

Crafting with Data

Reality, Illusions, Truth & the Future

Instructor: Rob Faludi

Plan for Today

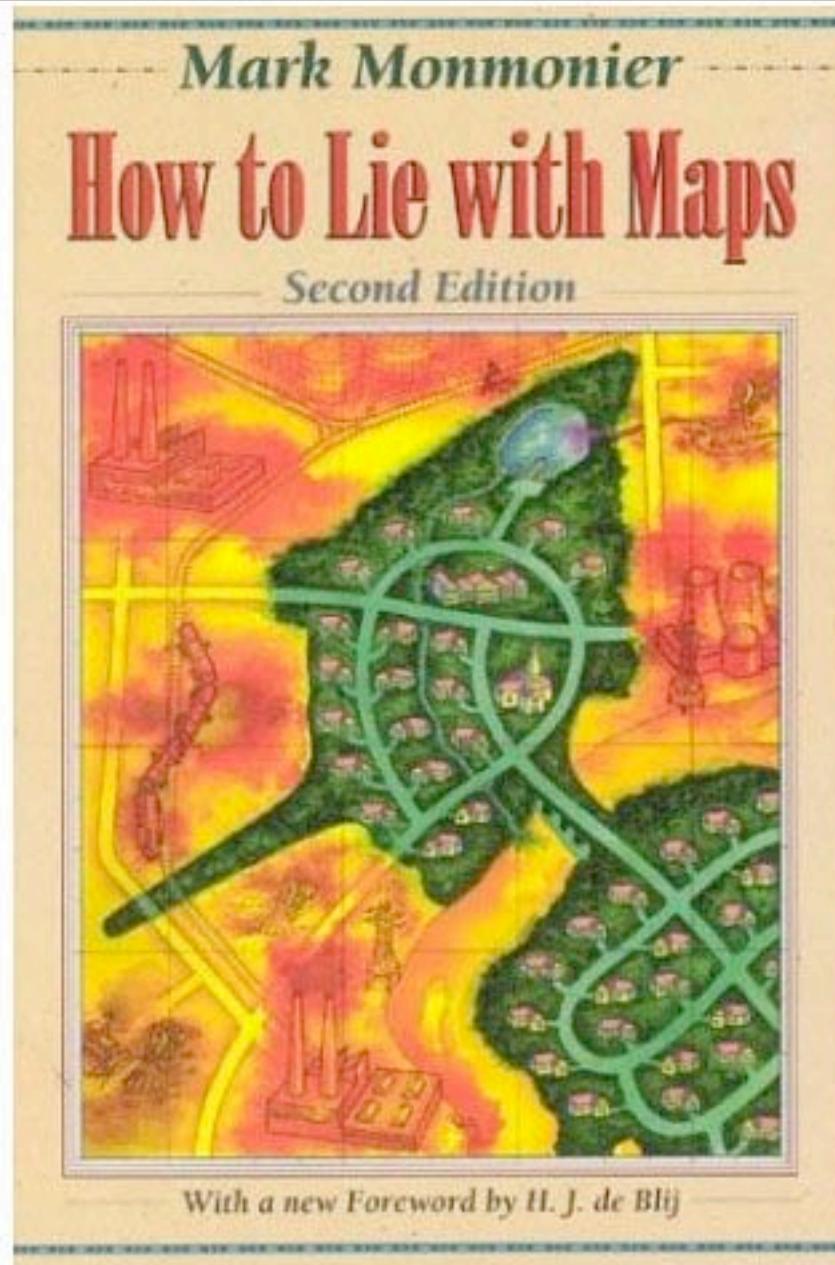
- Exercise One: Map the Floor from Memory (10 minutes)
- present
- How to Lie With Maps
- Exercise Two: Map the Floor from Sight
- present
- Exercise Three: Map the Floor with a Purpose
- present
- Readings & Assignments

Exercise One: Map the Floor from Memory

- Take five minutes and sketch a map of the ITP floor from memory
 - don't worry about your drawing skills,
 - just map out the floor as it appears in your mind

- You'll present your map to us briefly

How to Lie With Maps



Maps

- presentations of data
- sample of information available
- rough removed to show smooth
- tool for decision-making, precision

