are excluded; enclosed solariums in residential condominiums are included.
6. Sloping and stepped floors (auditoriums/movie theatres) are measured flat.
7. External covered walkways are excluded.

If the building includes underground parking areas, these costs need to be added based on the “Underground Parking Garage” rate in the guide.

## Hard construction costs only

The unit costs outlined herein cover construction costs only. In all commercial developments the project budget must also include development or “soft” costs. These would include some or all the following:

- Land and related costs
- Legal fees
- Site services outside the property
- Tenant incentives

## Notes on correct use of data (continued)

- Soil and environmental tests
- Contingencies
- Architectural and engineering fees
- Special design consultants
- Interest charges and lenders' fees
- Permits and development charges
- Land surveys
- Government registered programs
- Special equipment and furnishings
- Marketing and advertising
- Purchaser upgrades
- Property taxes
- Other municipal fees
- Insurance and bond costs
- Management costs
- Levies
- Appraisals
- Broker commissions
- Developer profit
- Rezoning costs

### Federal & provincial sales tax

The unit costs provided exclude Value Added Taxes (GST, HST and QST), but include Provincial Sales Tax (PST) where applicable at the time of the release of this guide.

# Appendix | Building type descriptions

## Private sector

General: All costs exclude site development and premiums associated with unique architecture.

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### RESIDENTIAL

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#### Condominiums and apartments

- Assumed cast-in-place concrete structure unless otherwise indicated.
- Hybrid construction could include any combination of alternate building structures, such as precast concrete and light-gauge steel.
- The premium for high-quality can be applied to any of the condominium/ apartment categories.
- Parking is excluded from all unit rates and should be added accordingly.

#### Wood-framed

- The floor area of the unfinished basement and garage should be excluded from the area used with the unit rate provided.
- Parking is excluded from all unit rates and should be added accordingly.

#### Seniors housing

- Costs can fluctuate depending on the level of care, services provided to the residents, and whether the facility is for-profit or community-based.

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### COMMERCIAL

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#### Office buildings

- Assumed base building construction only, including mechanical and electrical services, washrooms, and finishing of ground floor entrance lobby.
- Tenant partitioning and finishes (with the exception of ceiling and column finishes) are excluded. The cost of finishing this space can fluctuate depending on the density of partitioning and the quality of the finishes.
- Costs assume standalone buildings and are not representative of a component within a mixed-use building.
- Parking is excluded from all unit rates and should be added accordingly.

#### Retail

- Assumed single-storey buildings with the exception of enclosed malls.
- The CRU space is considered shell.
- Public spaces within an enclosed mall are finished.
- Costs assume standalone buildings and are not representative of a component within a mixed-use building.

## Appendix | Building type descriptions (continued)

### Hotels

- FF&E allowances are excluded, as each operator has its own definition, and the costs can vary significantly.
- Budget hotel assumes no restaurant or bar facilities and minimal meeting/ conference areas.
- Suite hotels assumed to include a kitchenette.
- Four-star full-service hotels include dining and conference facilities and special-use lounges. Premiums for luxury should only be applied to the four-star full-service hotel.

### Parking

- On-grade parking assumes an asphalt paved surface lot, including necessary curbs, line painting, storm servicing, and pole lighting.
- Freestanding (above grade) parking assumes an open-air structure.
- Underground parking assumes that temporary support to the excavated sides of the proposed garage is required, and that there are no extraordinary conditions or unusual circumstances.
- Underground parking (single level, open cut excavation) assumes open site conditions and no requirement for shoring.
- Premium for unusual circumstances could be applied to account for issues such as but not limited to poor soil conditions, excessive groundwater, environmental contamination, restricted site conditions, small or non-standard footprint shape, and non-typical floor to floor heights.

