WHAT DOES 1.5M HOMES LOOKS LIKE?

WHAT IF WE BUILD A SINGLE TOWER?

Calculating the **height** of a tower for **1.5M** dwellings:

1,500,000 Dwellings

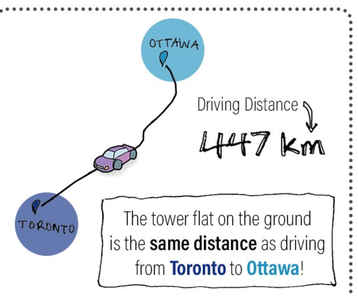
10 Dwellings per story

3m Story height

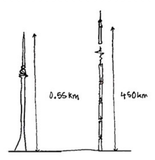
750m² Tower floor plate

8m × 6.5m (1 Unit) — One dwelling = 8 x 6.5m unit
10 units on 750m² floor plate

# of towers = 3 (1,500,000 / 10)
= 450,000m = 450 km



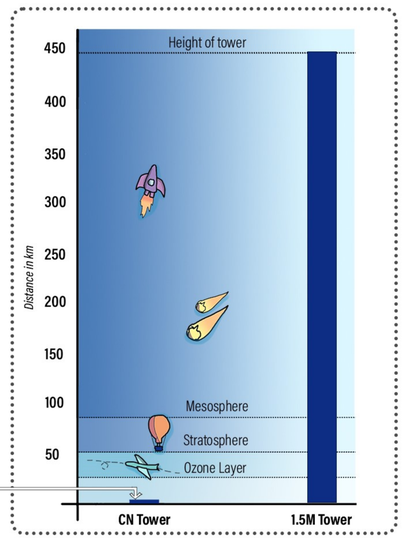
The tower flat on the ground is the **same distance** as driving from **Toronto** to **Ottawa**!



To reach a height of 450km you would need

814

CN Towers stacked on top of each other!



WHAT ABOUT JUST BUILDING SINGLE DWELLINGS?

Calculating the **area** needed for **1.5M** dwellings:

1,500,000 Single dwellings

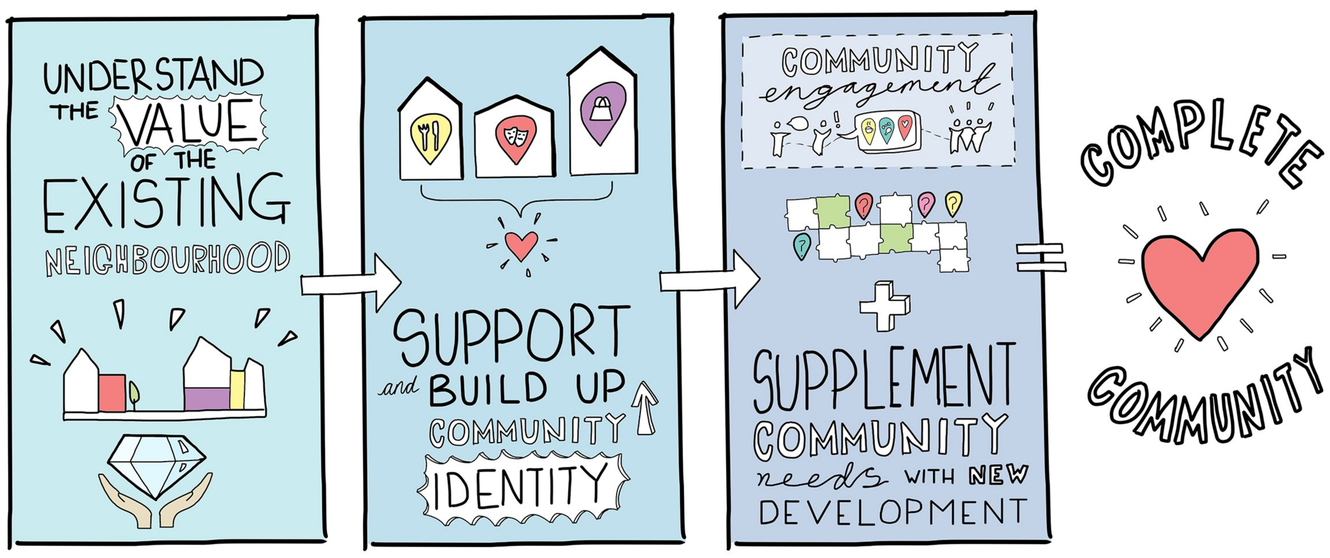
14 Average density for low-rise typology = **14** dwellings per hectare ***(d/ha)***