Lying

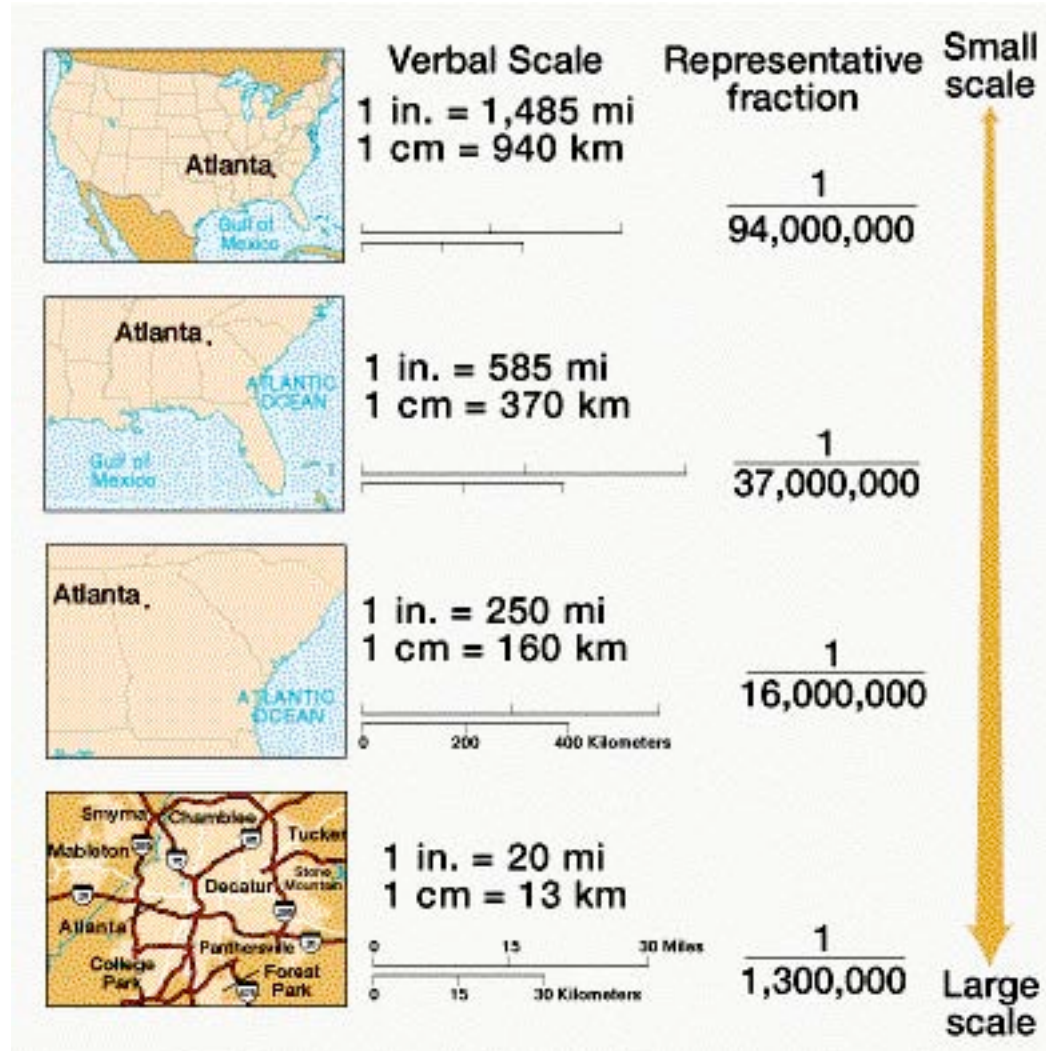
- is essential
- selective, like data
- incomplete
- white lies, take care like in love
- now with computers, ourselves

Like Statistics, there's a defense

- Who says so?
- How do they know?
- Excessive precision?
- Did someone change the subject?
- Does it make sense?
- What's missing?

Map Basics: Scale

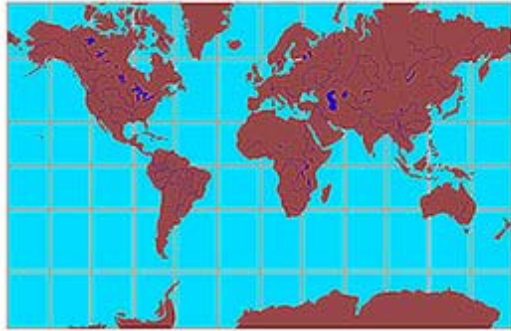
- with computers, all at our fingertips, but not all at once



