Welcome to my October 2014 newsletter. This one marks my first landmark; the twelfth to be dispatched. We have had a year of newsletters. My previous one featured the first three maps from my Boston design sequence, and the next three are included here. Unfortunately, the day after I sent out the September newsletter, a new station was opened on the Orange Line (Assembly Square). I am now in the process of updating all three previous maps to include this, and the new versions will soon be uploaded to my newsletter archive. That’ll teach me to do my research properly! The exciting news I promised last month is taking longer to materialise than expected, but hopefully I will have photos by the end of the year.

On the web
- Mapping, GPS, and navigation company 360.here published an article in which they outline my design philosophy and methodology, and mention my survey.
- Last month, The Atlantic Citylab ran an article on airline maps in which they asked me for comments, and this feature has now been translated into Chinese.
- Javon Davis, a graphic design student, asks what is a map? My Curvy and Circles Tube Maps make an appearance.
- One that slipped by, a Brazilian blogger laments the state of public transport in Brazil.

Map research
- 450 people have taken part in my online internet survey, but still only around 20% of them are female! As ever, it would be really good to have opinions and evaluations from more women, and so any help in spreading the word would be much appreciated. The survey takes around 15 minutes to complete, and you can access it at www.tubemapcentral.com/survey. I am hoping to have around 500 responses by Christmas, and when I reach this target, I will close the survey down.

Maps of the month: Step by Step in Boston (Part 2)
Continuing from last month, which scaled the dizzy heights of high-level linearity, we now head to the other end of the sequence, with maps with fewer angles than most designers would normally contemplate. Hexalinear maps (three angles, at 60° intervals) are rarely attempted, which is a pity because these are often very attractive; looking well-organised, with pleasing features for fans of geometry, such as equilateral triangles. The London Underground network illustrates this and also shows that, for at least some parts of this network, the line trajectories match 60° angles better than 45° ones. Any schematic map with a mismatch between available angles and line trajectories is going to be in difficulty. Numerous kinks will be required to correct directions and ensure that lines intersect appropriately at interchanges.

So, How does the Boston network respond to this treatment? The first decision that a designer must make is which of the two hexalinear isomers to use: horizontal lines permitted versus vertical. For London and Berlin, the vertical version is a disaster, and shows the importance of matching design rules to network structure. For Madrid, the network is less fussy, and both versions work well. I started with a horizontal lines design for Boston, but the vertical lines version looks almost as comfortable. Both highlight the coherence that this approach can potentially yield. On the other hand, restricted angles inevitably mean that there will be topographical distortion, although this doesn’t seem to upset Bostonians, judging by their current official design.
Any sequence should commence with the simplest rules possible, a tetralinear schematic with just two permitted angles at 90º to each other. Normally, I am pretty scathing about such designs, and Massimo Vignelli is probably the only person to achieve good results in this way, with subway lines cascading down through Manhattan like waterfalls, although the other-worldly designs of the zero-per-zero studio have certain charm.

A very simple trick – first used by George Dow in 1935 on his wonderful version of the LMS London electric network – is to create a basic tetralinear map, and then rotate it slightly, which lifts the design and gives it great presence. The Montreal Metro map attempts this trick, although the deviations weaken it. The Boston map here is certainly powerful, although, inevitably, the most geographically distorting design of all so far.

Looking at the six maps, you can see the recurring issues that the designer has to grapple with in working with this network. The numerous stops on the Green Line are difficult to fit in; here the curvilinear map lent itself to tilting the text better than the others. On the east side, the three commuter lines and the Green Line converge. Some angles are better for showing this than others. The commuter line triangle at Hyde Park/Readville/Fairmount can be difficult to show convincingly, and in the centre, seeking the best way to show the Silver Line loops causes endless indecision. There is also a dilemma in how to show the Orange and Silver Lines diverging south of Tufts. Shallow angles favour bending the Silver Line, steep angles the Orange Line. Finally, to the north, the commuter lines cause difficulty. How important is it that their divergence corresponds with reality when they have no stations in the vicinity? Once it is decided to show the line to Newburyport correctly as diverging between Assembly Square and Wellington on the Orange Line, the result on the hexalinear/vertical lines map at the top of the page is particularly horrible.

The creation of a design sequence serves two purposes. First, it flags which design rules are the most appropriate for a city, although in the case of a simple network such as Boston, this is unlikely to impinge on usability in a measurable way. Second, this highlights the problem features of a network, and the best ways to address these. However, comparing the maps so far also shows numerous other deviations between them, in which I have not quite applied solutions consistently from map to map. This is partly because different design rules subtly point towards different configurations, and also because of the learning process. Having created eight maps so far, I am much more adept at creating them than when I started.

Once I get going on a project, its impossible to stop me. Three more maps are needed to complete my Boston sequence, and these will appear in my November newsletter. After that, I will be returning to Europe. You can subscribe to the newsletter at my web pages www.tubemapcentral.com.

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