

Iconic Transit Maps

**MARK
OVENDEN**

Iconic Transit Maps

**The World's
Best Designs**

PRESTEL
Munich • London • New York

6 Foreword

By Erik Spiekermann, much-respected statesperson of design in transport

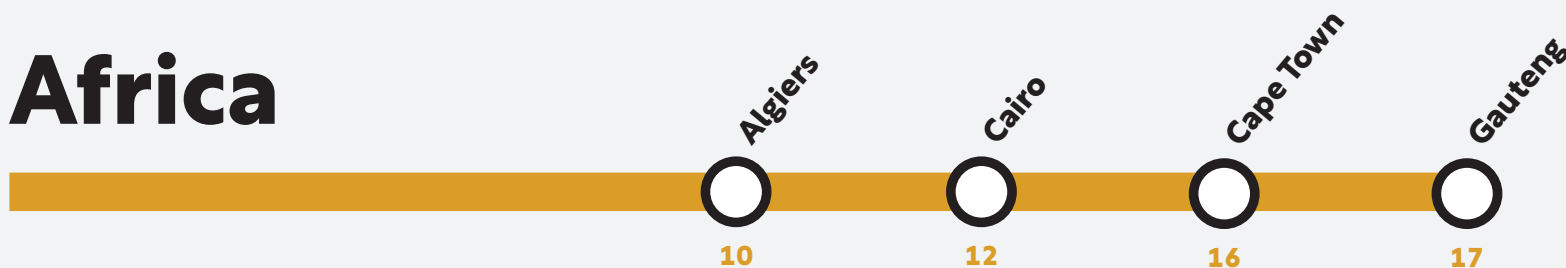
7 Next stop: Yours!

The author's brief history of how transit cartography has evolved and why good design deserves recognition.

8 The Iconic Metro Maps

Moving around the world by continent, starting in Africa and ending in Oceania, these are the city maps which made the most outstanding contributions to the field of transit map design.

