I’m back from a very enjoyable conference and summer school, and ready for the new year at university. The Dates for your Diary section is suddenly very full, with several international events. The latest edition of Mark Ovenden’s book, Transit Maps of the World will be available in time for Christmas, completely revised and updated, and Peter B Lloyd will also shortly be launching a Kickstarter campaign so that he can commence self-publishing his remarkable multi-volume history of the New York Subway map.

Web page news
As you will have already found out from my earlier mailing, I have now revamped my email and all @tubemapcentral.com addresses are live and have their own mailboxes. My old gmail address, maxthemapman@gmail.com, which I used for distributing this newsletter, will be deleted before the end of this month, and so please do update your address book if this includes my contact details.

Research news
Another preprint has now been added to my publications list: I have finally written up the usability study comparing prototype Docklands Light Railway train maps. This used a touch-screen methodology and tested over 240 people. There were interesting findings concerning map usability ratings, task accuracy, and journey choices influenced by map configuration. If you would a preprint then do email me.

Dates for your diary
• New York, 27th October 2015, Cooper Union. Peter B Lloyd is organising an evening on the design of the NYC subway map, looking back over the past 50 years and crystal-ball gazing into the next 50 years. The event includes the launch of Reka Komoli’s digital reconstruction of Raleigh D’Adamo’s 1964 subway map. Free, but please RSVP: http://www.eventbrite.com/e/the-subway-map-the-last-50-years-the-next-50-years-tickets-18482657125. Many well-known designers will be there, do attend if you can.
• New York, 17th November 2015, the New City York Transit Museum will host The Subway Map: Tracing a legacy. This will include the launch of Transit maps of the World by Mark Ovenden, and features guest appearances by Peter B Lloyd and Eddie Jabbour. Tickets are $10 and can be purchased here.
• I will be giving my talk Transit Maps: The Good, the Bad, and the Ugly to the University of the Third Age Hillingdon branch on Monday 9th May 2016, 11:00 at Winston Churchill Hall, Ruislip, HA4 7QL.
• I have been invited to give an address at Typo Berlin, 12-14th May 2016. More details will be posted when I have them, we are currently investigating the possibility of including a small exhibition.

Map of the Month: Milan explorations (Part 2)
It would be so easy if there were simple prescriptions for designing schematic maps; always use this font, always use this point size, always use octolinear angles. Unfortunately, a network might fit hexilinear angles better than octilinear ones, or it might be so chaotic that it defies attempts to depict it as straight lines. This often seems to apply when I look at a geographical map showing the metro lines of an old city. The meandering routes could be forced to conform to a small number of angles, but not without a struggle.

When creating a map, there should be criteria or priorities in the mind of the designer. Mine are simplicity, coherence, harmony, balance and topographicity. The aim for an individual network is to choose the design rules that best enable these to be achieved. It would be useful if there was a mathematical way of analysing a network and identifying the best way to map it. Until then, creating a sequence of maps by implementing a systematic exhaustive exploration of the design rules, is a good way of getting to know a system.

Why start with these basics? Because there are official designs created for public consumption whose appearances suggest to me that few, if any criteria or priorities were in the mind of the designer. Hence, if a person had a belief that simply producing a curvilinear map was the route to an outstanding design, and there was no need to optimise the line trajectories in any way, then something like this could well result.
For Milan, as for any other curvilinear map, my aim was to simplify line trajectories, keeping changes of curvature gentle and gradual, also avoiding any inflections or dramatic whiplashes, which can give the map a rather wild appearance (albeit strangely attractive to an Art Nouveau enthusiast). In technical terms, I try to create Bézier curves with the fewest control points, always looking for opportunities for improvement. For example, look at the light blue M4 Line on the full map. The original attempt was double-humped (shown on the inset) but, I realised that I could smooth this out so that there were no intermediate control points. Junctions present another challenge. Changes of curvature are inevitable, but my first attempt (right) looked too wayward. Fortunately I had the space to branch the lines so that they drew less attention to themselves.

Is the curvilinear map best for Milan? It is my favourite of the three designs, but these are all competent schematics of a simple network and would probably yield similar data in usability testing. The main point is that curvilinear maps (indeed, all schematic maps) do need clear design priorities and careful optimisation in order to fulfill their potential. Those effortless curves required a lot of work to refine them.

September saw a very rare event in the world of urban railways, an extension to the New York Subway network. Behind the scenes I have been busy updating my New York designs, and Map of the Month for November will feature the first of these. You can subscribe to my newsletter at my web pages, www.tubemapcentral.com.

Max Roberts, mjr@tubemapcentral.com