

Zeppelin's Real Estate Tech

1Q 2022: A Real Estate Newsletter by Zeppelin Partners Limited

Phone (852) 37576388 Fax (852) 37576399 E-mail stephenchung@zeppelin.com.hk Web: www.Real-Estate-Tech.com

Ukraine x Russia, Truckers' Protests, Winter Olympics, and living with covid...anything else?

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"98% survival rate somehow feels different to 1/50 perish rate."

We also like to hear from readers wishing to share their real estate experience with us.

This quarterly (generally published in spring, summer, fall, and winter) newsletter is circulated freely via email to readers comprising real estate developers, investors, fund managers, financiers, owners, users, top executives, senior managers, prominent academics and related professionals from Hong Kong and abroad. Our content is / has also been published in newspapers and web portals such as the [South China Morning Post](#), [China Daily](#), [Hong Kong Economic Journal](#), [21st Century Business Herald](#), [Apple Daily](#), [Sing Tao](#), [Quamnet Magazine](#), [The Standard](#), [MITCRE Alumni Newsletter](#), [Surveying Newsletter](#), [Reidin.com](#), [Centanet.com](#), [Netvigator.com](#), [Hongkong.com](#), [E-finet.com](#), [Red-dots.com](#), [PacificProperties.net](#), [Soufun.com](#) and [House18.com](#). We had also been quoted in the [Asian Wall Street Journal](#) and interviewed by [USA Today](#), [i-Money](#), [Ming Pao](#), [Radio Hong Kong](#), [Cable TV \(Money Café\)](#), [DBC Radio](#), and [Commercial Radio](#). We also publish monthly articles and analyses in the months in between. This newsletter is now into its [25th](#) year and [102nd](#) issue.

We also operate a website www.real-estate-tech.com through which we intend to share some of our real estate knowledge and ideas with interested parties. There are close to 1,000 content items, in English or Chinese, including analyses, articles, charts, and tables, plus spreadsheets, tutorials, e-books, and the like, the majority of which is free with some requiring a token fee. The website has been visited by tens of thousands from all over the world.

Zeppelin Partners Limited is involved in real estate development, investment, and management and offers services related to [real estate asset management](#) [analysis, investment strategy, and portfolio allocation], [project management](#) [architectural design, cost control, and contract administration], and [facility management](#) [facility utility assessment, property management strategy, and building maintenance]. We are based in Hong Kong with access to regional and global professional networks.

Stephen Chung, who created and writes this newsletter, is now Honorary Advisor to Zeppelin Partners Limited. He will continue to write this newsletter.

Readers are to seek professional consultation where required and Zeppelin including its associates and consultants do not accept any responsibility for losses arising out of the usage of the newsletter. Copyrights rest with Zeppelin and/or the author(s). Opinions expressed by invited guest writer(s) do not necessarily imply consensus or agreement on our part.

Who? Me?

Stephen Chung

Honorary Advisor, Zeppelin Partners Limited
Founder and Writer, Real Estate Tech Quarterly Newsletter
Real Estate Website Developer, www.Real-Estate-Tech.com

Stephen is an independent real estate analyst – number cruncher and chartered surveyor and has been involved in real estate development, investment, and management in Hong Kong / China / Asia and North America.

Stephen provides relevant real estate market insights and macro-micro assessments to real estate developers, investors, owners, financiers, funds, and civic organizations, and possesses many years of experience in building economics, project management, facility strategy, marketing, and research.