Area needed (ha) = (1,500,000 / 14)
= 107,143 ha
= 1,071 km²

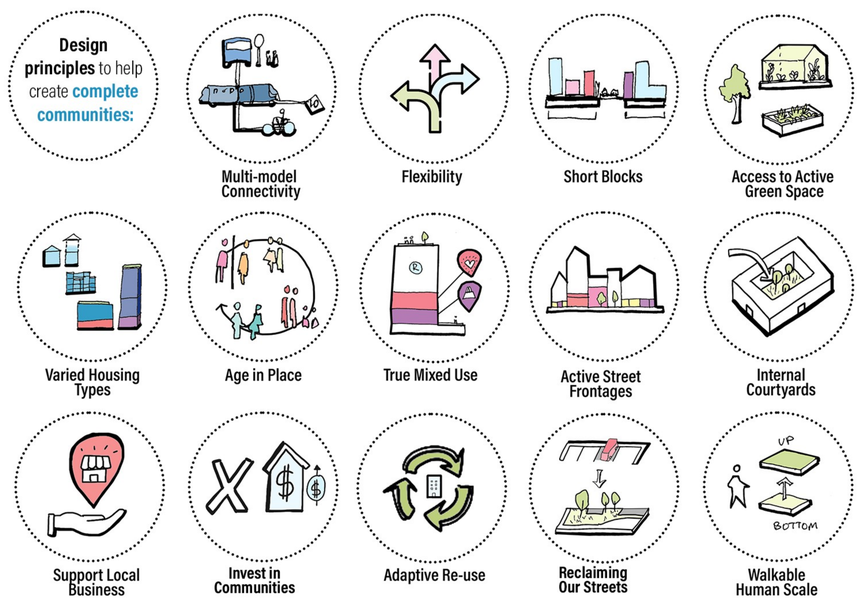
Building **1.5M single dwellings** would require ... 2X ... the area of **Toronto!**

WHAT IF WE TOLD YOU THERE WAS A BETTER SOLUTION?