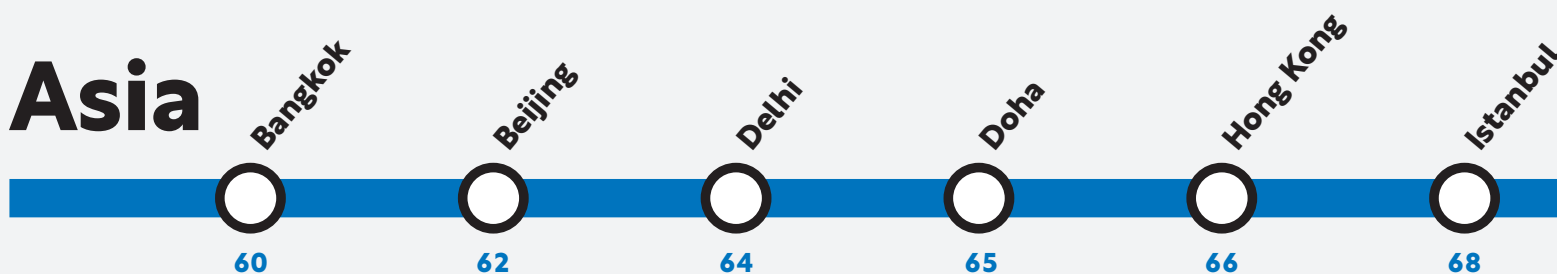
Africa



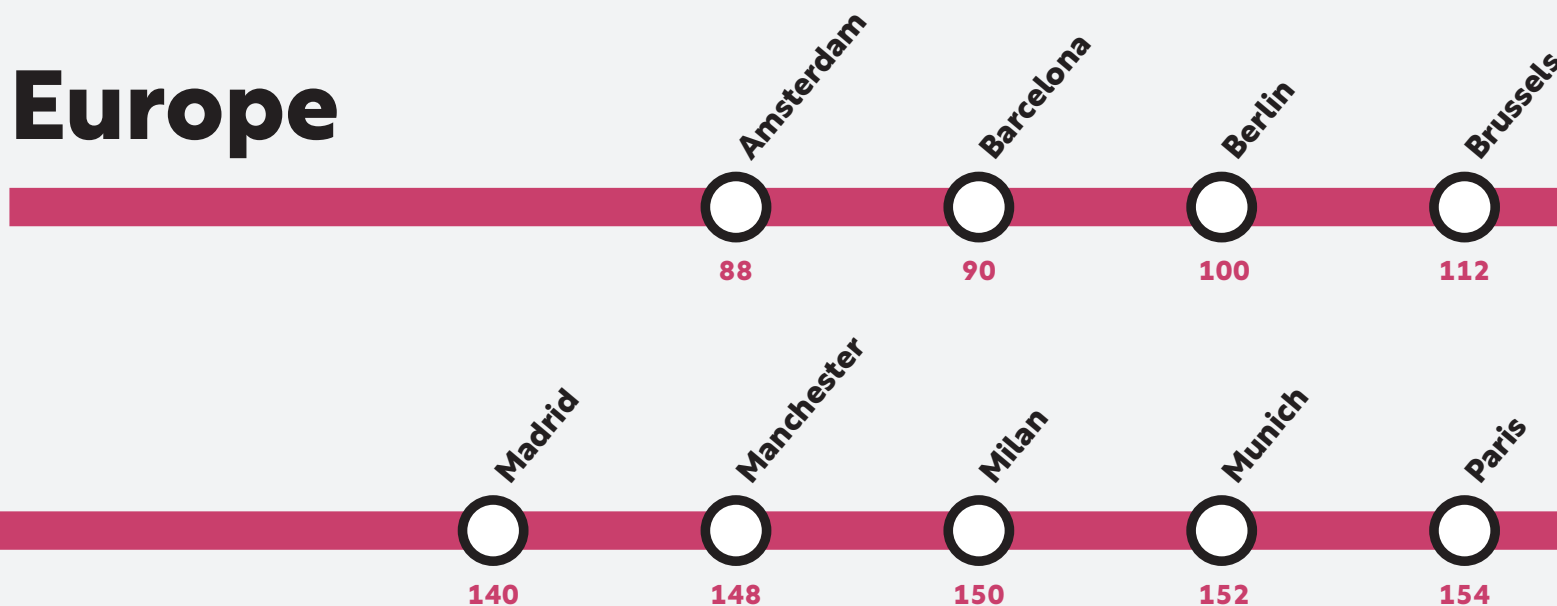
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Foreword

Erik Spiekermann

In fact, “transit maps” is a misnomer. Displaying complex connections that are often invisible (underground trains!) requires a degree of abstraction that cannot possibly do justice to the geography of a city and provide clear information at the same time. I therefore insist on referring to the maps as diagrams. However, in this book, which tries to appeal to a larger audience beyond “transit nerds,” railway engineers and diagram designers, it makes perfect sense to stick with the much more popular term of “maps”.

Many of the representations end up performing a double service: visitors and locals alike use the diagrammatic maps as general guides to find their way around a city, whether they travel by train, bus, bicycle or on foot.

The mother of all such maps has to be the one for London Underground, first drawn by Harry Beck in 1933 (p. 131) and said to have been inspired by an electric wiring diagram (sic!). He cleverly included the River Thames in his drawing, although very few Underground trains ran south of the river

at the time. Showing the features of a city beyond the mere transit connections can turn an almost abstract diagram into a map, lowering any resistance to engage with them.

Those of us who design information for public transit systems know that the most important factor when attracting passengers is neither safety nor price, nor even frequency of service, but information. If a transit map looks inviting and legible, the city itself becomes accessible. Transit maps are the small print for the use of a place, and if they’re designed like small print, the service will not get used properly. Without information that looks both attractive and legible, nobody will venture into unknown territory, enter dark tunnels or crowded vehicles and give themselves up to a system they have no control over.