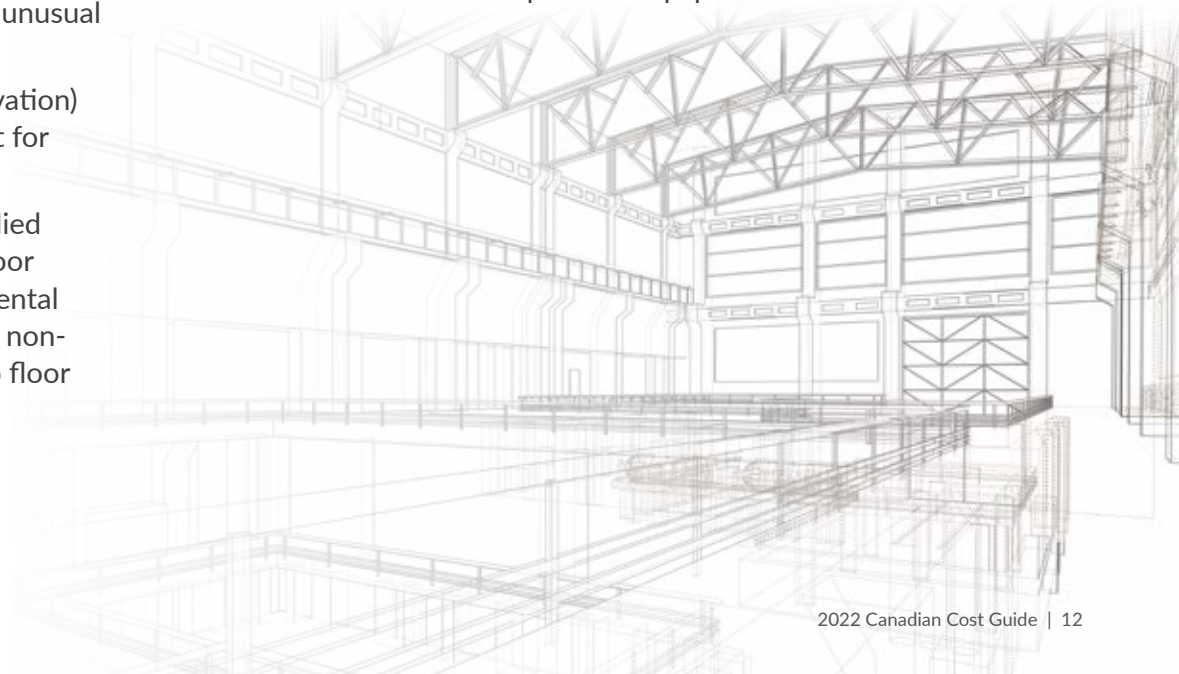
- The “efficiency” of garages (parking area/stall) is also an important cost variable.
- All parking unit rates should be applied to the area of parking required and not the associated building area.

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## INDUSTRIAL

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- Warehouse space is based on heated shell space, excluding mezzanine areas. A finished office component is included.
- Urban storage facilities are based on multi-level facilities which have site constraints.
- Data centres are based on suburban sites and include access flooring and redundant heating and cooling. Active hardware is excluded.
- Pharmaceutical laboratory costs vary depending on the level of testing and manufacturing involved. FF&E is excluded.
- Manufacturing facilities are based on open spaces with high structures to allow space for equipment. FF&E is excluded.



# Appendix | Building type descriptions (continued)

## Public sector

General: All costs exclude site development and premiums associated with unique architecture.

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### INSTITUTIONAL

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- Educational buildings exclude allowances for FF&E.
- Health care buildings: With more than 40 subcategories of space types available in hospitals, the mix of costs fluctuate depending on the type of facility being constructed, the mix of beds, clinics, and surgical suites, as well as the building configuration. Parking and FF&E are excluded.

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### CIVIC

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#### Transportation buildings

- Regional airport terminals are typically single-storey facilities that have smaller gate and circulation capacity for local domestic flights and minimal amenities.
- International airport terminals are multilevel facilities with extensive amenity space for restaurants, retail stores, and have larger circulation space and gate capacity. Also included are spaces for customs and immigration control. Costs for any parking, airside infrastructure, or equipment are excluded.
- Bus garages are slab-on-grade, single-storey, long-span steel structures including vehicle maintenance facilities and a small administration area. FF&E including vehicle lifts are excluded.
- All buildings are based on suburban facilities with no site constraints. Any associated site work or parking is excluded from the unit costs.