IT'S NOT JUST ABOUT **QUANTITY** IT'S ABOUT **QUALITY OF LIFE! ...**

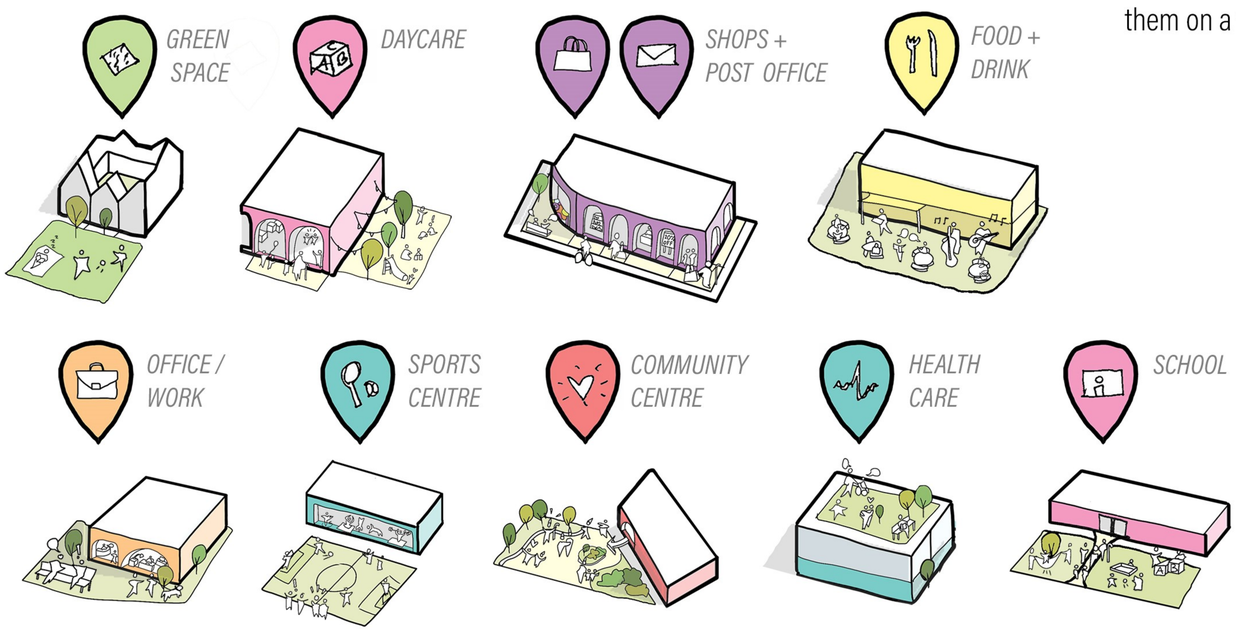


Design principles to help create **complete communities:**

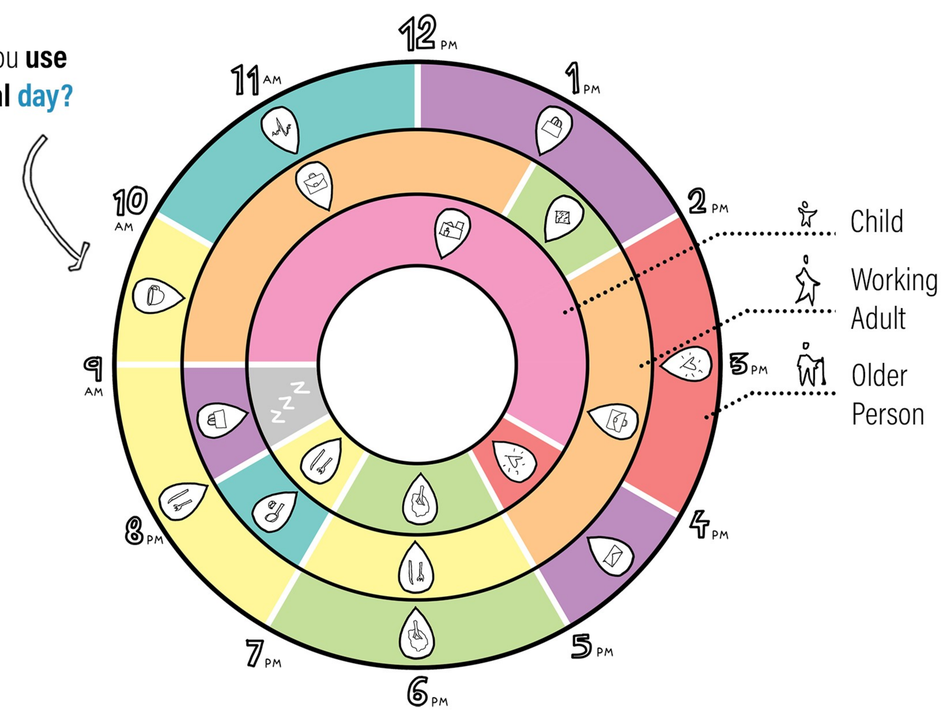


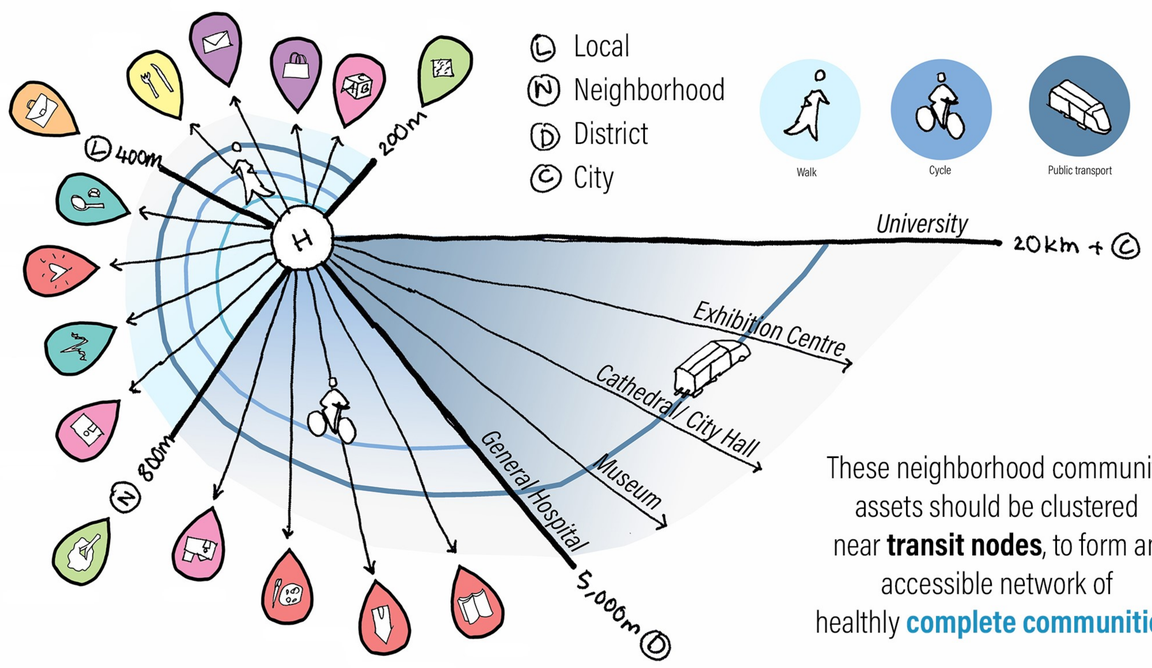
HOW DO WE DESIGN **NEIGHBORHOODS** FOR **PEOPLE OF ALL AGES?**

What kind of things would you want **near** your **home?**



How might you **use** them on a **typical day?**

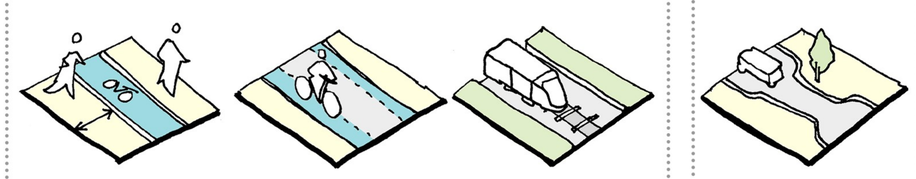




These neighborhood community assets should be clustered near **transit nodes**, to form an accessible network of healthly **complete communities!**

PEOPLE CENTERED **HUMAN SCALE** DESIGN

Variety of **flexible, permeable** ways of **transport** focused around a **transit node:**



Wider sidewalks — *Designated bike lanes* — *Integrated public transport routes* — *Speed reduction road design*