Stephen is also a regular real estate writer - columnist and his articles have been published in both English and Chinese media including the following:

- China Daily
- Hong Kong Economic Journal
- South China Morning Post
- Apple Daily, Sing Tao Daily
- Quamnet Magazine
- Real estate and finance websites such as Soufun.com, Finet.com etc
- Journals of professional institutes such as the Hong Kong Institute of Surveyors

Stephen is an honorary adjunct professor of the University of Hong Kong and has been invited to speak to audiences from:

- Universities: such as the University of Hong Kong, City University of Hong Kong, York University
- Professional Institutes: such as the Hong Kong Institute of Surveyors, Canadian Institute of Quantity Surveyors, Royal Institute of Chartered Surveyors
- Business Associations: such as the Rotary Clubs

Stephen has written 4 real estate books in Chinese to date as follows:

Online book = Easy Real Estate Lectures
Hard copy = Real Estate Investment Know-How above 101
Hard copy = The Real Estate Market Turning Point
E-Report = USA Residential Real Estate Analysis

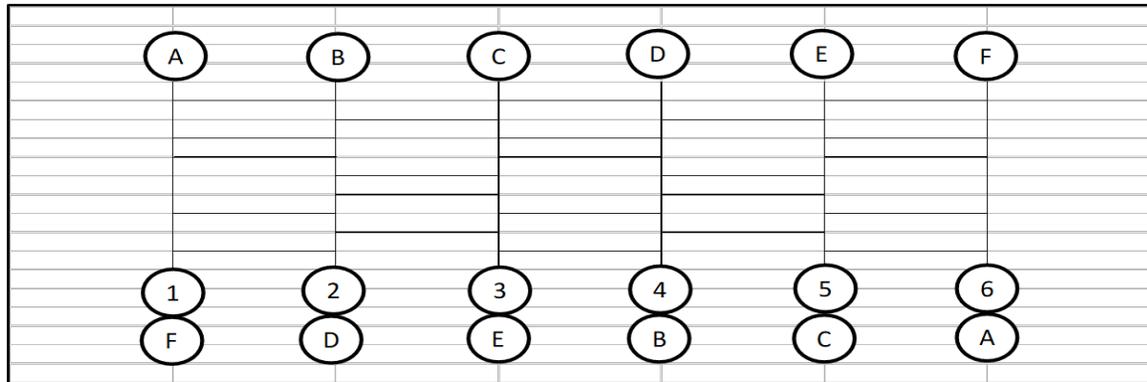
We welcome enquiries from interested parties and could be reached as follows:

Email: StephenChung@zeppelin.com.hk
Office Phone: 852-37576388
Office Fax: 825-37576399
Office Address: Unit 07, 10/F CCT Telecom Building, 11 Wo Shing Street, Fo Tan, Hong Kong
Website: www.zeppelin.com.hk and www.Real-Estate-Tech.com

The Ladder Hypothesis

Real Estate Tech, 1Q 2022

Stephen Chung BS BBuildg (HKU) MS in Real Estate Development (MIT) MRICS MHKIS FPFM PQS
Zeppelin Partners Limited - Phone (852) 37576388 / Fax (852) 37576399 stephenchung@zeppelin.com.hk



Each choice (A to F) leads to an exclusive end (1 to 6)

Ever played the “ladders” (or whatever it was named when you played it) game above? If yes, there needs no explanation. If no, one starts from any vertical line on top, in this case any one of A to F, proceeds down, turns into the next horizontal line until one comes to its end, and then goes downward again, repeats the same if one encounters another horizontal line, until one reaches the end of any of the vertical lines, herein 1 to 6. And one would find for any of the starts A to F, there is an exclusive end, in this case 1 to 6, for each of them. The above sketch pairs A to 6, B to 4, C to 5, and so on. Sometimes ladders are used to help decide where to go for lunches and dinners.

Ladders also help us to comprehend different investment options, and even the philosophy of investment. First, no two options will yield the same exact results, be this about choosing markets, picking the timings, or selecting projects, although the results may be very similar between the options to the point that practically the difference in investment performance seems negligible. Second, whatever option is chosen, it will lead to a different, even exclusive path of events, challenges, and issues, some of which may overlap with those in the other options notwithstanding. For instance, while two real estate projects may share a common pool of buyers, it does not mean the two projects will have the same appeal and pricing.

At the time of writing this article, the Ukrainian conflict is still ongoing. All the parties involved can be playing a series of ladders at every step of the way, and each of the options selected by any party may affect the other parties, foe or friend, and their selection of options. Think of it as a much more complicated sketch than the one above. Some of these options can affect even the non-participants, in the form of higher gas prices, trade disruptions, and so on.