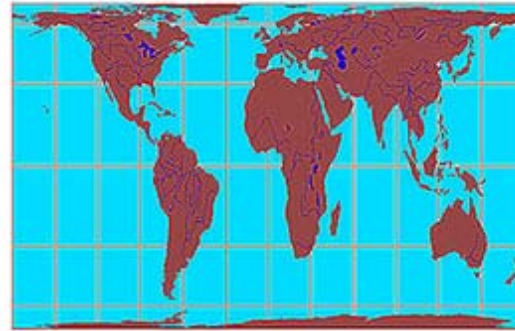
Map Basics: Projections

- distance
- direction
- shape
- area





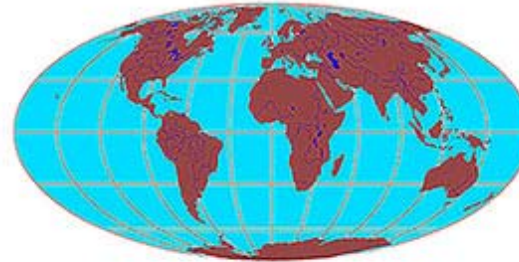
Mercator Projection



Gall-Peters Projection



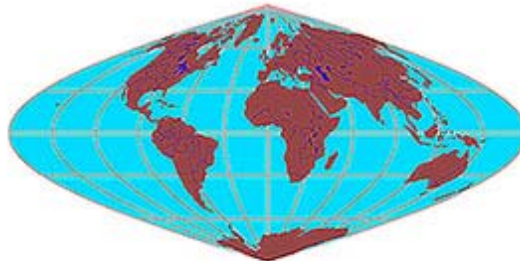
Miller Cylindrical Projection



Mollweide Projection



Goode's Homolosine Equal-area Projection

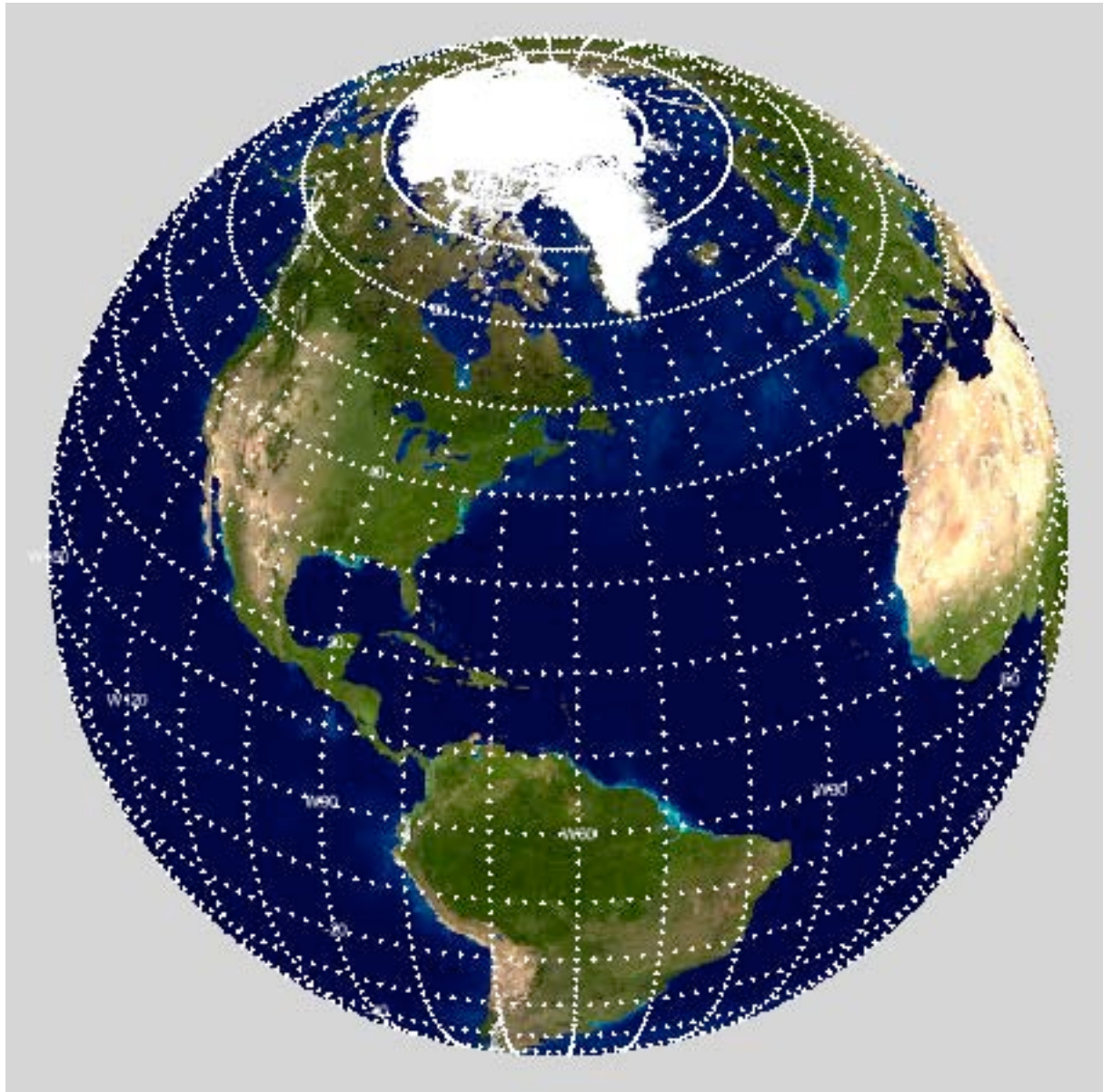


Sinusoidal Equal-Area Projection



Robinson Projection

Best Projection



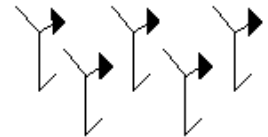
Map Basics: Symbols



Semaphore
Signal



Essential
Oil Plants



Common
Grave



Tank
Trap

Trigonometrical
Point on
Burial Mound



Fog
Station



Whirlpool

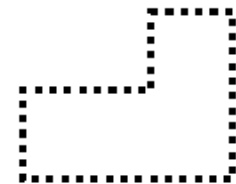


Corduroy
Road

Cairn



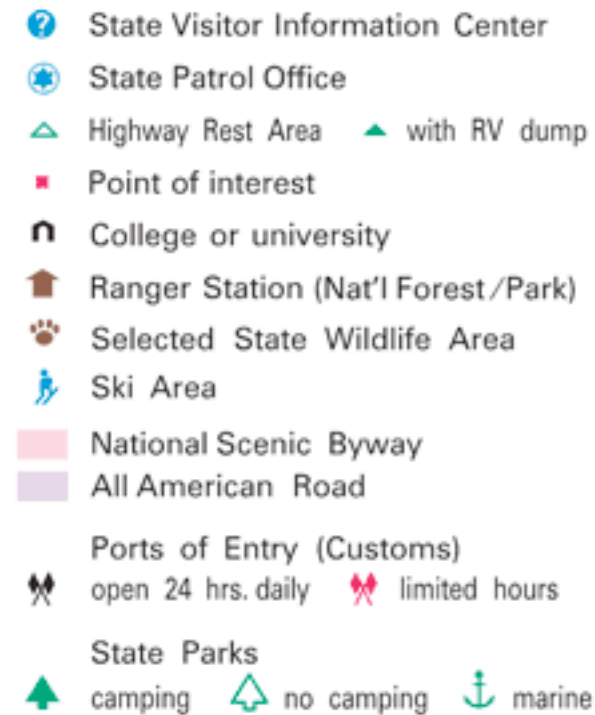
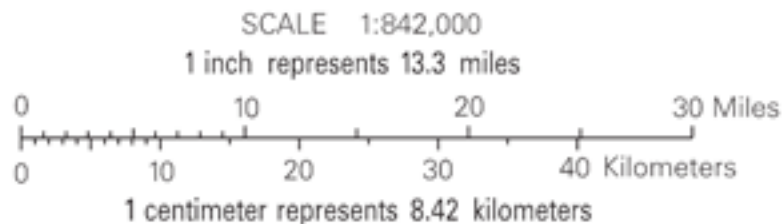
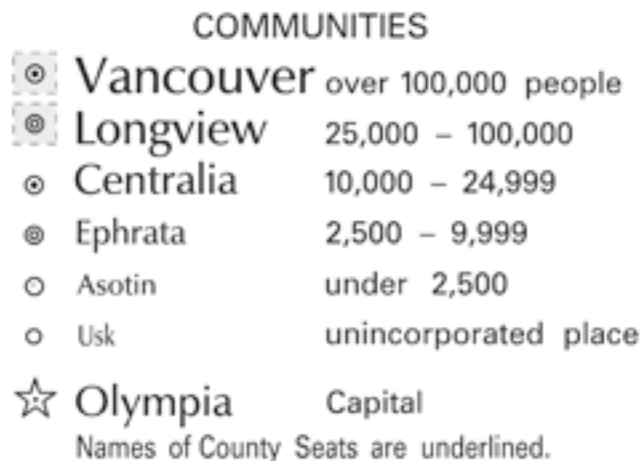
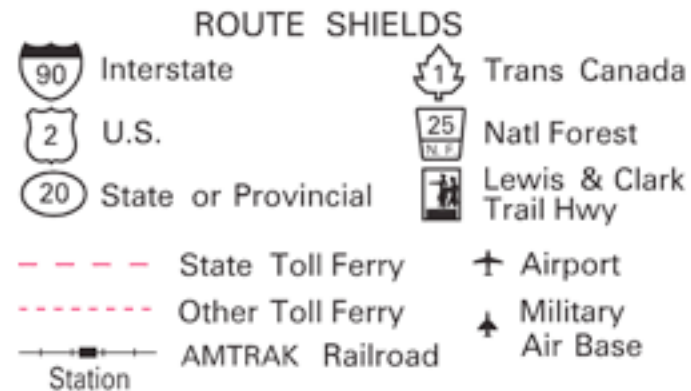
Stone or Brick
Wall