Emphasis on **sustainable, well designed** alternative routes of **movement** . . .

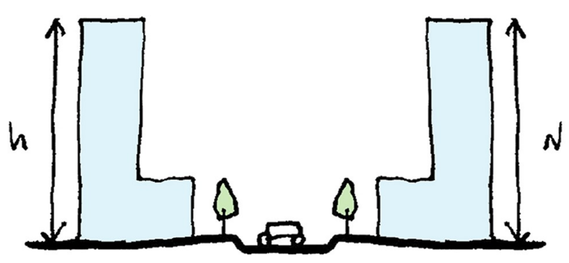
TO

Reduce the dependency on **individual cars**

WHAT HAPPENS IF WE MAKE THE GUIDELINES AS OF RIGHT?

MAKING THE **GUIDELINES AS OF RIGHT**

BUT WHAT DOES **AS OF RIGHT** MEAN?

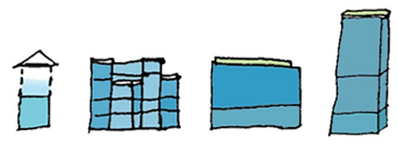


Building to the heights already **allowed**

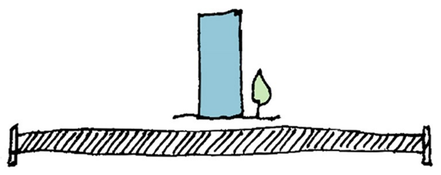
What are the **benefits?**

1) MONEY SAVED

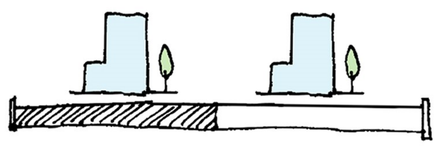
2) MORE HOMES BUILT



3) TIME SAVED



*Current **approval time** in Toronto*



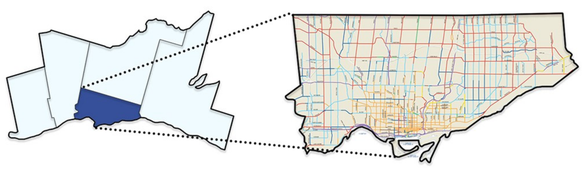
*Time taken to build **As of Right***

Deliver **housing**

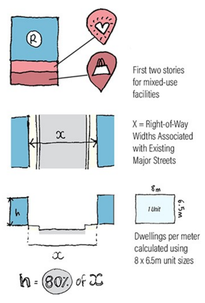
the **speed**

MAKING THE MID-RISE GUIDELINES AS OF RIGHT:

Calculating **dwellings per meter** for each mid-rise guideline:



Right of way *(x)*	Max Building Height *(h)*	Dwellings per *m*
20m	16.0m	1.85
23m	18.4m	2.46
27m	21.6m	3.08
30m	24.0m	3.69
33m	26.4m	3.69
36m	28.8m	4.31
45m	36.0m	6.15



Calculating the **total available distance**:

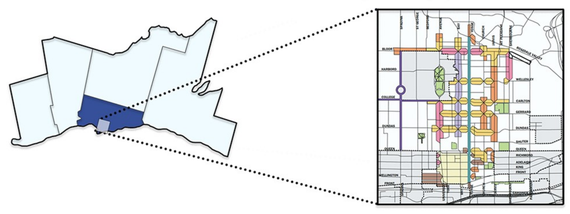
Measuring empty space and low-level dwellings
Excluding existing mid-rise, high-rise and public parks and buildings

m = *Total distance of empty space and low-level dwellings along the mid-rise guideline Right of Ways*

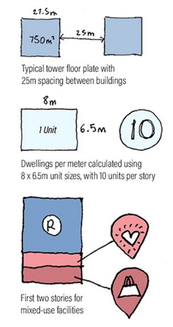
NEW DWELLINGS
1,150,000

MAKING THE TALL BUILDING GUIDELINES AS OF RIGHT:

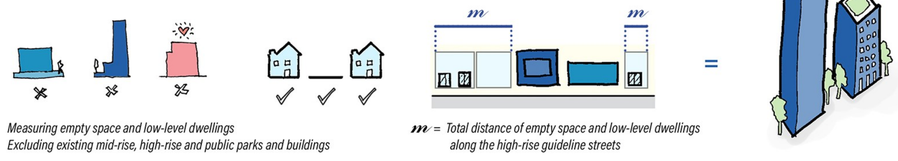
Calculating **dwellings per meter** for each tall building guideline:



No. of Stories	Total no. of Units	Dwellings per *m*
25	230	8.76
35	330	12.57
45	430	16.38
50	480	18.29
60	580	22.10
65	630	24.00



Calculating the **total available distance:**



Measuring empty space and low-level dwellings
Excluding existing mid-rise, high-rise and public parks and buildings

m = *Total distance of empty space and low-level dwellings along the high-rise guideline streets*

NEW DWELLINGS
140,000

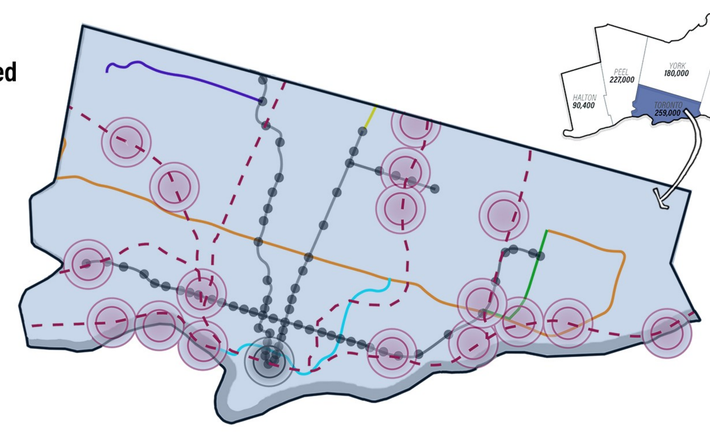
HOW MANY MORE HOMES IN THE TORONTO REGION?

SUSTAINABLY DENSIFYING EXISTING TRANSIT NODES . . .