Your humble author is also an armchair WW2 amateur. For instance, if the French had objected to the German Army marching back into the demilitarized Rhineland and the German Army retreated, would this reduce Hitler’s appeal to his people, and thus the course of history altered? Or when France fell in 1940 and Britain decided to accept the peace suggestion from Hitler? Or if the Japanese hadn’t attacked Pearl Harbor, would the US remain neutral throughout? Yet all wars would come to an end one way or another, then does this mean all wars were meaningless? Is ‘no war’ always the ideal option? Assuming ladders apply, maybe not always, because the results from different options (war and no war) would be different, and there is no evidence or guarantee the no war option – while desired – will always produce the better outcome, when longer horizons and comprehensive assessments are used.

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Canada: average home prices to average incomes in selected markets

Real Estate Tech, 1Q 2022

Stephen Chung BS BBuildg (HKU) MS in Real Estate Development (MIT) MRICS MHKIS FPFM PQS

Zeppelin Partners Limited - Phone (852) 37576388 / Fax (852) 37576399 stephenchung@zeppelin.com.hk

Canada: Selected markets - average home prices and average household incomes					
Markets (cities)	Av home C\$ Jan 2022	Av income C\$ 2021	Provinces		Av home C\$ divided by Av income C\$
		provincial data			
Greater Vancouver	1,255,200	53,416	British Columbia		23.50
Victoria	920,400	53,416	British Columbia		17.23
Calgary	458,800	61,865	Alberta		7.42
Edmonton	339,600	61,865	Alberta		5.49
Regina	263,300	54,371	Saskatchewan		4.84
Saskatoon	328,600	54,371	Saskatchewan		6.04
Winnipeg	331,300	49,661	Manitoba		6.67
Greater Toronto	1,259,900	55,524	Ontario		22.69
Ottawa	689,700	55,524	Ontario		12.42
Montreal	530,100	51,735	Quebec		10.25
Quebec City	305,800	51,735	Quebec		5.91
Fredericton Area	249,700	49,511	New Brunswick		5.04
Halifax-Dartmouth	560,200	48,470	Nova Scotia		11.56
St. John's NL	291,300	55,508	Newfoundland & Labrador		5.25
CANADA	748,400	54,630	Country		13.70

From single to double digit ratios

Often analysts would divide the average or median home price of a market (city) by some household or per capita annual income data relevant to that market. A ratio would result indicating how much time (usually in how many years) on average an average income household or person would need to work, excluding concerns for food, transportation, health, clothing, vacation, and the like, to pay for the average home. Naturally, the higher the ratio, the more difficult it is usually to buy a home in the market concerned. And it is a rough ratio only, and for more detail investigation, one needs to dice up the market by neighborhoods, home types, income strata, and so on.

Here we have selected some markets (cities) across Canada for their average home prices as of January this year (2022). As we weren't able to find sufficiently applicable city-based income data, we have decided to use the provincial income data in 2021 as a substitute. The resulting ratios, as said, are rough at best. Nonetheless, apart from knowing where homes may be more affordable, these ratios may give a hint of potential investable markets. Data have been abstracted from third party sources such as <https://www.crea.ca/housing-market-stats/national-price-map/> and <https://www.insurdinary.ca/average-income-in-canada/>. Below is the markets in descending order of home price to income ratios:

Markets (cities)	Av home C\$ divided by Av income C\$
Greater Vancouver	23.50
Greater Toronto	22.69
Victoria	17.23
CANADA	13.70
Ottawa	12.42
Halifax-Dartmouth	11.56
Montreal	10.25
Calgary	7.42
Winnipeg	6.67
Saskatoon	6.04
Quebec City	5.91
Edmonton	5.49
St. John's NL	5.25
Fredericton Area	5.04
Regina	4.84

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Home prices and COVID new cases

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Stephen Chung BS BBuildg (HKU) MS in Real Estate Development (MIT) MRICS MHKIS FPFM PQS