Ruins

Symbols: highways

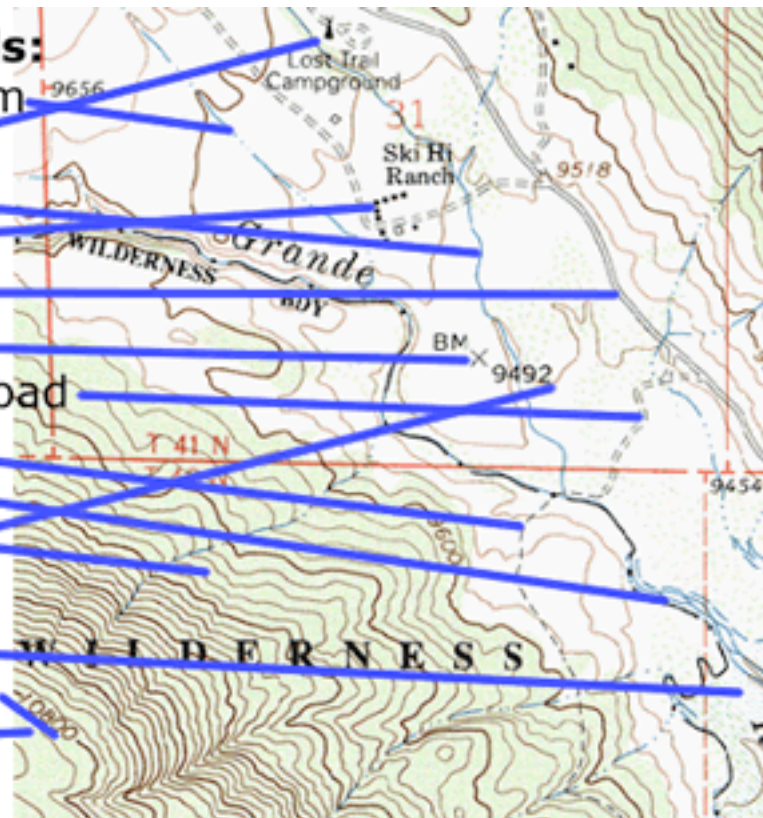
Washington State Highways 2008-2009



Symbols: topographic

Common Symbols:

- Intermittent stream
- Campground
- River/stream
- Building
- Improved road
- Benchmark
- Four wheel drive road
- Hiking trail
- Braided stream
- Forest/woodland
- Scrub
- Swamp
- Contour index line
- Elevation



Geometric Operations

- feature selection (and background to provide context)
- simplification (smooth)
- displacement (differentiate...t-test?)
- smoothing (de-simplification, in a way)
- enhancement (iconify features)