- Costs assume a design standard equivalent to LEED Silver. Premiums associated with actual certification or Gold/Platinum design are excluded.

#### Government buildings

- Fire/EMS Stations exclude any costs associated with training buildings.
- Local Police Detachments include offices and facilities for police and civilian members with minimal interview rooms and holding cells.
- Regional Police Headquarters include the same scope as a Local Police Detachment, plus additional interview rooms, holding cells, training space, and administration.
- Courthouses include judicial chambers, administrative offices, holding cells, and courtrooms.
- Facilities Maintenance Building costs are based on the main facility only, including maintenance, storage, and administrative areas. Any outbuildings would be an additional cost.
- The range of costs for penitentiaries vary depending on the level of security and size of the facility.
- Municipal Offices include administrative space for all municipal departments, meeting and conference rooms, council chambers, cafeteria, daycare facility, and significant atrium space.
- Library costs vary depending on size and whether the building is standalone or part of a multi-use facility.

## Appendix | Building type descriptions (continued)

### Recreation / Entertainment Buildings

- Ice arenas include single to four-pad facilities with spectator seating; unit costs are based on steel structures.
- Community aquatic facilities include single or multiple pools, minimal spectator seating, change room facilities, and fitness areas. Unit costs are based on conventionally framed structures for most of the building.
- Multi-use recreation centres could include any combination of fitness, gymnasium, daycare, community room, and administrative space. Facilities with arena, pool, and multi-purpose areas should be based on the costs for each component combined.
- Casino / gaming facilities are assumed to be single storey buildings containing gaming floor (slots and/or table games), restaurants, bars entertainment, and retail areas. Costs include fit-out of the gaming floor, but exclude FF&E, slot machines, tables, and security systems.
- Performing arts buildings unit costs vary depending on the size and function of the facility. Acoustical treatment, theatre lighting, stage, and seating requirements would all impact the cost.
- Museum and gallery costs vary depending on the purpose of the space; humidity and temperature control, redundant systems, and fire prevention all impact the costs.

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### SERVICING

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#### Site Servicing

- The rates for residential site servicing are based on costs per centre line of road and allow for underground storm, sewer, water services, electrical services, street lighting, earthworks, curbs, asphalt roadways and sidewalks.

- Items such as berms, retaining walls, noise barrier fences, entrance features, storm ponds, landscaping, and external services are excluded.
- The higher end of the specified range should be used for municipalities, which require crusher run limestone in lieu of granular materials for the base road construction and/or where curb or road sub drains are required.
- Arterial road costs may be partially recoverable from the local municipality or region.
- The rates for townhouse servicing are provided on a per unit basis and include private roads within a complex subdivision.
- The rates for industrial and commercial site servicing are provided on a per acre basis.
- Costs exclude any requirement for oversizing of services for future development.