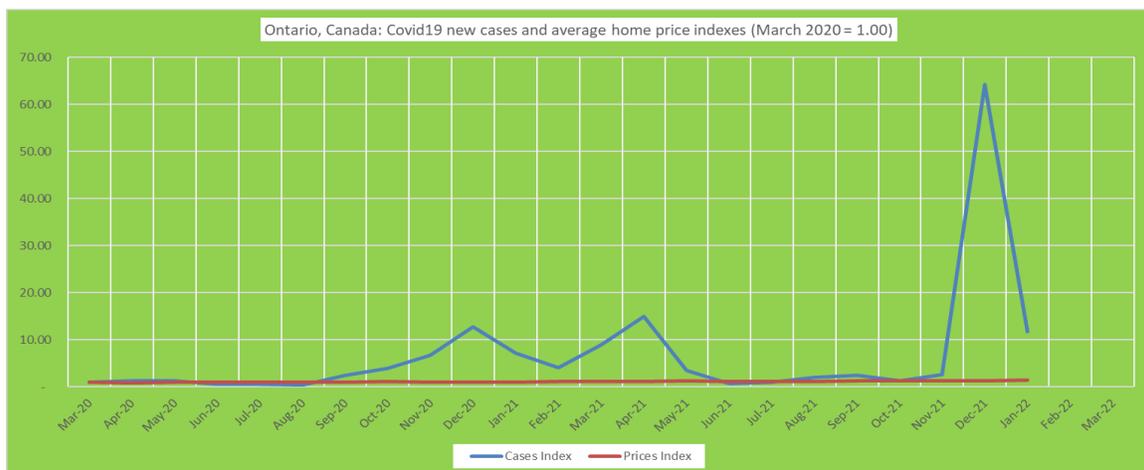
Zeppelin Partners Limited - Phone (852) 37576388 / Fax (852) 37576399 stephenchung@zeppelin.com.hk

COVID: Ontario						
End of month figures are used unless otherwise stated						
Month / Year	New Cases	Average Home\$	Cases Index	Prices Index	Cases +/-%	Prices +/-%
Mar-20	260	902,787	1.00	1.00		
Apr-20	347	820,226	1.33	0.91	33.46	-9.15
May-20	326	863,523	1.25	0.96	-6.05	5.28
Jun-20	157	931,085	0.60	1.03	-51.84	7.82
Jul-20	134	943,662	0.52	1.05	-14.65	1.35
Aug-20	114	951,501	0.44	1.05	-14.93	0.83
Sep-20	625	960,608	2.40	1.06	448.25	0.96
Oct-20	1,015	968,474	3.90	1.07	62.40	0.82
Nov-20	1,746	956,187	6.72	1.06	72.02	-1.27
Dec-20	3,328	932,155	12.80	1.03	90.61	-2.51
Jan-21	1,848	966,068	7.11	1.07	-44.47	3.64
Feb-21	1,062	1,044,916	4.08	1.16	-42.53	8.16
Mar-21	2,333	1,097,351	8.97	1.22	119.68	5.02
Apr-21	3,887	1,090,541	14.95	1.21	66.61	-0.62
May-21	916	1,108,109	3.52	1.23	-76.43	1.61
Jun-21	184	1,088,991	0.71	1.21	-79.91	-1.73
Jul-21	258	1,061,724	0.99	1.18	40.22	-2.50
Aug-21	525	1,070,131	2.02	1.19	103.49	0.79
Sep-21	647	1,135,131	2.49	1.26	23.24	6.07
Oct-21	340	1,155,567	1.31	1.28	-47.45	1.80
Nov-21	687	1,163,210	2.64	1.29	102.06	0.66
Dec-21	16,713	1,157,812	64.28	1.28	2,332.75	-0.46
Jan-22	3,043	1,242,793	11.70	1.38	-81.79	7.34

Not a lot of matches there

Time flies and COVID has been with us (humanity) for more than two years and is still multiplying, albeit its omicron version appearing to be a bit less lethal than former ones. Anyway, here we attempted to find out if COVID has had any obvious and significant impact on Greater Toronto home (GTA) prices. Data from March 2020 to January 2022 have come from the published data in the Toronto Regional Real Estate Board website (home prices) and Google Search (COVID new cases in Ontario).

