

# GRID vs. LINEAR

by John Foley, 2020

I firmly believe that we should install pod cars in one way grids, as distinct from two way linear systems.

Turn on GOOGLE EARTH and put it over any city. On the menu above the image you will see a vertical BLUE RULER. Click on the ruler and fourth from the left is CIRCLE. Click on CIRCLE and you get the radius, the area and circumference of any circle that you draw. The area is what interests me.



This yellow two-way linear system is 1.3km long, so it uses 2.6 km of guideway with six stations.

The green one-way grid system is also 2.6 km long but it has nine stations.

Allowing for some overlap of the 150m radius circles, each one covers about 65,000 square metres so the six yellow circles service 390,000 square metres of potential passengers. The nine green circles service 585,000 square metres of potential passengers, or better than a one third increase in efficiency.

Not only is it much more economical to put in a one way system but the public gets a far better service from it.



In this flat city, the streets are laid out in a regular grid pattern so the pod car stations are about 300m apart.

The pink passenger lives right by a station and has a 0m walk.

The blue passenger lives midway between stations with a 150m walk.

The yellow passenger lives between all the stations and has a 300m walk.

With stations 300m apart, everybody in the grid will have an average walk of 150m to a station. You often park your car further from your destination than that.

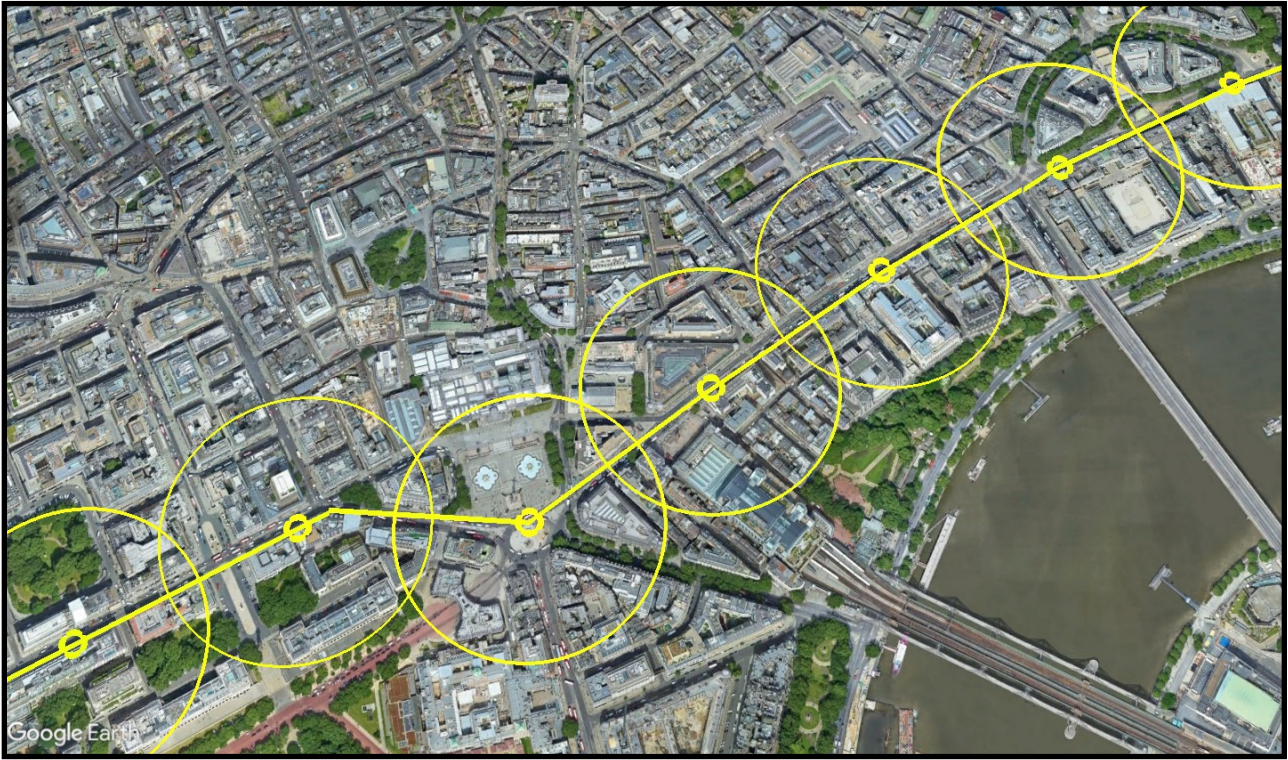
The question is then asked, “What if the pink passenger wants to go to the station at the bottom left? Do you mean he will have to go all the way around?”