This book shows many great and some less successful maps. A few employ diagonal type, a feature I consider to be awkward. When we normally read a line of type from left to right (or right to left in some alphabets) why would a designer ask me to bend my head in different directions? The only exception to this that I find acceptable is the narrow diagram with just one line shown (like in-car strip-maps, or on the contents page of this book). Even more problematic are maps with type running at 45 degrees in different directions! Look at London, Paris or Berlin: there is not a line of text that doesn’t run the way it’s supposed to be read. If you have to reshape geography a little to fit the type more easily: so be it. After all, they’re diagrams, not maps!

1 German-born Erik Spiekermann is one of the world’s most influential graphic designers. He is primarily known for his typography (for Berlin’s transit authority BVG (p.108), Deutsche Bahn and numerous typefaces). His contribution to the reworking of the Berlin U-Bahn map is just one of the reasons he was the first designer to be voted into the European Design Awards Hall of Fame. Erik Spiekermann is now an honorary professor at the Bremen University of the Arts.

1



Next stop: Yours!

The author's brief history of how transit cartography has evolved and why good design deserves recognition.

Cartographers had been depicting railways since they were first built in Europe in the run up to the industrial revolution, but it was not until the 1800s, as tracks spread across the globe, that the art was refined. When urban mass rapid transit was conceived it was inevitably in densely built-up areas and invariably constructed beneath the existing streets. This led to lines being shown overprinted – often in a contrasting colour – on top of geographically accurate topographic maps.

Changes came gradually but inexorably as surface details were reduced and eventually removed altogether to aid clarity. This process is seen most dramatically in cities which grew multiple lines and complex intertwined networks like Berlin, London, New York, Paris and Tokyo, where operating company officials strove to assist passengers' progress through their system with simpler, topological schematics and diagrams.

The roots of these can arguably be traced to early 1900s line diagrams of individual routes which were only permitted peculiarly long, thin or specific spaces within each vehicle. During the 1920s and 1930s – doubtless not entirely isolated from the influence of artistic movements such as Dada-ism and (what was later to become known of as) Art Deco – geometric shapes, limited angles, and typography infused fresh ways to display information. A new breed of network diagram pioneers who embraced aesthetically pleasing yet clear representations of their complex systems arose in Europe and North America.

Yet even after diagrams had proved their value, subways opening for the first time in the 1950s and 1960s (Lisbon, Milan, Mexico City) often used highly geographic maps to help potential passengers locate their new stations.

Where tunnels and interconnecting passages became more complex, the need for better signage backed up by intelligent cartography evolved into an art named wayfinding. The transit operators employing designers to help passengers' journeys discovered that their diagrams have become brands for their network, shorthand for their location and even the 'mental map' of their city for locals and tourists alike. They have become collectors items and food for amateur designers (2).

This book is therefore a celebration of those often unsung heroes who spend hours and sleepless nights thinking about the minutiae of detail in how to show an interchange or typeface point size. Together they have not just helped speed our journeys but produced 50 icons of map design (well, OK: there are 53 cities – but who's counting!).

2 Ovenden describes his teenager attempt in 1977 to redraw London's Tube diagram as "absolutely terrible", but it won him a place in art college.



2



حدائق الزيتون

Hadayek El Zaytoun

الزيتون

El Zaytoun

شبرا
Shubra

هليوبوليس
Heliopolis

سراي القبة
Saray El Qubba

حمامات القبة
Hammamat El Qubba

كوبري القبة
Kobry El Qubba

منشية الصدر
Manshyet El Sadr

الدمرداش
El Demerdash

غمرة
Ghamra

الاستاد
Stadium

أرض المعارض
Fair Zone

العتبة
Attaba

العباسية
El Abbasiya

عبدية باشا
Abdou Pasha

الجيش
El Geish

باب الشعيرية
Bab El Shaariya

محمد نجيب
Nageeb

مدينة الموتى
The City of the Dead

سعد زغلول
Sad Zaghloul

Africa

← Zoomed-in detail of Cairo.