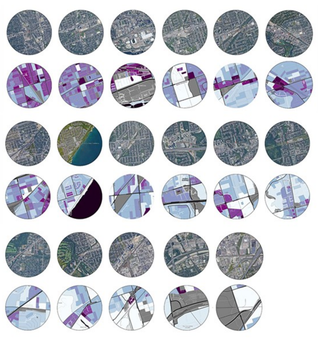
Map showing the **existing** and **proposed transit routes** in the **Toronto area:**

Map Key:

- GO Transit Stop
- Existing Subway Lines
- Eglinton Crosstown LRT
- Scarborough Subway Extension
- Yonge North Subway Extension
- Finch West LRT
- Ontario LRT



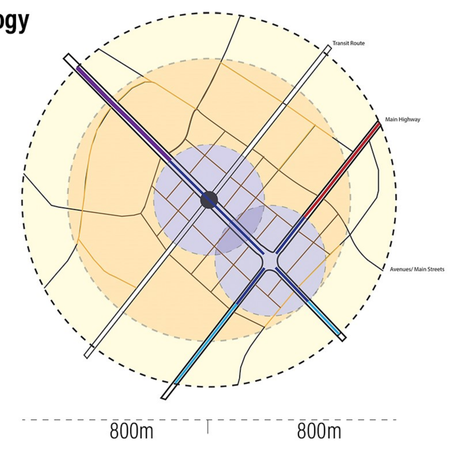
Existing **density (d/ha)** within 800m radius of transit nodes:



Urban Prototype Typology

Using an **800m** radius around a **transit hub** to create an example **density/ number** of **dwellings** within an **urban** transit area.

- Transit Node
- Most Dense Areas High-rise/ Mid-rise
- Mid-rise/ Triplex/ Duplex/ Single
- Single Dwellings

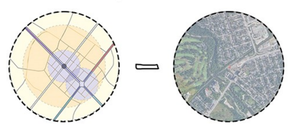


SINGLE DWELLINGS
4,016
+

MID-RISE DWELLINGS
23,276
+

TALL BUILDING DWELLINGS *6,007*

Calculating the total number of **new dwellings** in the Toronto area:



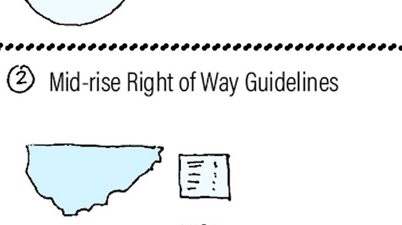
No. of dwellings in urban typology = **33,299**

Minus Total no. of **existing** dwellings in 800m radius

17 Repeating this calculation for each of the 17 GO transit nodes makes the total number of **new dwellings:**

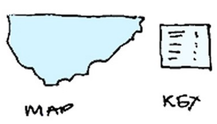
470,000

① Densifying Transit Nodes



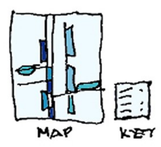
→ 470,000

② Mid-rise Right of Way Guidelines



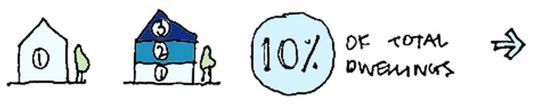
→ 1,150,000

③ Downtown Tall Buildings Guidelines



→ 140,000

④ Single Dwellings into Multiple Units



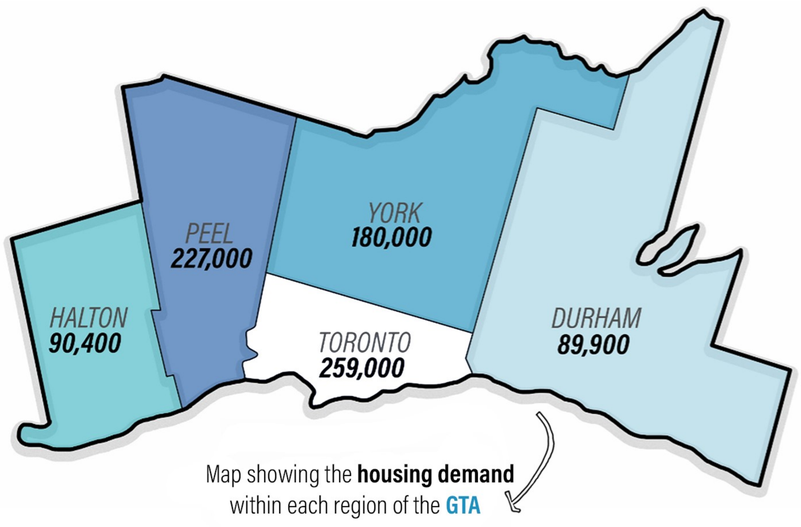
→ 40,000

1,800,000

WHAT ABOUT DOING THIS ELSEWHERE?

