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On July 22nd 2018 the new Amsterdam north-south Metro Line 52 commenced operation. Simultaneously, the biggest tram service reorganisation in decades was planned. As this took place, I reflected on the changes, and how they were publicised. These are my collected observations.

In [November 2017](#), I created a unique map of Amsterdam tram and metro services that was based upon concentric Us, and which respected the shape of the city better than the official diagram. With the commencement of North-South metro line 52 on Sunday 22nd July 2018, the many changes to the network were set to make my own design obsolete. This led to thoughts about how network maps can best show change, in addition to the current state of services.



The problem faced by the people of Amsterdam was that the transport operator, GVB, was not being entirely helpful in explaining the changes. A wholesale re-birth of the network was being planned, which led to alterations not just to long-standing route numberings, but also colour-codings – in which the old system of a distinctive colour for each tram route was to be changed to one in which routes were grouped according to their similarities. Hence, the following problems were almost *preventing* people from understanding the changes:

- Starting point: a disorderly unstructured base-map that failed to take advantage of the natural shape and organisation of the city.
- Changes to the tram colour coding system so that continuities and discontinuities between the before and after maps were difficult to identify.
- The before/after maps differed in all sorts of other ways, such as colours, landmarks, symbols, and supplementary information, that further distracted from making comparisons.