Algiers Algeria

Current map designer: Métro El Djazaïr

→ The Algerian capital had high hopes of building Africa's first urban rail system in 1932 (1). Sadly, due to economic issues, those aspirations were dashed and the main forms of transit were bus and tram for many years.

Work began on tunnelling for a metro system in 1980, but got held up and was not restarted until a new plan was conceived around 2006 (4). The first 9.5 km section was finally opened five years later.

A modern light rail tram service also opened that year (2011), running just over 7 km. Both the Metro and Tram have been extended several times, with more extensions currently under construction and others planned.

Maps can be found printed on Metro tickets (2) and very neat diagrammatic direction signs on platforms (6). Whole system-wide maps are displayed in cars (7) and there are plans for more extensions.



3



4

1



2





6



7



- 1 Map of proposed system from *Le Journal Général* newspaper report in 1932.
- 2 Map printed on ticket back (2018).
- 3 Line 1 Metro train emerging from a tunnelled section at Haï El Badr.
- 4 2006 geographic map showing the planned works.
- 5 Geographic official 2023 online map showing extensions is not so well designed as the station signs.
- 6 Smart diagrams exist in stations at platform level. This 2017 image shows Tafourah as the northern terminal, though the line has been extended since.
- 7 Geographic map shown inside vehicles.

Cairo Egypt

Current map designer: TfC Transit Map Design

→ When two suburban rail lines were connected by a new tunnel serving five underground stations in 1987, Cairo became the first African city with a metro line. Maps from this era are hard to find and geographic in form. Line 1 has since been extended to reach almost 45 km in length.

The second Cairo Metro line began operation in 1996 and has also been extended several times since. It serves Giza, using buses to the famous pyramids. Maps issued around this time tended to be geographic in nature, one featuring a background satellite image of the city and the projected future Line 3, also known as Green line (2).

Line 3 began operations in 2012 (1) and has had four extensions since, with more under construction. At the current L3 terminus, Adly Mansour, there is a connection to the suburban Light Rail Transit (LRT) that branches towards two areas, 10th of Ramadan and New Administrative Capital (opened in 2022). Many of the Line 3 stations feature tiled murals of local culture (3).

Transport for Cairo (TfC) is a transportation consultancy that supplied the current diagrams from 2021. Sara Abu Henedy, Head of the Passenger Information System, explains there are now two main diagrams, the multi-modal map (4, p.14) and the Cairo Metro Network map (7, p.15) which “only differ by their geographic lens on the city. We shifted the map language to a hybrid instead of pure schematics, to accommodate the commuter culture”. The hybrid designs retain some geographic context of natural elements and landmarks, while introducing traditional orthogonal transit map schematic forms.

Henedy believes the Metro map, released first, “might have gained more popularity and familiarity with commuters . . . yet I strongly hope both are equally saving passengers from getting lost!”

A fourth line is also being built (due to open in 2028) providing stations much closer to the pyramids and Cairo Museum, with two more lines and a monorail also on the drawing board (6, p.14). Henedy and her team have designed all diagrams to accommodate future projects.