The answer is “Yes”. The three sides of the square mean a journey of 900m. Traveling at a kilometre a minute, that will take 54 seconds. If the pink passenger continues to the left of the picture for say, 10 kilometres, the inconvenience of the one way system will only add 36 seconds to a 10 minute journey. The savings of having one guideway in each street against a two way system will be measured in millions of dollars. That money can be more wisely used to spread the grid further.



In this illustration, everybody has an average of 150m walk to a pod car station. It is argued that if a passenger wants to go from the white shopping mall at the bottom of the picture to the round sports ground on the right, the pod car is taking the long way around. That is true but because pod cars travel at a kilometre a minute, the whole journey will take about 50 seconds.

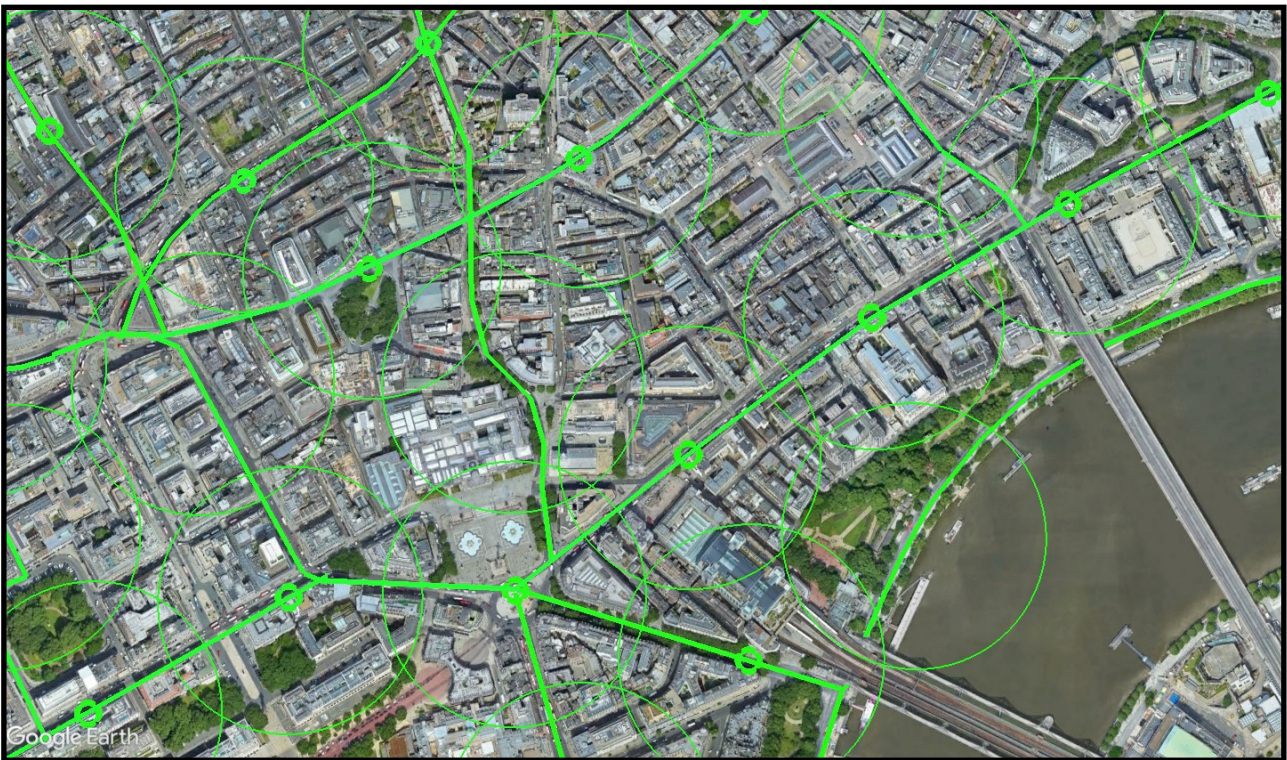
Take the case of a passenger who gets on at the white shopping mall and wants to travel five kilometres to the east. The pod cars from that station all exit to the west. Five kilometres mean a five minute journey and the extra few hundred metres to the west will only add seconds to it.



Here are two images of the irregular streets of London with Trafalgar Square in the dip at the bottom.

If the yellow linear system is installed, it will carry people across the city from east to west. The service will be excellent for the passengers who want to board and alight along that yellow line.

But think about it. Wherever you are at any one moment, you want to radiate out from your current location to the supermarket, the laundry, the snack bar, the pub, your mate's place or your home. Once you get to your new destination, you want to radiate from there again.



The yellow linear system only offers passengers the choice of traveling east or west of their current position.

The green grid leaves almost everyone within 150m of a station and they can travel anywhere within the grid. It's true that for the same capital outlay, the yellow linear system will carry passengers a greater distance, but the grid is far more practical and as it expands, it will overtake the linear system in distance.

I am a firm advocate of pod cars being installed as one way grids.