Railkaart



Official map: this one is pre-changes

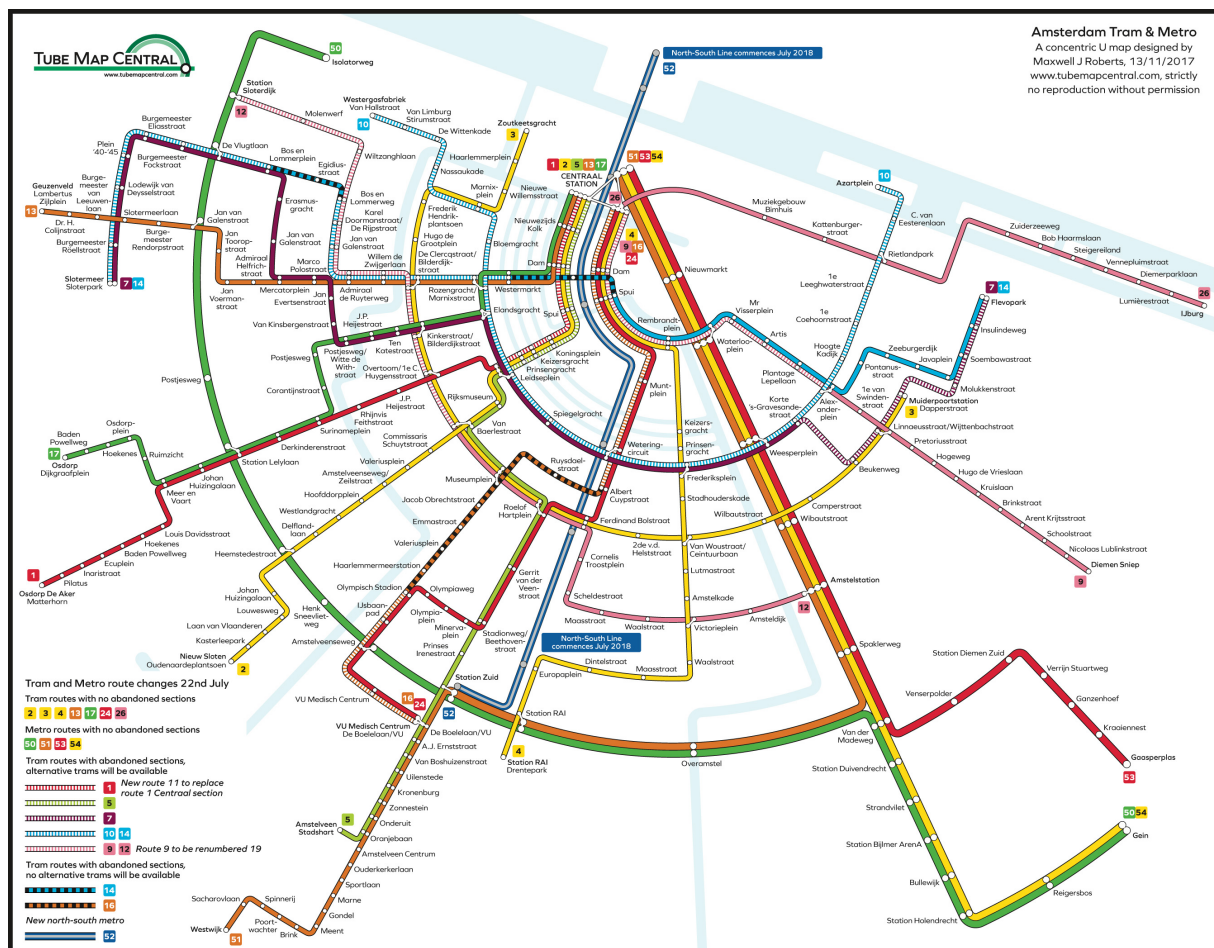
Railkaart



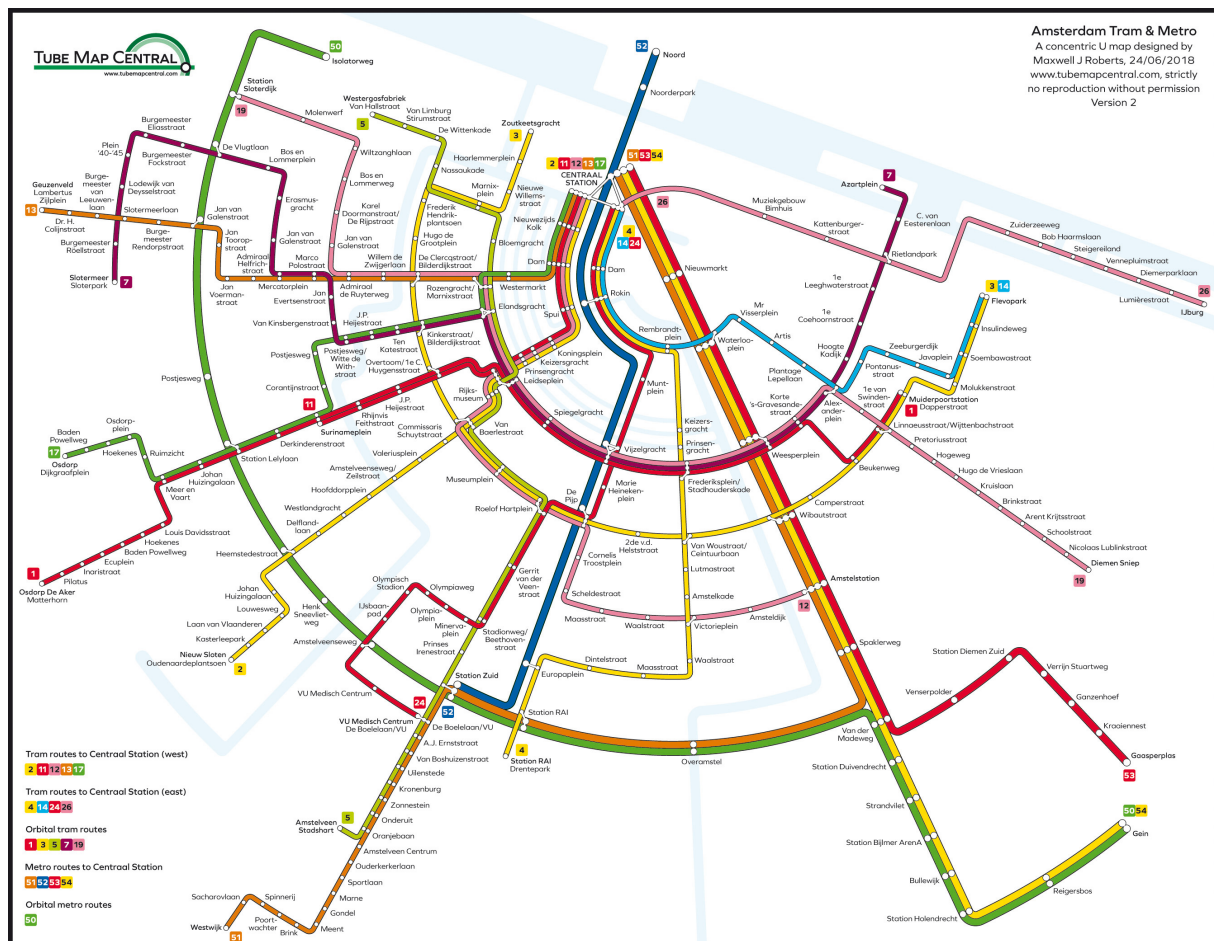
Official map: this one is post-changes

My first step, in trying to make the changes salient, was to supplement my own map to show the pre-change situation and highlight what was actually going to happen (next page, upper). More than half the tram routes in Amsterdam were to change when the new North-South metro line 52 commenced operation. Most tram diversions had tram replacements, but my own analysis highlighted three route sections that were be completely abandoned. *Try spotting the abandoned routes from the official designs released by GVB.*

My second step, in trying to make the changes salient, was to [alter my original map](#) to show the post-change situation (next page, lower). This used the old colours so that the different maps could be easily compared. The ends of Routes 1 and 9 (9 now renumbered 19) lost their direct connection to the city centre, with no obvious compensation. Route 12, on the other hand, gained a direct connection even though its locales were well-served by metro lines.