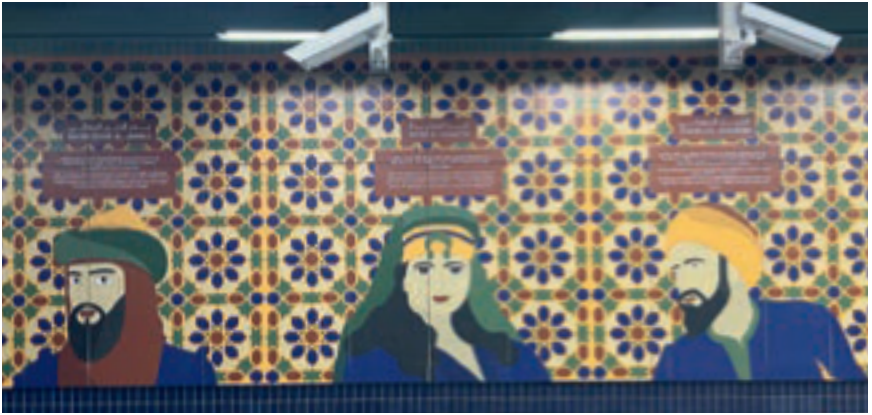




1 A fare zone wall map at Nasser station, 2012, showing the diagrammatic version of the system, still used on lines 1 and 2.

2 A 2005 geography-based concept overlaid on satellite image of the city (line 3 was still in planning).

3 A mural at Bab El Shaaria, part of the 'cultural project' to enhance station environments.



4



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6



4 The 2022 multi-modal map by Transport for Cairo is a hybrid diagram showing many geographic surface features.

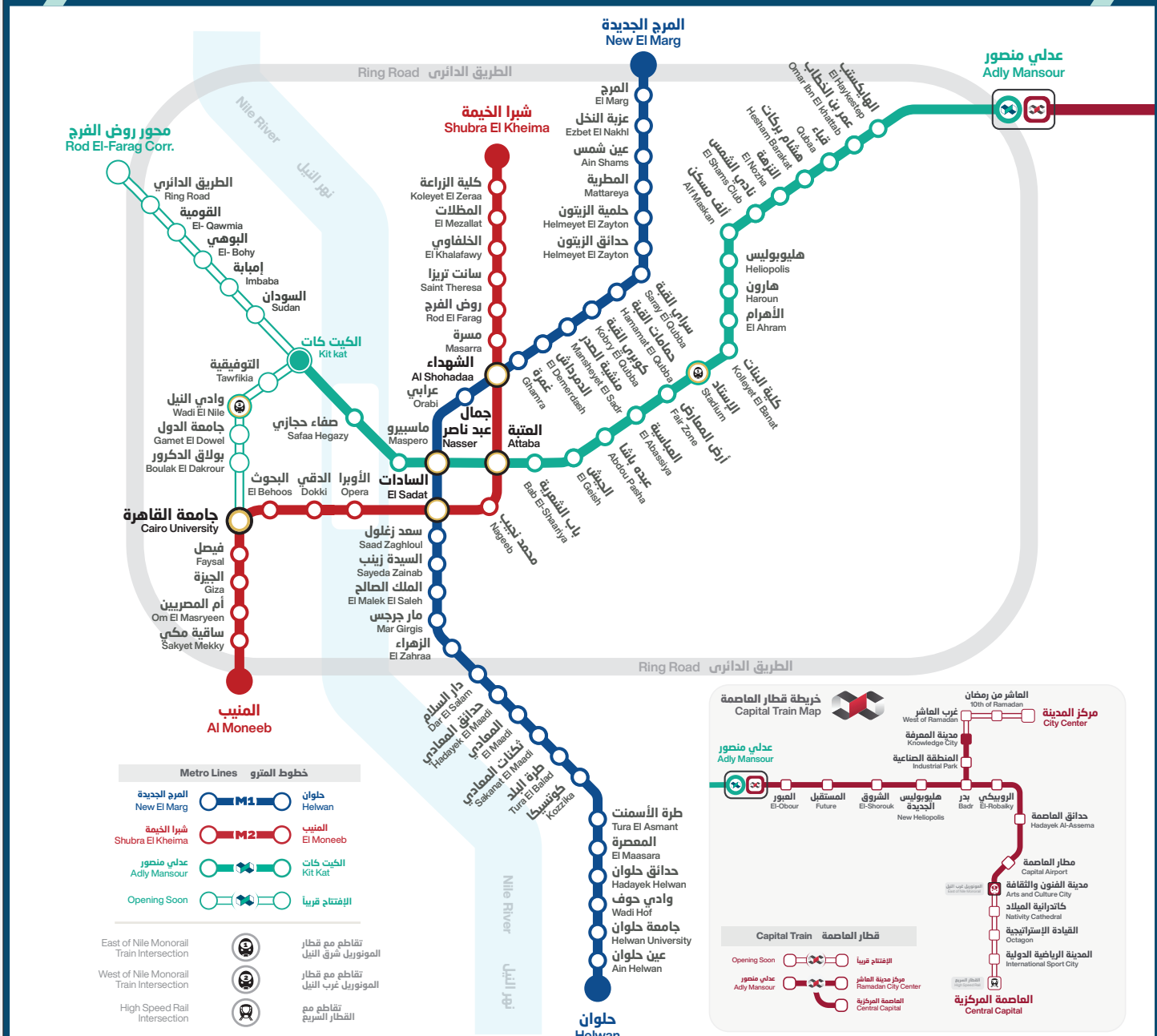
7 The 2022 compact square version inside the trains with background surface features (roads and waterways) plus tourist landmarks and named neighbourhoods.