The simple answer to the above query is: COVID doesn't seem to have a significant impact on GTA's average home prices, at best only some at particular moments during the period. This applies even if we use a one-month lag between COVID new cases and GTA home prices. Below is a chart showing the COVID new case index and the GTA home price index:



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City of Toronto residential real estate: charts and tables

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Stephen Chung BS BBA (HKU) MS in Real Estate Development (MIT) MRICS MHKIS FPFM PQS

Zeppelin Partners Limited - Phone (852) 37576388 / Fax (852) 37576399 stephenchung@zeppelin.com.hk



(Courtesy of www.publicdomainpictures.net)

We have collected data from the website of the Toronto Regional Real Estate Board (<https://trreb.ca/>) focusing on the **City of Toronto's** residential real estate market (largely the secondary market). These data start from April 2017 and end in January 2022. Rough charts and tables were compiled and some of these are listed below:

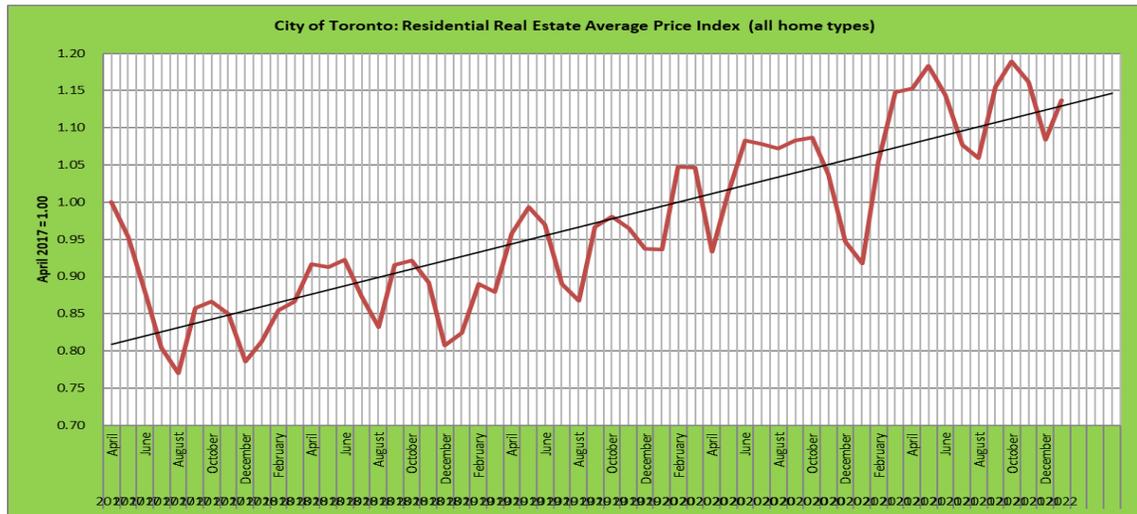
1) From April 2017 (the last price peak) to January 2022 price changes in percentages, major home types

City of Toronto:	Apr17 to Jan22
All Home Types	13.68%
Detached	19.50%
Semi-detached	33.29%
Townhouse	41.00%
Apartment	31.54%