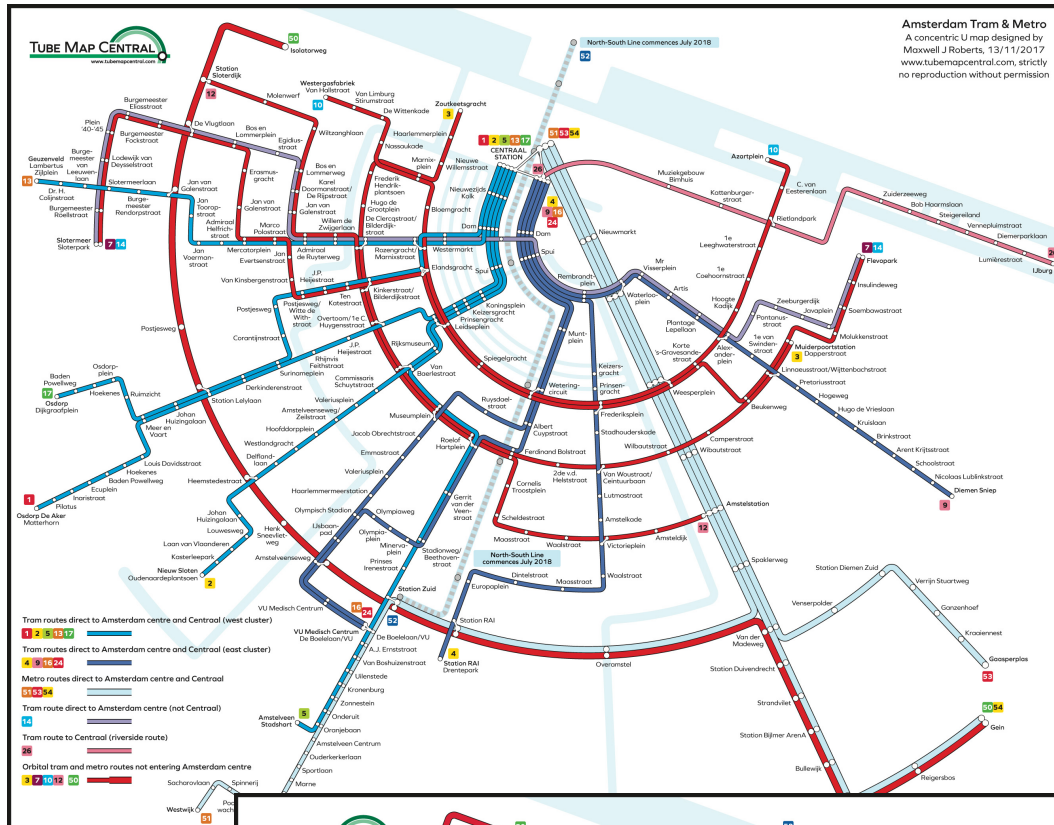


Above: my own pre-changes map. Below: my own post-changes map

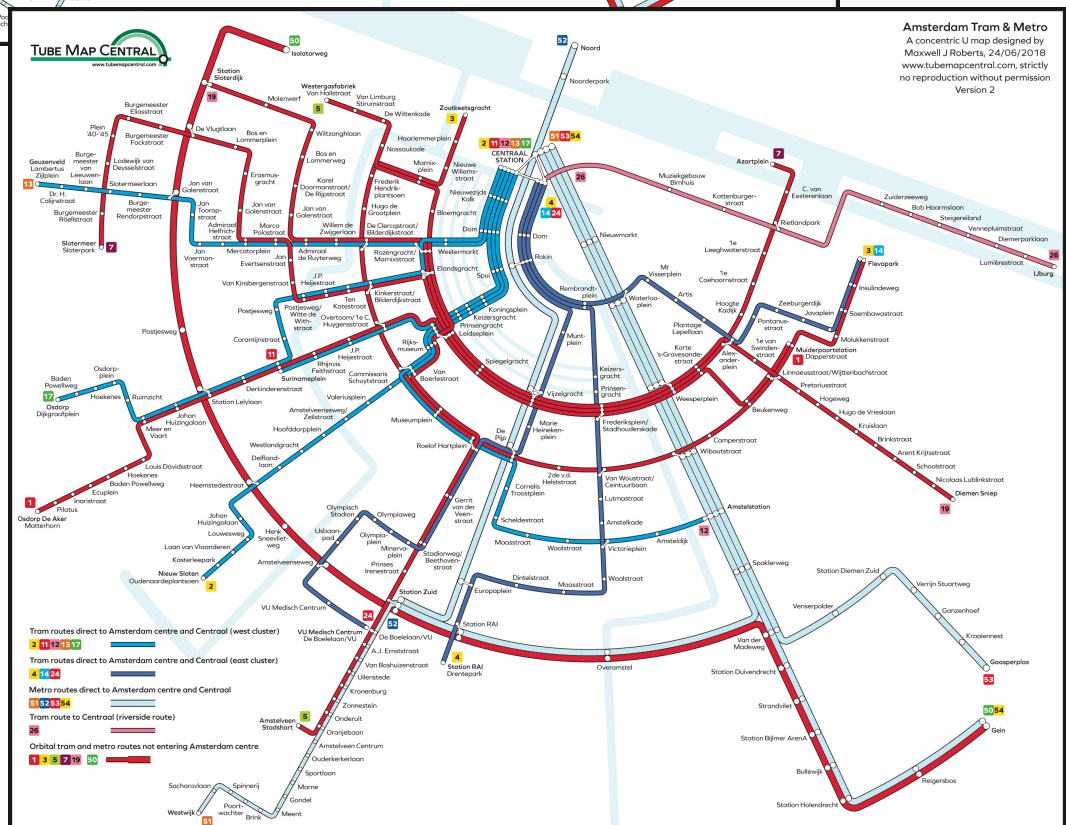


Apparently, the changes to the Amsterdam tram network were justified on the basis that the old network had an out-of-date 'cobweb' structure. Of course, cobwebs have to be dusted away, and in this case were to be replaced with a modern 'herringbone' structure for the network.

The problem is that when colour-coding the routes by whether they are radial (blue) or orbital (red), neither of these words leaps off the page as a description for either network. Even worse, it is hard to identify any salient defining features such that it is clear that the old cobweb has, indeed, been transformed into a herringbone. Use of words in this way in this context can only imply obfuscation. Perhaps the words were intended to divert people's attention away from underlying rationalisation and service cuts. Hence, the only herringbones were from red-coloured fish. The less-than-helpful GVB maps certainly did not reveal this.