5 Typical station entrance with pole logo and map.

6 Also circulating is a bold vision for all planned extensions.

CAIRO METRO MAP

خريطة مترو القاهرة



Metro Lines	خطوط المترو
المرج الجديدة New El Marg	M1
شبرا الخيمة Shubra El Kheima	M2
عدلي منصور Adly Mansour	Adly Mansour
الإفتتاح قريباً	الإفتتاح قريباً

- East of Nile Monorail Train Intersection: تقاطع مع قطار المترو بريل شرق النيل
- West of Nile Monorail Train Intersection: تقاطع مع قطار المترو بريل غرب النيل
- High Speed Rail Intersection: تقاطع مع القطار السريع



This map was designed by Transport for Cairo. تم تصميم الخريطة بواسطة مواصلات القاهرة.

إبريل 2022 | ٢٠٢٢



Cape Town South Africa

Current map designer: PRASA

→ There are no tunnelled sections of Cape Town's MetroRail service, but the extensive suburban and commuter rail network plays heavily on an orthogonal diagram created in 2010. The Passenger Rail Agency of South Africa (PRASA) is working to improve the system (1) in the area served by its diagram (2).

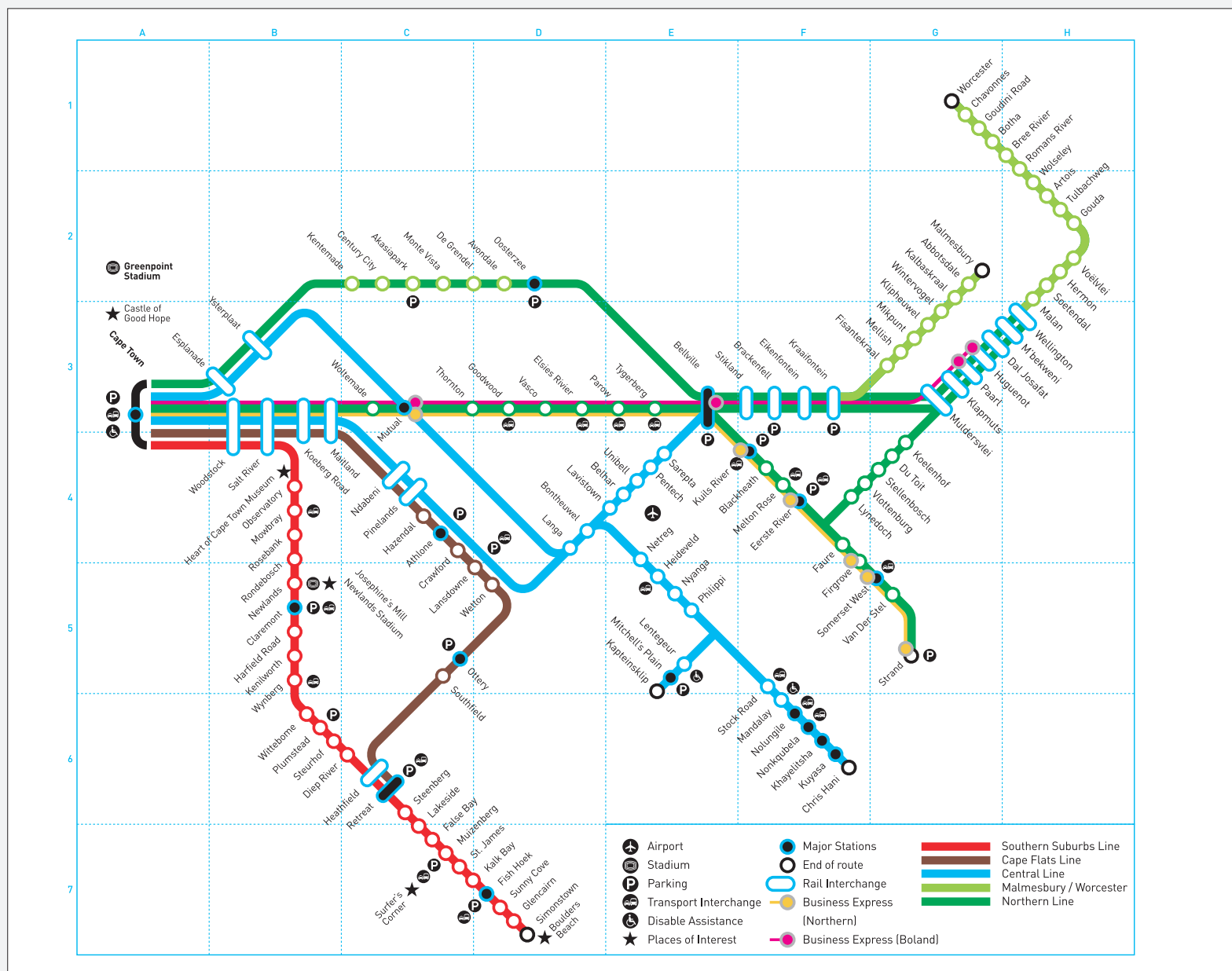
1 MetroRail on viaduct section.