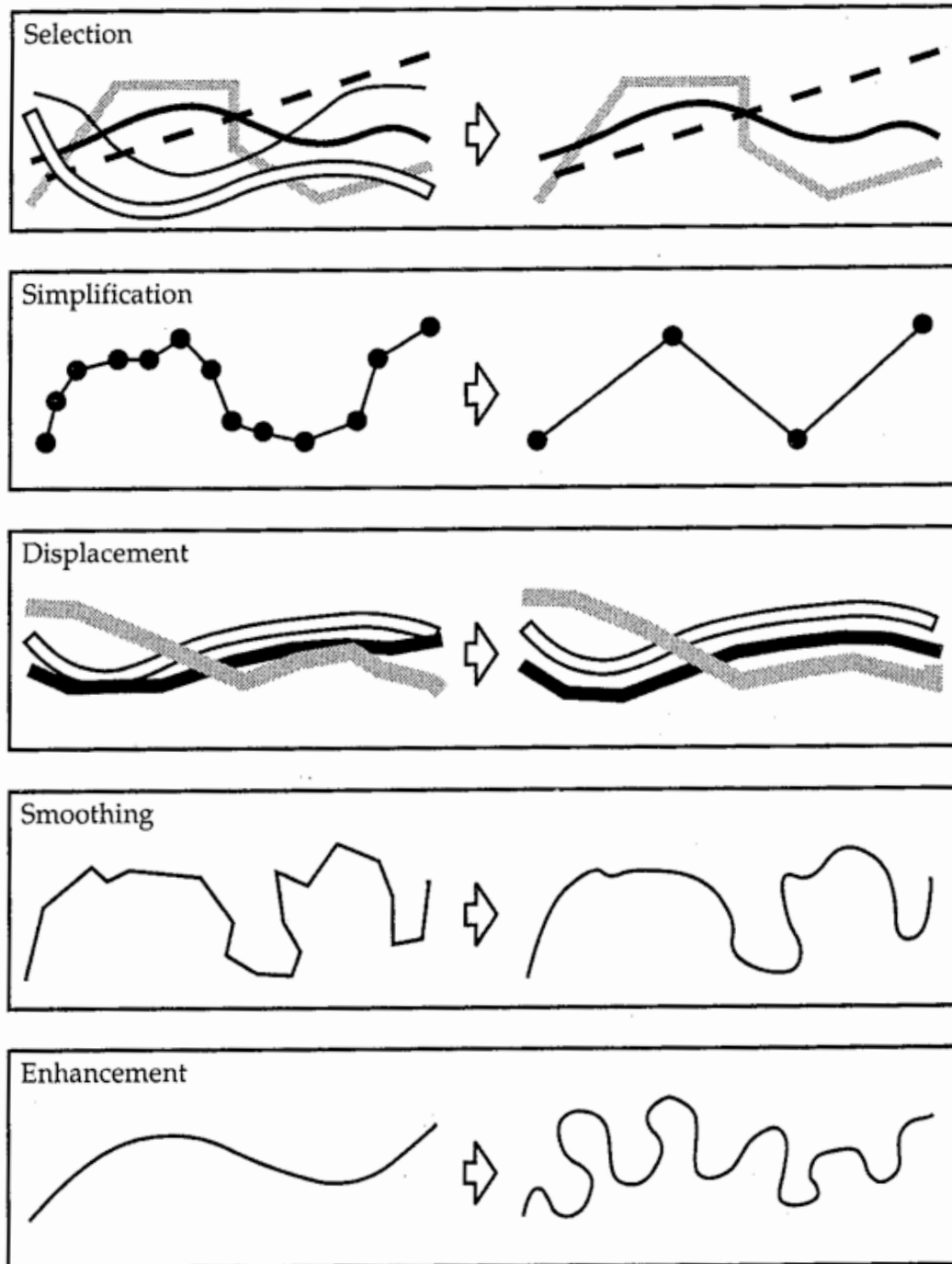


FIGURE 3.1. Elementary geometric operations in the generalization of line features.

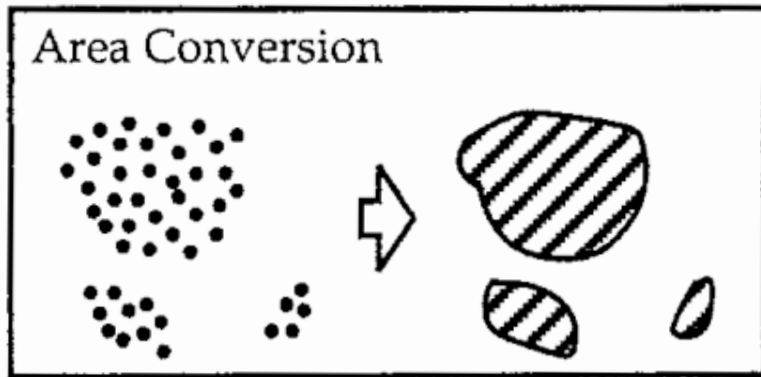
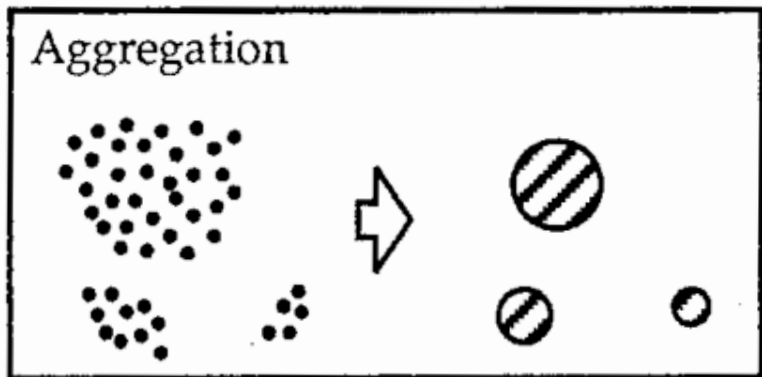
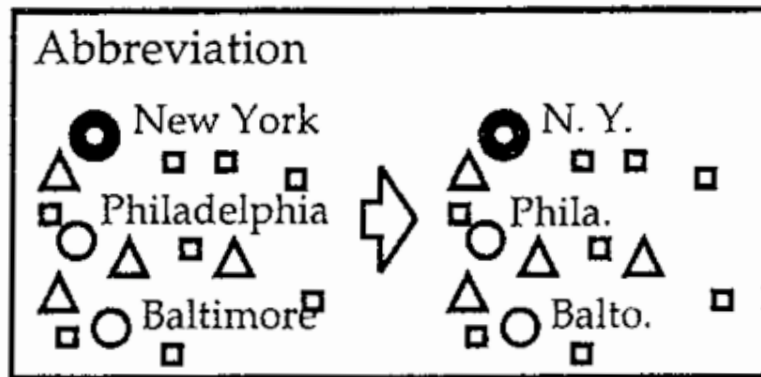
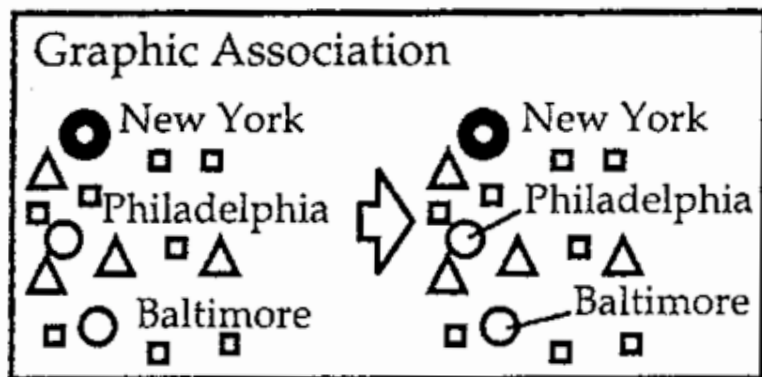
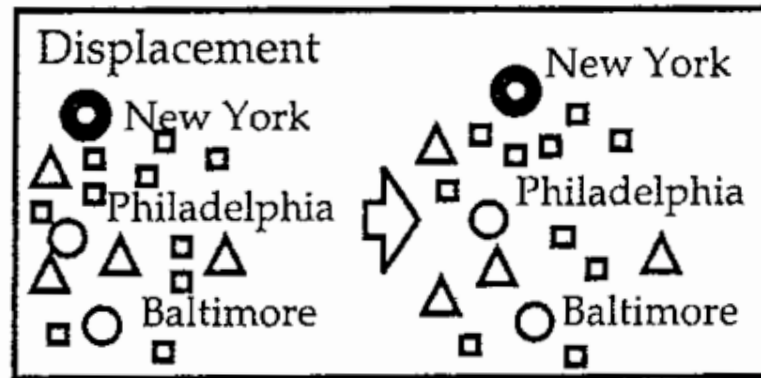
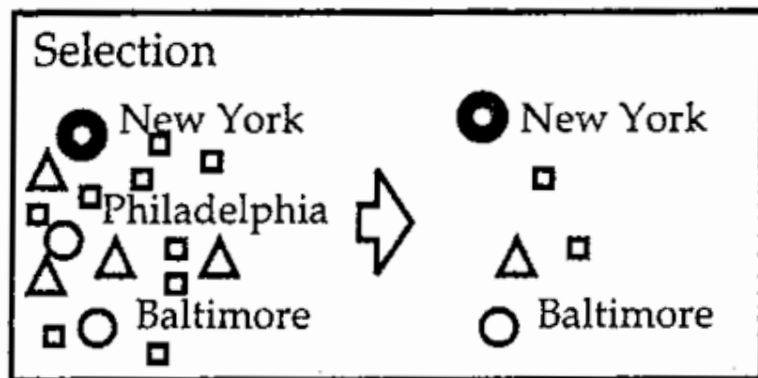