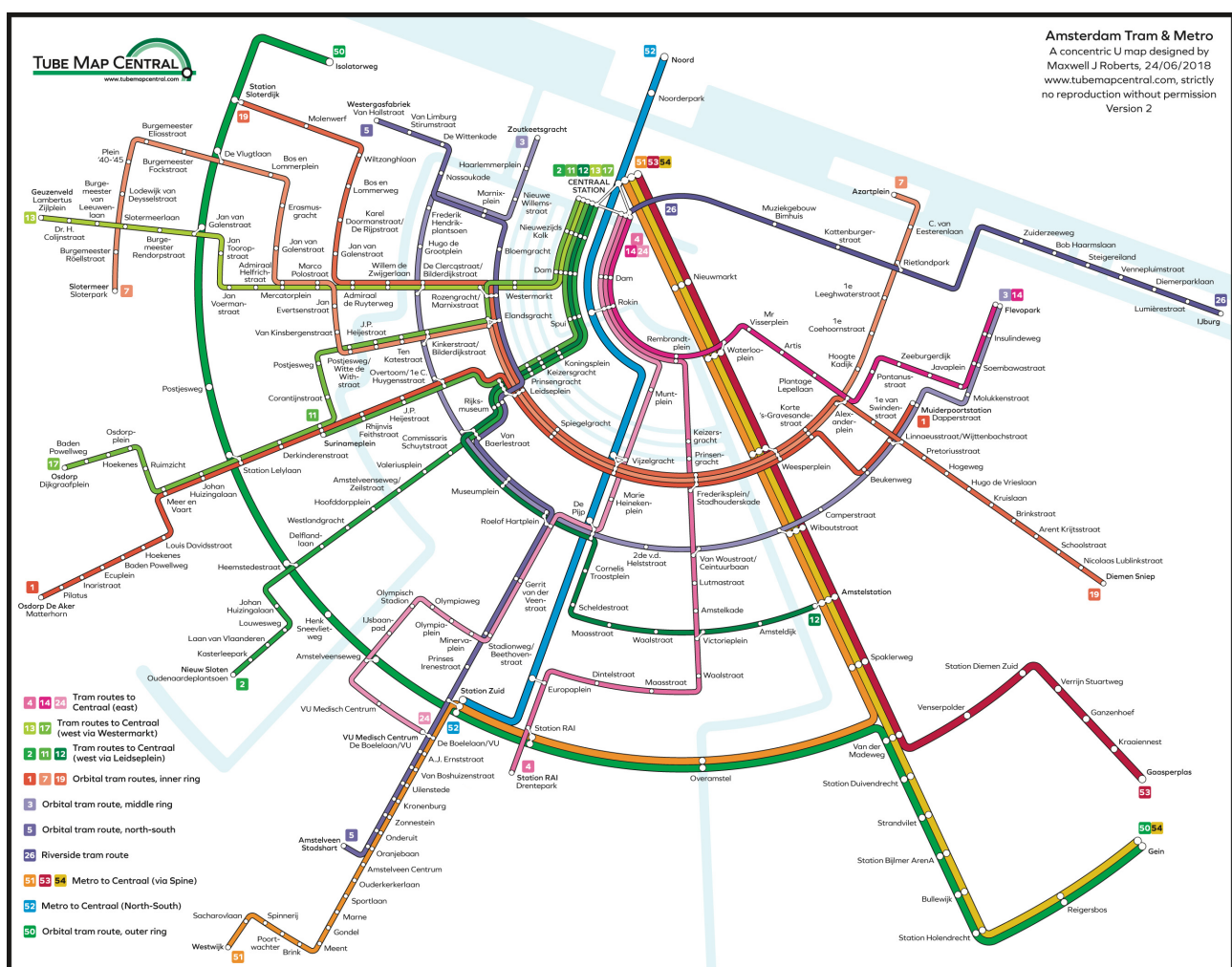
Above: my own pre-changes map. Right: my own post-changes map. Both maps have been coloured to differentiate orbital versus radial routes