2 The orthogonal diagram produced in 2010 is still in use in 2023. Station colour coding is a little chaotic.



1

2

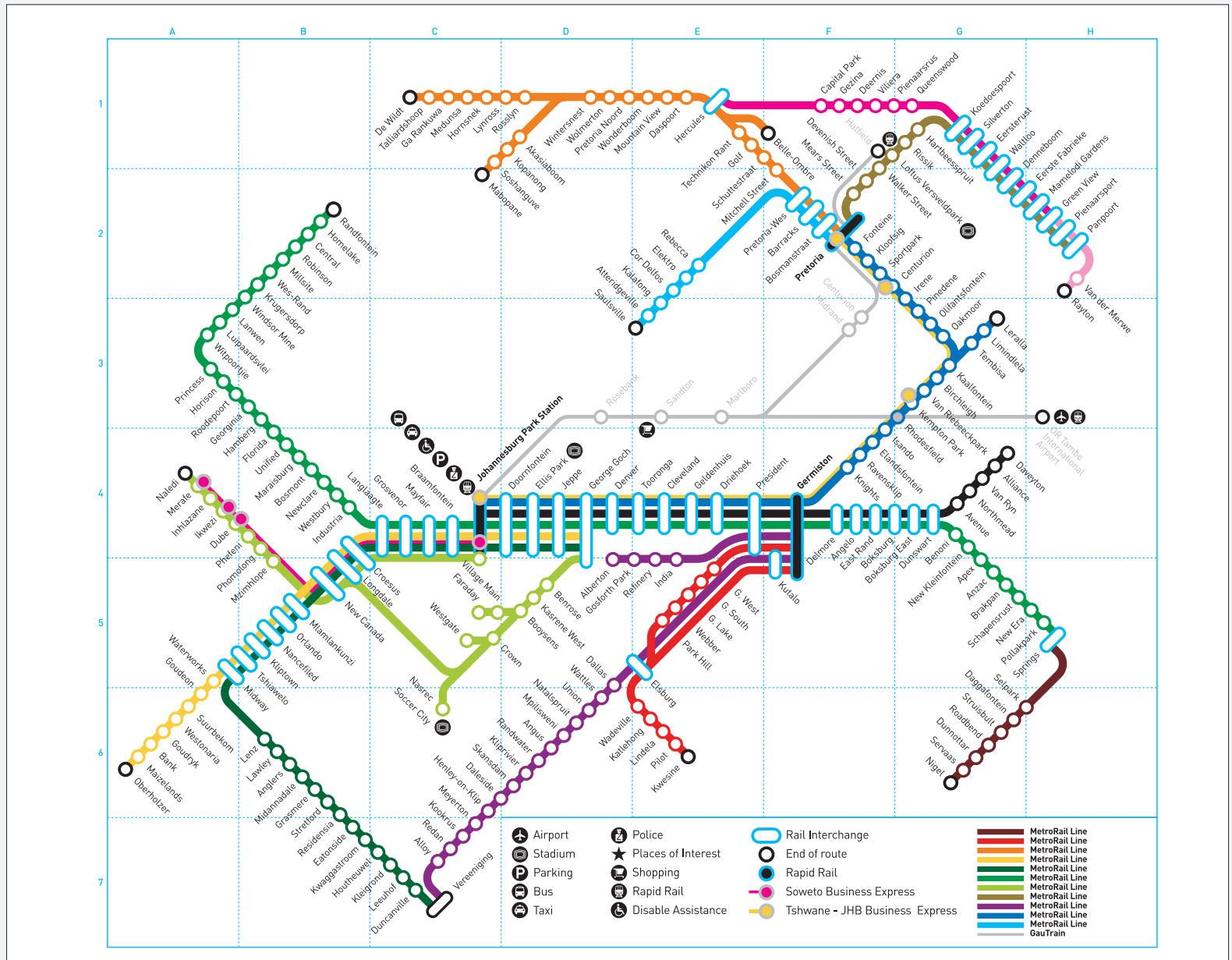


Gauteng South Africa

Current map designer: PRASA and Gautrain

→ The Gauteng Region covers a huge province with 11 million inhabitants. The Gautrain regional express runs 80 km between Johannesburg, Pretoria and the Airport with a 15 km underground section below the northern suburbs of Johannesburg (1). PRASA's Metrorail serves the rest of this vast area (2).

- 1 Gautrain's 2023 diagram issued in timetables.
- 2 PRASA's regional diagram was also produced in 2010 and is still used in 2023.





ACADIE

MONT-ROYAL

SHERBROOKE

TREMONT

Legend 1: Green circle, Orange circle, Yellow circle, BERRI-UQAM, Accessibility icon, Bus icon.

SAINT-LAURENT

ÉDOUARD-MONTPETIT

PLACE-DES-ARTS

TÉ-ÉAL

MCGILL

CHAMP-D'ARME

CÔTE-DES-NEIGES

PEEL

PLACE-D'ARME

GUY-CONCORDIA

SQUARE-VICTORIA-CARÉ

ATWATER

BONAVENTURE

DOMÉ

LUCIEN-L'ALLIER

GEORGES-VANIER

SAINT-HENRI

Legend 2: Green circle, Orange circle, LIONEL-GROULX, Accessibility icon.

CHARLEVOIX

LASALLE

JOLICOEUR

DE L'ÉGLISE

MONK

Americas

← Zoomed-in detail from the Montreal Metro map, one of North America's most iconic designs.