FIGURE 3.2. Elementary geometric operations in the generalization of point features and map labels.

More Geometry

- Association
- Abbreviation
- Aggregation
- conversion to area

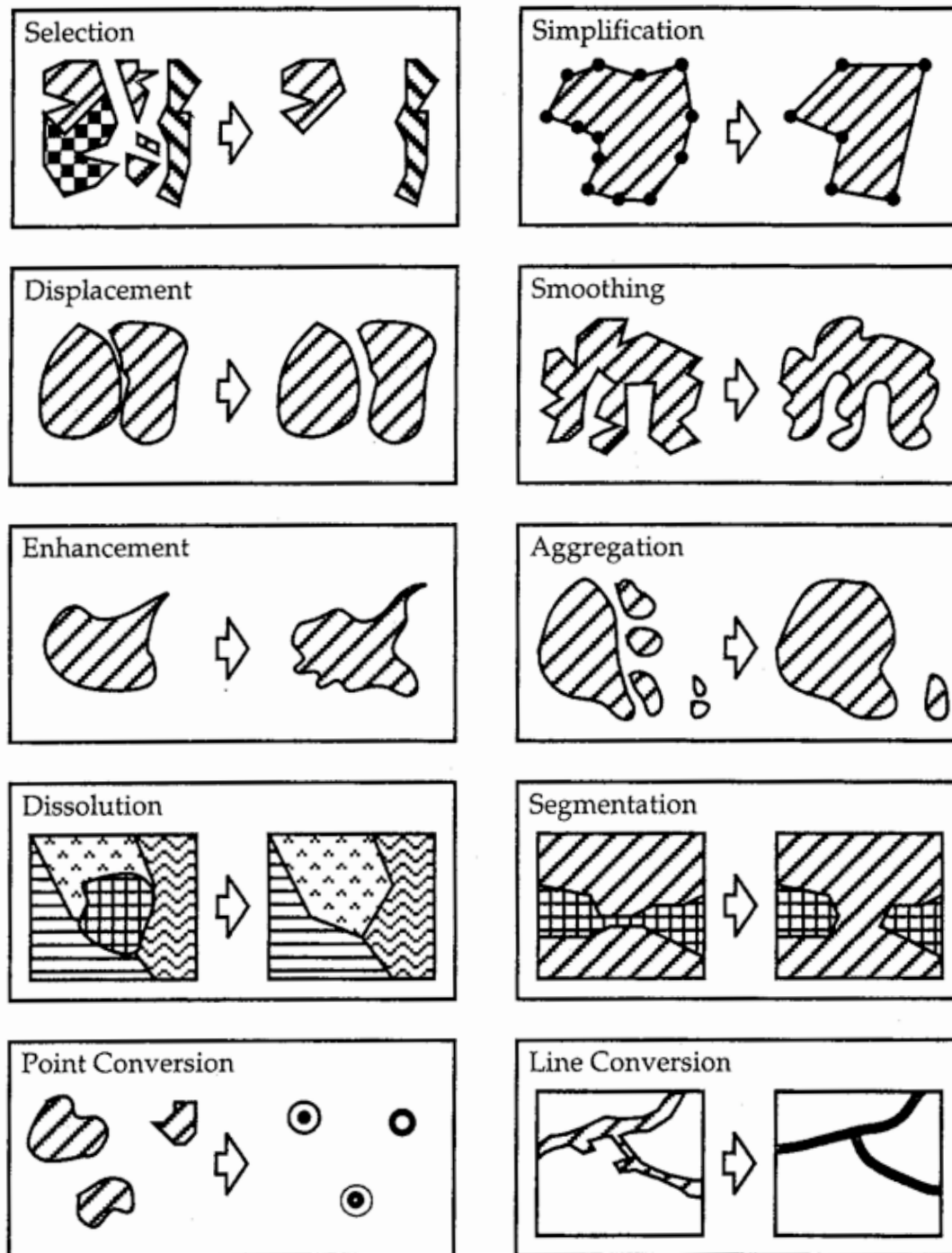


FIGURE 3.3. Elementary geometric operations in the generalization of area features.