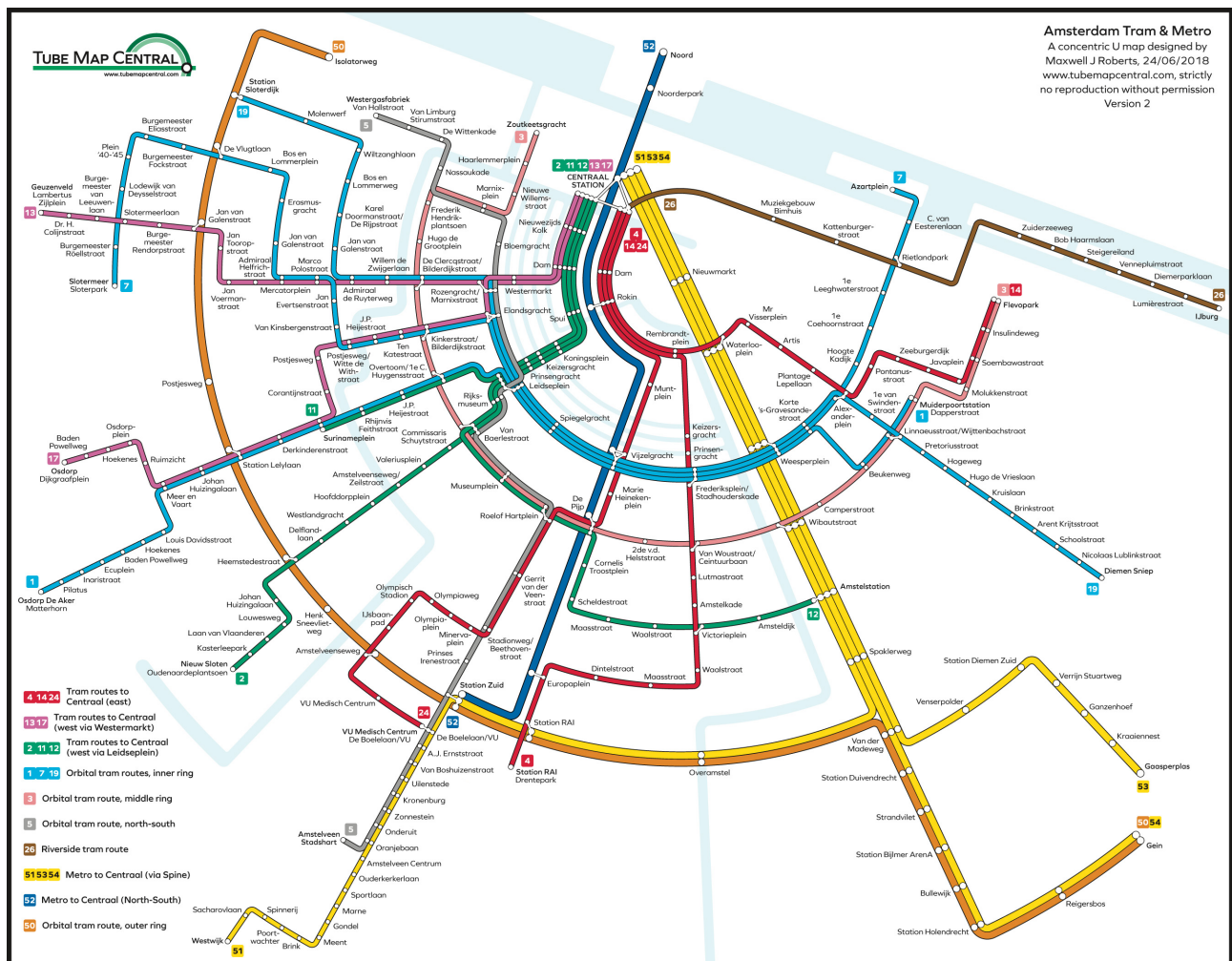
The pre-22nd July Amsterdam network was *route coloured*, meaning that every individual route was given its own colour, even if it shared tracks with another route for much of its length. This system is popular in Germany, and our research shows that it makes individual routes easier to follow. Unfortunately, our research (forthcoming) also shows that, for the actual task of journey planning, route coloured maps are harder to use than *trunk coloured* maps. Trunk coloured maps have routes that follow the same major sections bundled together by using the same colour for each one. The New York City Subway [Weekender Map](#) is a good example.

The new Amsterdam official diagram (page 3) attempts something a little bit cleverer, *shaded colouring*. For this, routes that follow similar major sections are bundled using the same colour category, but different shades of these colours are used to assist identifying individual routes within a bundle. Hence, there are five different shades of green used for the bundle of routes that serve Centraal (west). Unfortunately, our research suggests that shaded colouring is just not worth the effort. It adds colour confusion to the map without giving the assistance that people need at those map configurations where they need it the most.