Using **techniques** seen above we could tackle the **housing demand** in the **GTA** and wider **Ontario**:

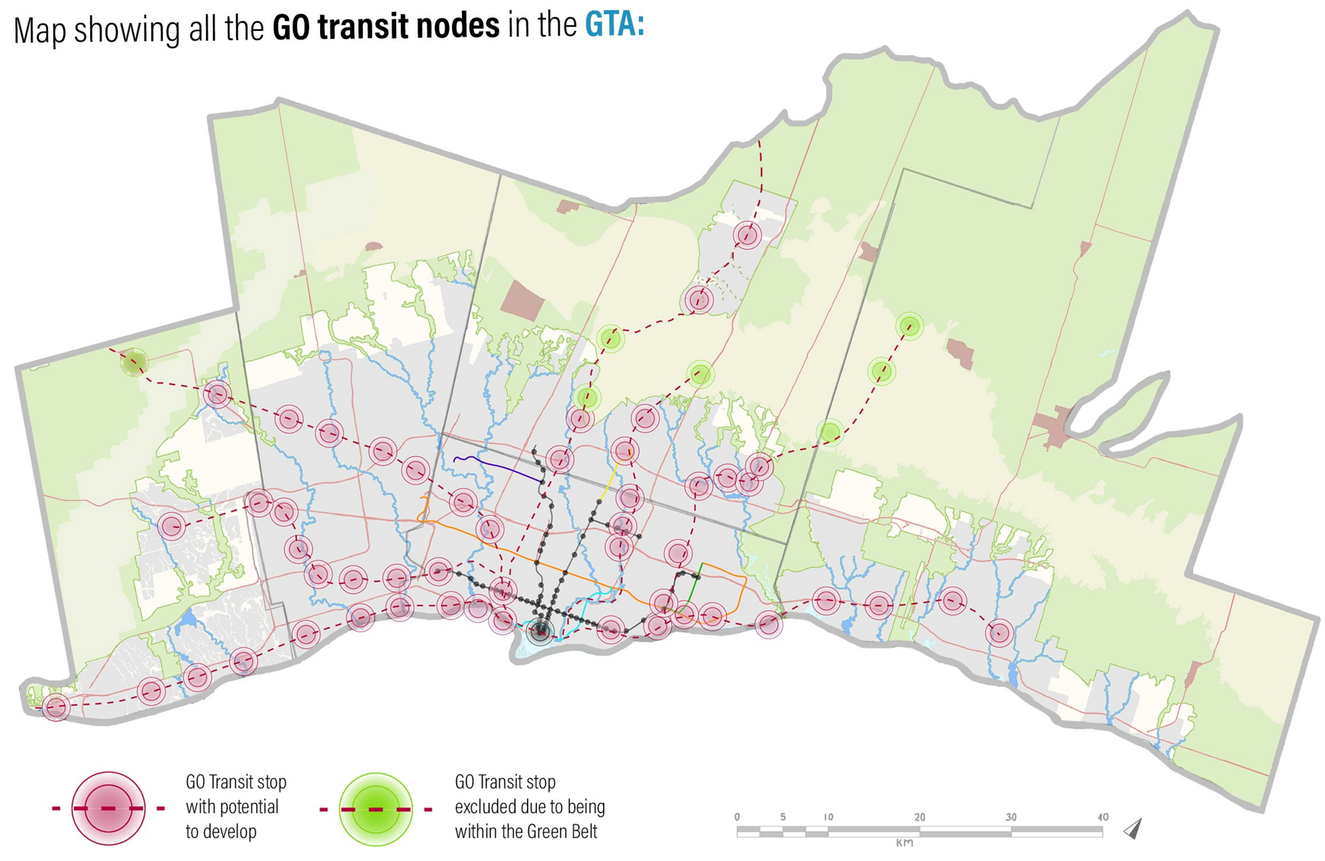
By **sustainably densifying** the **existing transit nodes** within each region.



