

# THE LAND DIGEST

## New York Even “Higher” High Rises Going UP

### Economic Indicators:

<b>Real GDP Growth</b> Q2 2015	-0.5%
<b>Toronto Employment Growth</b> Aug 2015	5.1%
<b>Toronto Unemployment Rate</b> Aug 2015	6.7%
<b>Inflation</b> Aug 2015	1.3%
<b>Bank of Canada Overnight Rate</b> Sep 2015	0.5%
<b>Prime Rate</b> Sep 2015	2.7%
<b>5 Year Mortgage Rate Fixed</b> Sep 2015	4.6%

On a remote spit of land on the far northeastern coast of Newfoundland is a research facility that boasts an extraordinary motion control simulator, the kind of complex machinery used to train pilots of airplanes and deep-water ocean vessels.

Lately, however, the simulator has been used for a novel purpose: to determine the effects of wind movement in extreme high-rise residential buildings of the sort now soaring over the southern edge of New York City’s Central Park.

In the last few years a number of these so-called supertalls – extraordinarily tall and slender residential towers that provide elite views for elite buyers – have been making their mark in a city already known for its towering structures.

While New York’s iconic Chrysler Building stands 1,046 feet tall, Pontiac Land Group’s 53 West 53rd Street edges it out at 1,050 feet. Meanwhile, CIM Group and Macklowe Properties’ 432 Park Avenue stands at 1,396 feet tall, and JDS Development Group’s 111 West 57th Street measures in at 1,428 feet – both higher than the Empire State Building. And unlike New York’s commercial skyscrapers, which feature

very wide bases, these new residential buildings have tiny footprints, creating incredibly skinny sliver buildings.

Why go to the trouble to design towers that stretch like pencils into the sky? The limited availability and record price of land in Manhattan is the force that has pushed people to live above the clouds.

To make projects on these tiny (and very expensive) lots make sense, developers must build higher than ever before. And right now, there is a market for the exclusive addresses, even with prices as high as the buildings themselves.

For example, a modest, lower-floor apartment at 432 Park Avenue, located between 56th and 57th streets, was recently reported to be on the market at \$16.95 million while one high-end unit was listed at \$82.5 million.

“Views are selling, and the higher the apartments, the higher the prices they demand,” says Richard Baxter, Vice Chairman with JLL’s New York City office. “Capital continues to pour into New York and the pace of sales indicates that the world’s super-wealthy not only want an apartment in New York, they want the best and most distinct apartment possible.”

While some love the new additions to the skyline, the supertalls have critics who complain that the towers stand out like very tall sore thumbs and will cast shadows like a bunch of sun dials onto Central Park. In fact, the Municipal Art Society, an urban planning group, has issued a report warning about the impact of these shadows and calling for a re-appraisal of related zoning.

It’s not just opposition from disgruntled New Yorkers that the buildings have to overcome: there are also significant challenges for the structural engineers.

Despite the remarkable height and miniscule footprints of these towers, their structural integrity is not at issue. Rather, engineers are focused on mitigating wind movement so that it cannot be felt. Indeed, if residents detect the motion, they will not be comfortable living thousands of feet above the ground.

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## New York High Rises cont'd

This is where Newfoundland's simulator comes in. It enables engineers to demonstrate to the buildings' developers exactly what wind movement feels like 1,000 feet in the air. What bothers people more than the actual movement is acceleration and deceleration – the forces that cause the motion sickness more typically experienced in automobiles.

So, the structural engineers fly drones to lofty heights and take 360-degree images of the view. These views are then projected onto the 360-degree screen that fills the theater around the simulator. Inside the simulator, the developers look out the windows, and experience what it's like at the top of their proposed buildings on a windy, very windy, or tremendously windy day. The process sets a baseline for the engineers and informs the effort to control the movement.

To maintain movement below a noticeable threshold, developers install complex dampers on the top of the buildings that provide counter balance. For 'shorter' buildings, say 700 to 800 feet tall, engineers install slosh tanks holding many thousands of gallons of water. The mass of the water naturally stays where it is, balancing any movement beneath it.

For the super supertalls, those stretching well above 1,000 feet, colossal steel and concrete mass dampers are employed. These hanging dampers, which resemble enormous and highly elaborate pendulums, weigh up to 1,100 tons.

While these new towers are all twice as tall as Manhattan's average residential high-rise, one structural engineer believes that we are not yet close to topping out. Stephen DeSimone, president of DeSimone Consulting Engineers, explains that the technological advancements – notably higher strength concrete and steel – that have allowed 1,400-foot towers already enable the construction of towers 2,000 feet or taller. As materials continue to improve, towers will be able to grow even taller.

DeSimone, whose firm provided structural engineering for 125 Greenwich at 1,000-plus feet; 50 West Street at 780 feet; and 100 East 53rd Street at 711 feet; says: "There is really no limit to how high we can go – it is only a question of what developers are willing to spend to get there. Right now, there is no end in sight."

In fact, engineers are now seeking to develop active dampening systems that will anticipate the motion of a building and counteract it

before it even sways. Active systems already exist and are used as stabilizers on enormous trans-oceanic ships. If buildings are to reach even higher, damper systems like this must be adapted for real estate.

There is little doubt that New York City's supertalls will serve as lighting rods for local anger over density and development in the near future, especially as they cater to uber wealthy global citizens who will likely spend very little time in the actual buildings. However, there is no height limit in New York and it appears that the skyline will continue to rise as it always has.

**Source: George Shea  
Shea Communications**

## RECENT SALES – Metro Toronto

Address/City	Acres	Price	Notes
202-212 Keewatin Ave.	0.75	\$8.28MM	Future high rise condo site
8-16 Widmer St.	0.21	\$12.7MM	Future high rise condo site
874 Yonge St.	0.14	\$13.0MM	Holding site future development
529 Oakwood Ave.	0.51	\$2.7MM	Beer store future development
7 Staffoedshire Pl.	2.54	\$3.75MM	Employment lands

Source: CFAS and RealTrack

### COMMERCIAL FOCUS REALTY INC., BROKERAGE

35 The Links Road  
Suite 202  
Toronto, Ontario  
M2P 1T7

Phone:

(416) 972-9220

Fax:

(416) 972-9588

We're on the Web!

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The key members of the Land Development Group are well tied into the development community.

In many cases they have acted on their behalf in consulting situations. This allows the team great access to leading edge information regarding future growth areas, highest and best use, and new paradigms in development densities.

The Land Development Group started in 2012 and to date has sold over \$80 million worth product.

With an in house planner and accredited appraiser as part of the team, the Group can offer to its clients services like no other Brokerage. These professionals are quick to assess the potential development of property and its hidden values.

### Lorenzo DiGianfelice, AACI

Broker of Record & Owner  
Direct – 416-907-8281  
[ldigianfelice@cfrealty.ca](mailto:ldigianfelice@cfrealty.ca)



### Mitchell Chang

Salesperson, President & Owner  
Direct – 416-907-8280  
[mchang@cfrealty.ca](mailto:mchang@cfrealty.ca)

### Robert Levinson

Salesperson & Owner  
Direct – 416-907-8275  
[lev@sympatico.ca](mailto:lev@sympatico.ca)