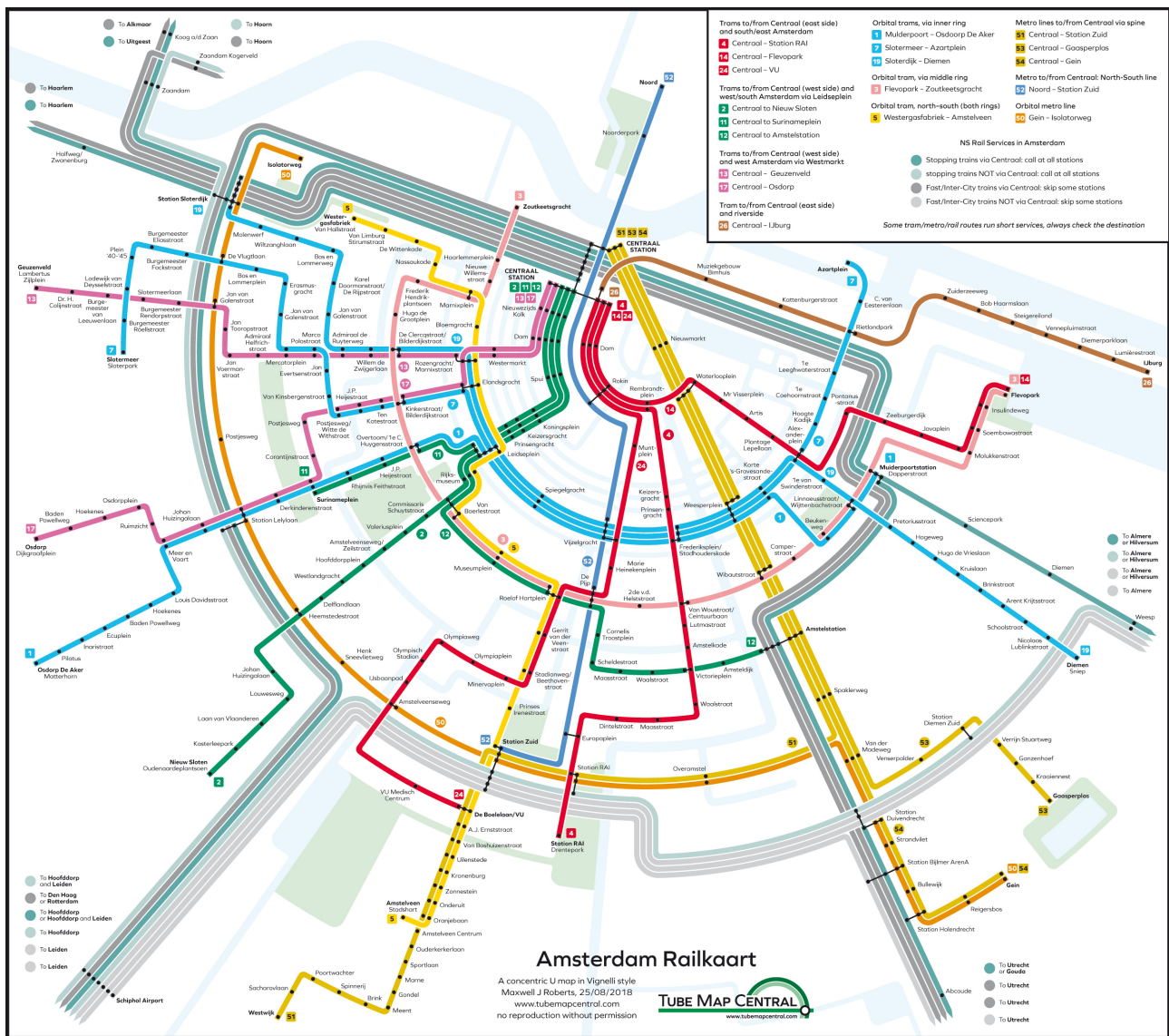
To investigate shading possibilities, I recoloured my concentric-U map post-changes using the identical shaded-colours to the official diagram (this page) and a simplified trunk-colours scheme that attempted to show route bundling in the clearest way possible (next page).



My own post-changes map, coloured as per the official version



My own post-changes map, coloured in an attempt to highlight the actual network structure



My own 2018 Vignelli-styled concentric-Us map, now with suburban railways and parks

Post-script

I made a further trip to Amsterdam in [September 2018](#), this time to add the suburban railways to the map. With all these bundled routes, a [Vignelli-style approach](#) seemed most appropriate, and I kept the concentric Us design rules, as these functioned well.