Planimetric Distance

- ...and displacement

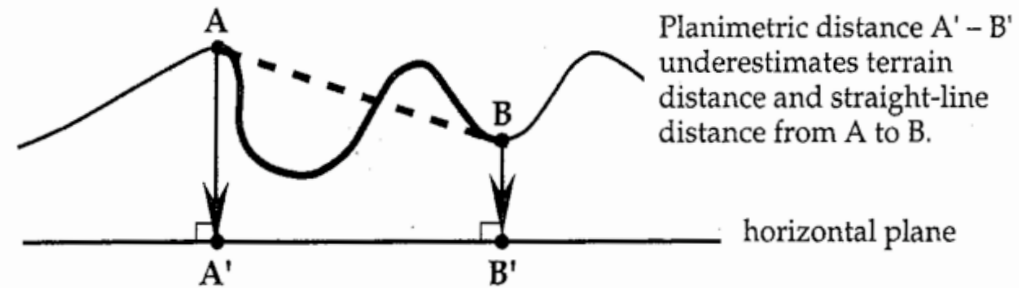


FIGURE 3.5. Planimetric map generalizes distance by the perpendicular projection of all positions onto a horizontal plane.

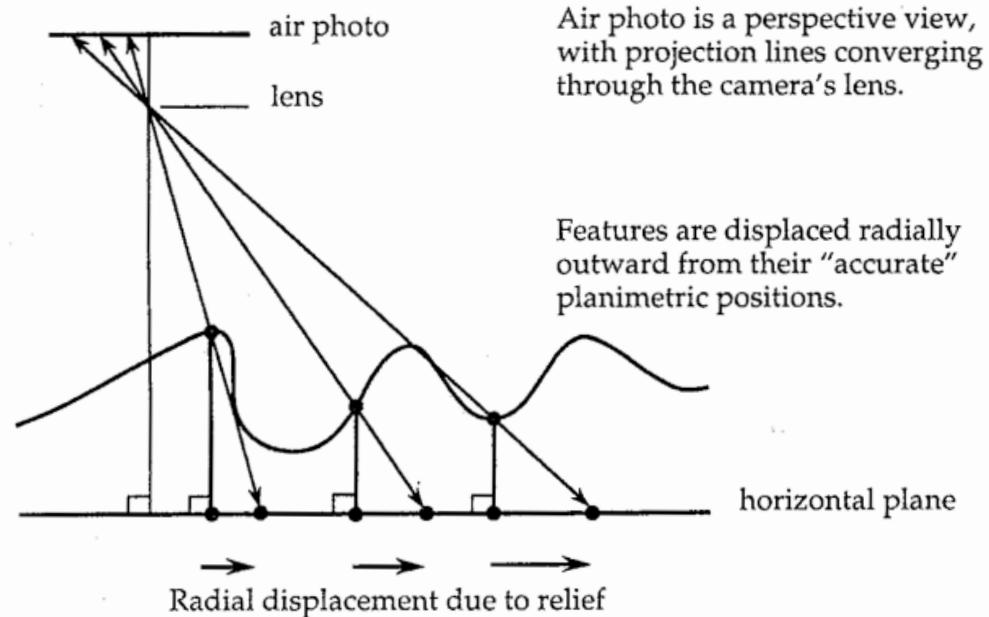
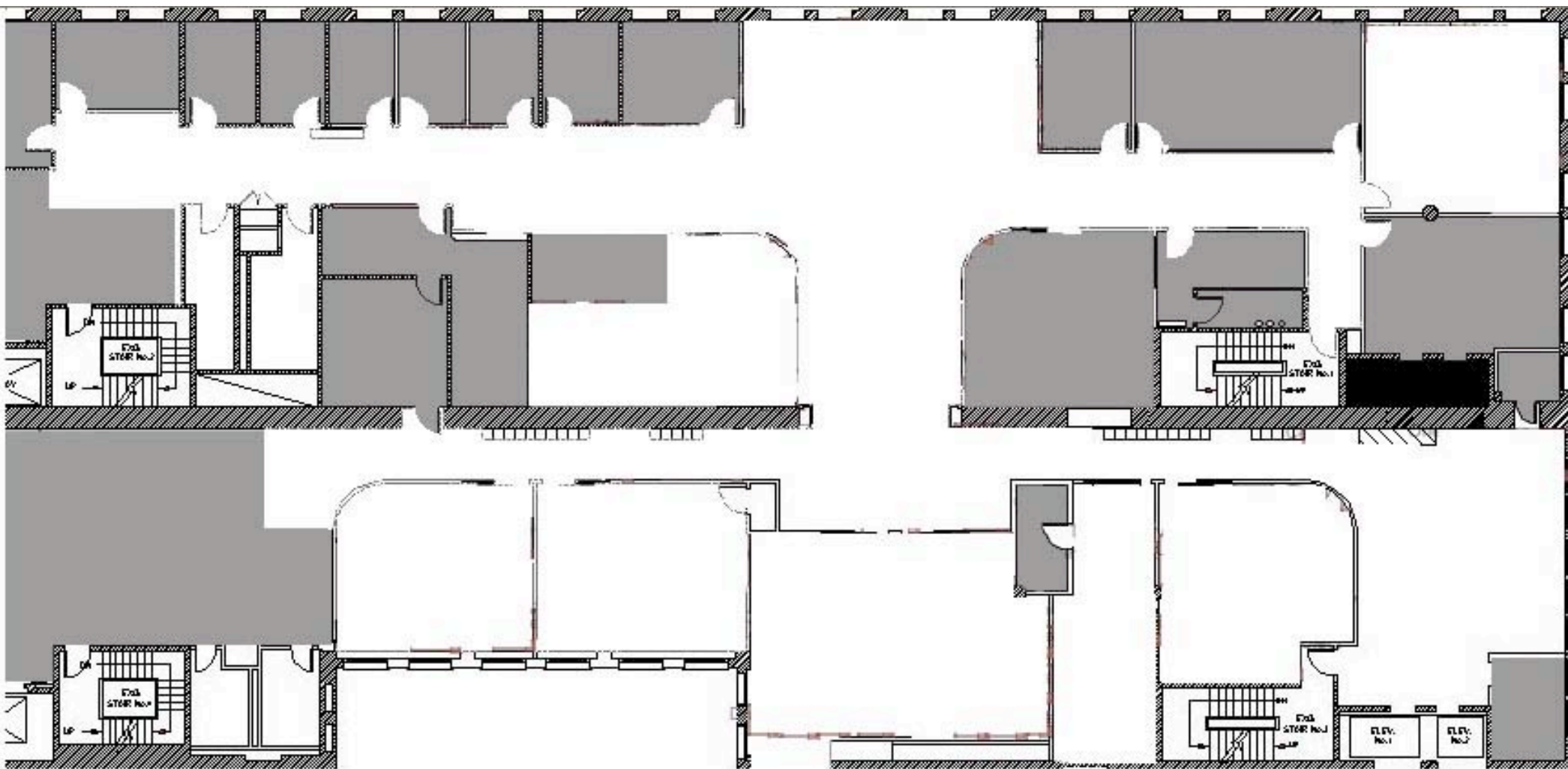