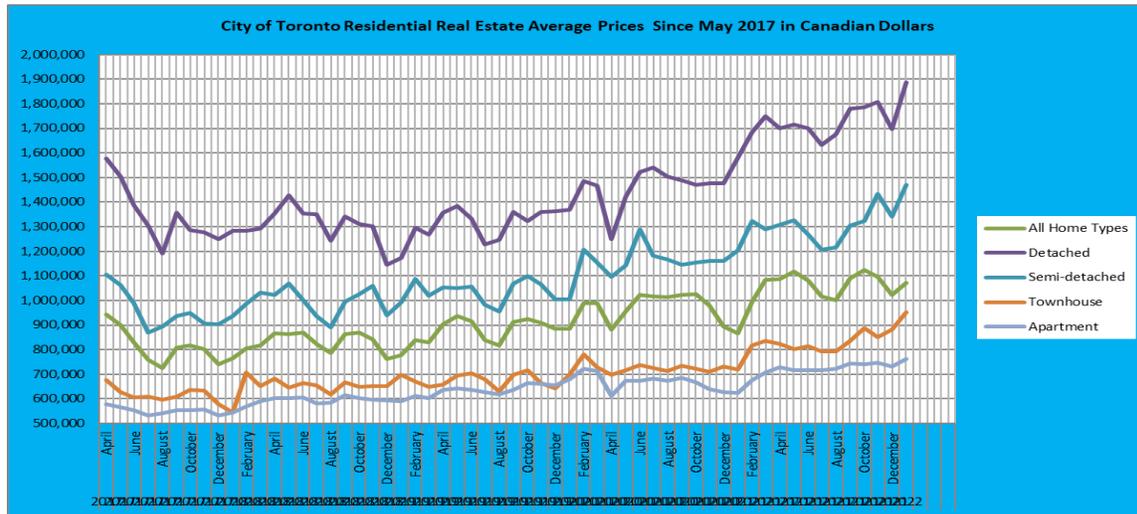
2) December 2021 versus January 2022 average and median home prices, major home types

Metro Region	Sub-district	Dec-21 Average C\$	Jan-22 Average C\$	Difference C\$ Dec21-Jan22	Percentage +or- (Jan-Dec)/Dec 2022	Dec-21 Median C\$	Jan-22 Median C\$	Difference C\$ Dec21-Jan22	Percentage +or- (Jan-Dec)/Dec 2022
Metro Toronto	All Home Types	1,023,029	1,073,111	50,082	4.90%	802,000	827,500	25,500	3.18%
	Detached	1,698,178	1,886,413	188,235	11.08%	1,415,000	1,570,000	155,000	10.95%
	Semi-detached	1,342,429	1,471,535	129,106	9.62%	1,159,500	1,361,000	201,500	17.38%
	Townhouse	882,139	952,641	70,502	7.99%	830,000	900,000	70,000	8.43%
	Apartment Condo	730,792	760,643	29,851	4.08%	650,000	700,666	50,666	7.79%
Metro West	All Home Types	977,611	1,025,669	48,058	4.92%	850,500	877,500	27,000	3.17%
	Detached	1,461,836	1,566,460	104,624	7.16%	1,339,900	1,450,000	110,100	8.22%
	Semi-detached	1,105,616	1,362,686	257,070	23.25%	1,055,000	1,270,000	215,000	20.38%
	Townhouse	777,610	834,855	57,245	7.36%	720,500	820,000	99,500	13.81%
	Apartment Condo	628,754	681,405	52,651	8.37%	594,000	649,944	55,944	9.42%
Metro Central	All Home Types	1,054,475	1,069,113	14,638	1.39%	755,000	784,250	29,250	3.87%
	Detached	2,395,647	2,716,563	320,916	13.40%	2,100,000	2,450,000	350,000	16.67%
	Semi-detached	1,662,748	1,686,697	23,949	1.44%	1,492,944	1,500,000	7,056	0.47%
	Townhouse	1,034,428	1,178,028	143,600	13.88%	930,000	1,051,000	121,000	13.01%
	Apartment Condo	790,661	803,032	12,371	1.56%	690,000	729,444	39,444	5.72%
Metro East	All Home Types	996,363	1,130,323	133,960	13.44%	998,500	1,100,000	101,500	10.17%
	Detached	1,363,672	1,568,916	205,244	15.05%	1,277,500	1,438,000	160,500	12.56%
	Semi-detached	1,232,705	1,392,716	160,011	12.98%	1,120,000	1,360,000	240,000	21.43%
	Townhouse	767,411	867,336	99,925	13.02%	790,000	810,000	20,000	2.53%
	Apartment Condo	579,065	650,150	71,085	12.28%	556,000	625,000	69,000	12.41%