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### INFRASTRUCTURE

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#### Light Rail

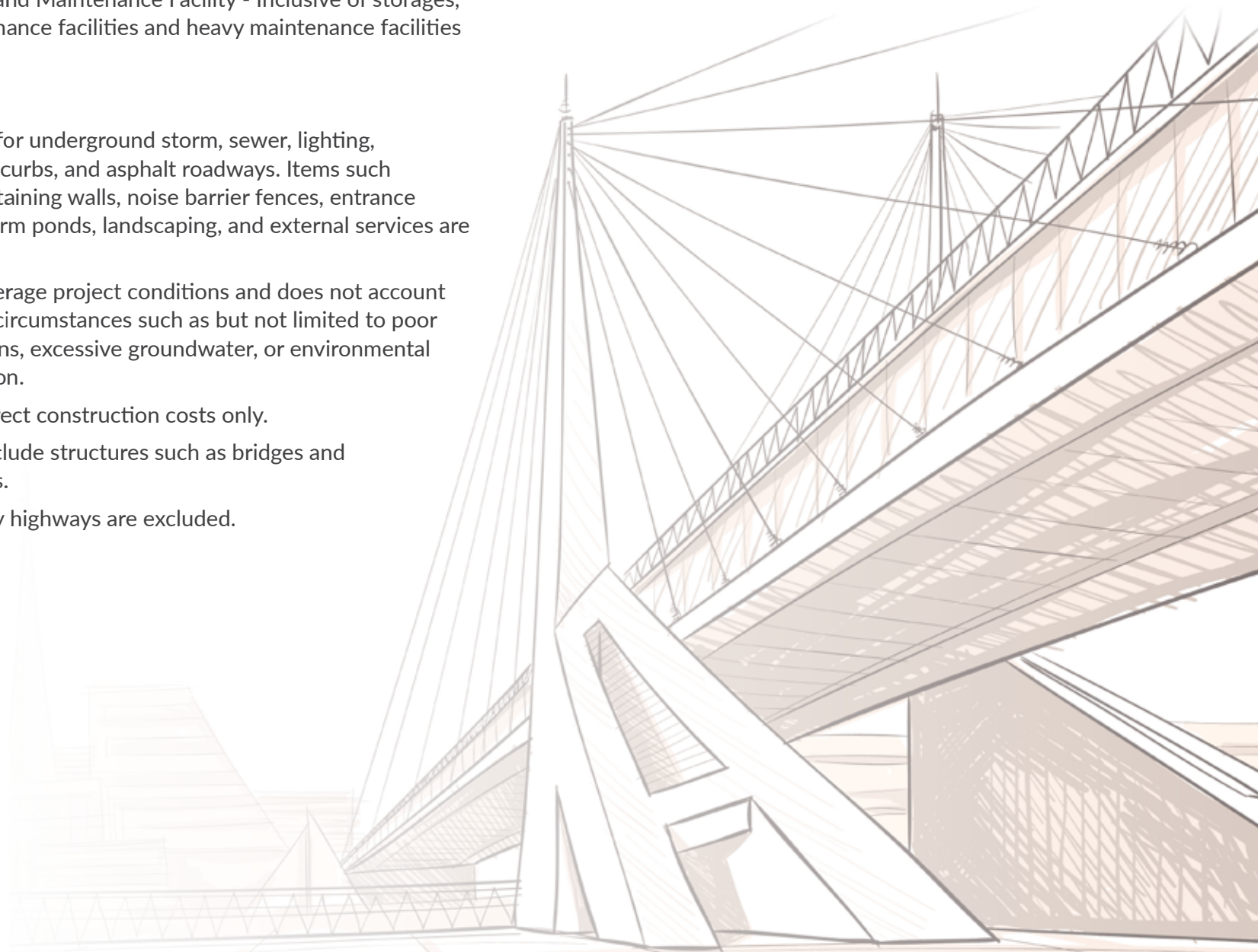
- Assumes average project conditions and does not account for unusual circumstances such as but not limited to poor soil conditions, excessive groundwater, or environmental contamination.
- Does not include structures such as bridges and interchanges
- Does not include utility works
- Based on direct construction costs only
- Stops - at Grade - Assumes an average size of 5,000 sf
- Stations - Underground - Assumes an average size of 100,000 sf

## Appendix | Building type descriptions (continued)

- Stations - at Grade – Assumes an average size of 30,000 sf
- Stations - Elevated - Assumes an average size of 30,000 sf
- Operations and Maintenance Facility - Inclusive of storages, light maintenance facilities and heavy maintenance facilities

### Highways

- Rates allow for underground storm, sewer, lighting, earthworks, curbs, and asphalt roadways. Items such as berms, retaining walls, noise barrier fences, entrance features, storm ponds, landscaping, and external services are excluded.
- Assumes average project conditions and does not account for unusual circumstances such as but not limited to poor soil conditions, excessive groundwater, or environmental contamination.
- Based on direct construction costs only.
- Does not include structures such as bridges and interchanges.
- Through-city highways are excluded.



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