Map showing the **housing demand** within each region of the **GTA**

Source: ONTARIO'S NEED FOR 1.5 MILLION MORE HOMES, Smart Prosperity Institute, 2022

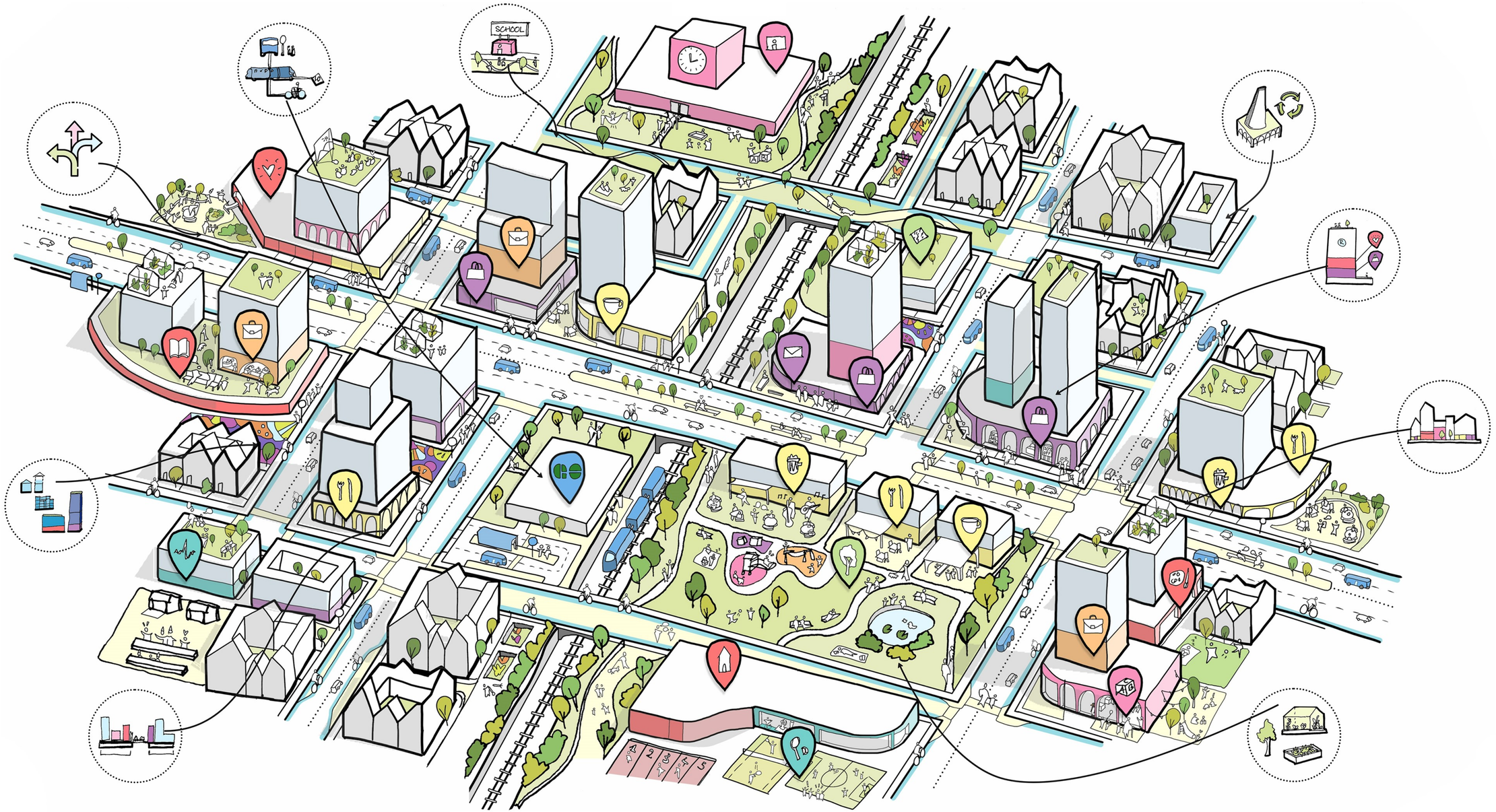
Map showing all the **GO transit nodes** in the **GTA:**



GO Transit stop with potential to develop

GO Transit stop excluded due to being within the Green Belt

WHAT COULD THIS LOOK LIKE?



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