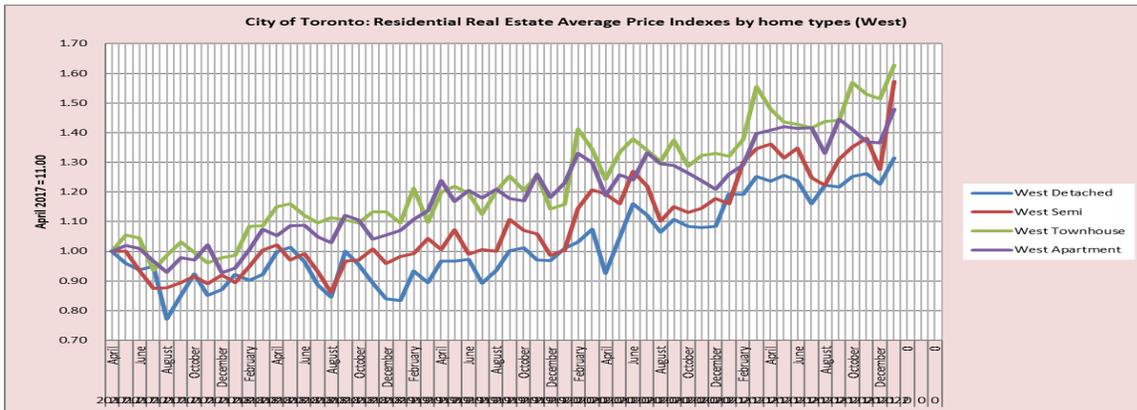
3) From April 2017 to January 2022 home price trend



4) From April 2017 to January 2022 average prices of major home types



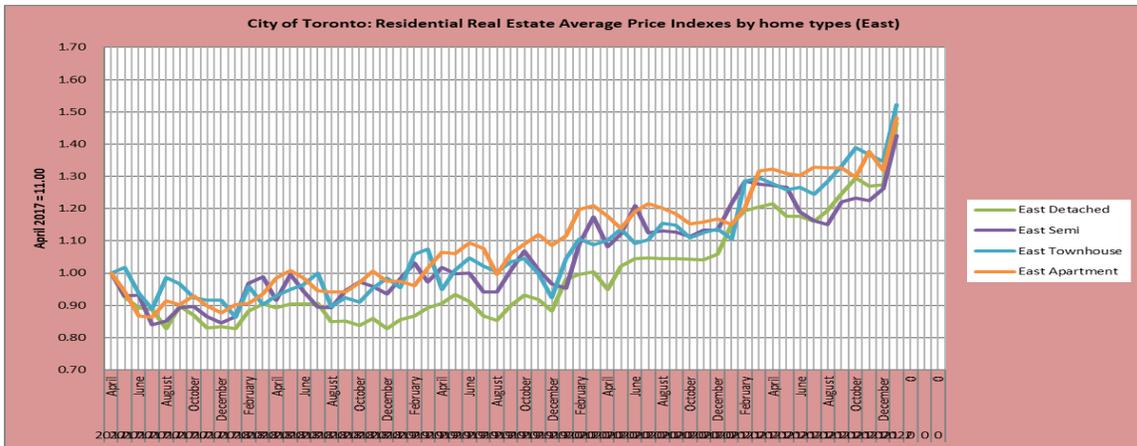
5) From April 2017 to January 2022 average price trends, major home types, West Toronto



6) From April 2017 to January 2022 average price trends, major home types, Central Toronto



7) From April 2017 to January 2022 average price trends, major home types, East Toronto



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Contact us:

Mr. K. K. Wong kkwong@zeppelin.com.hk

Mr. Stephen Chung stephenchung@zeppelin.com.hk

Address: Unit 1007, CCT Telecom Building, 11 Wo Shing Street, Shatin, Hong Kong

Phone: 852-37576388

Fax: 852-37576399

Web: www.Real-Estate-Tech.com and www.zeppelin.com.hk

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