FIGURE 3.6. A vertical aerial photograph (and any map with symbols traced directly from an air photo) is a perspective view with points displaced radially from their planimetric positions.

Exercise Two: Map the Floor from Sight

- Take five minutes and sketch a map of the ITP floor by walking it
 - don't worry about your drawing skills,
 - map out the floor as it actually is

- You'll present your map to us briefly



Cartograms

- linkages, visual correlation (spatial)
- adjacency, help your cause
- order
- relativity

Metrorail System Map

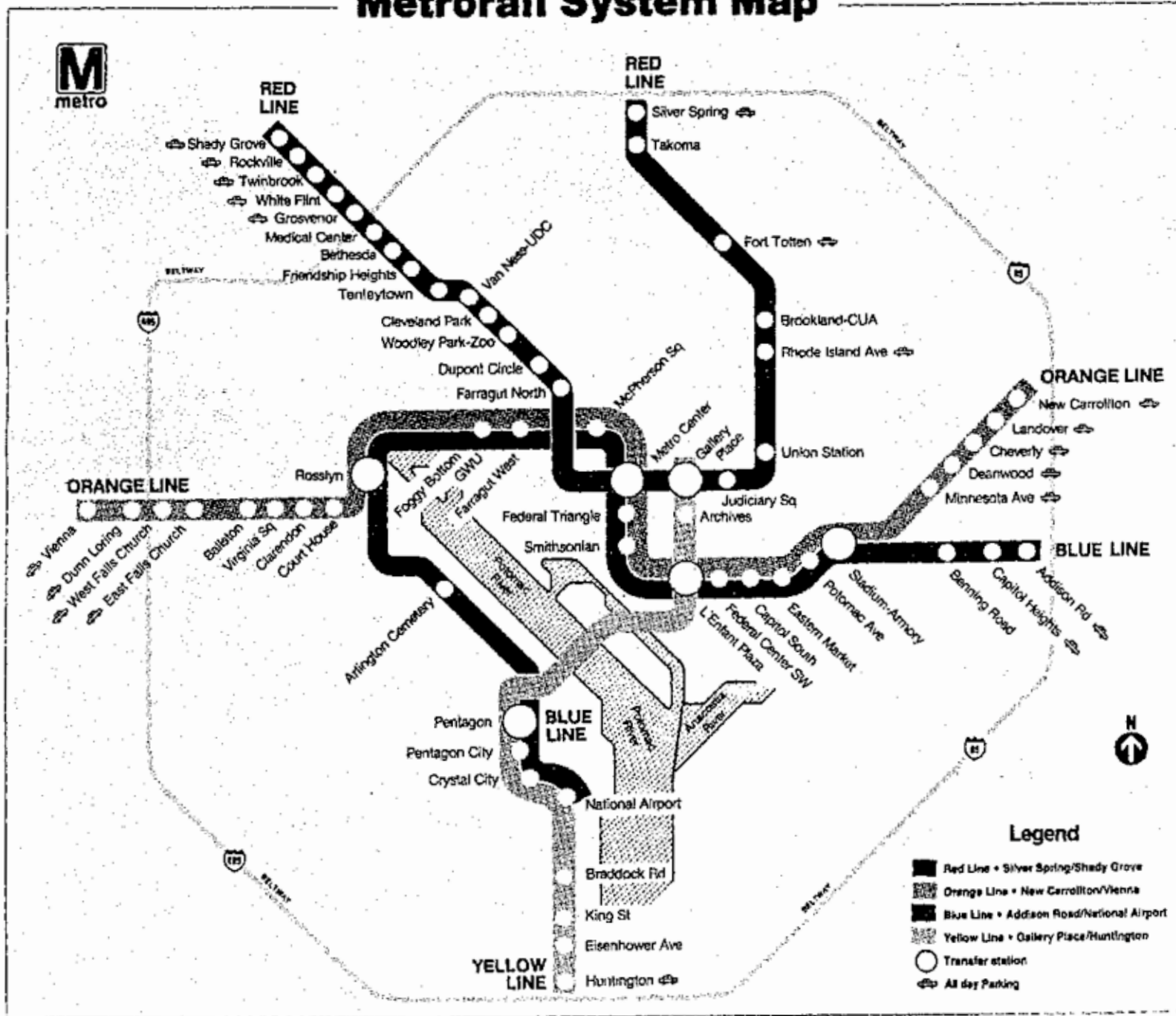
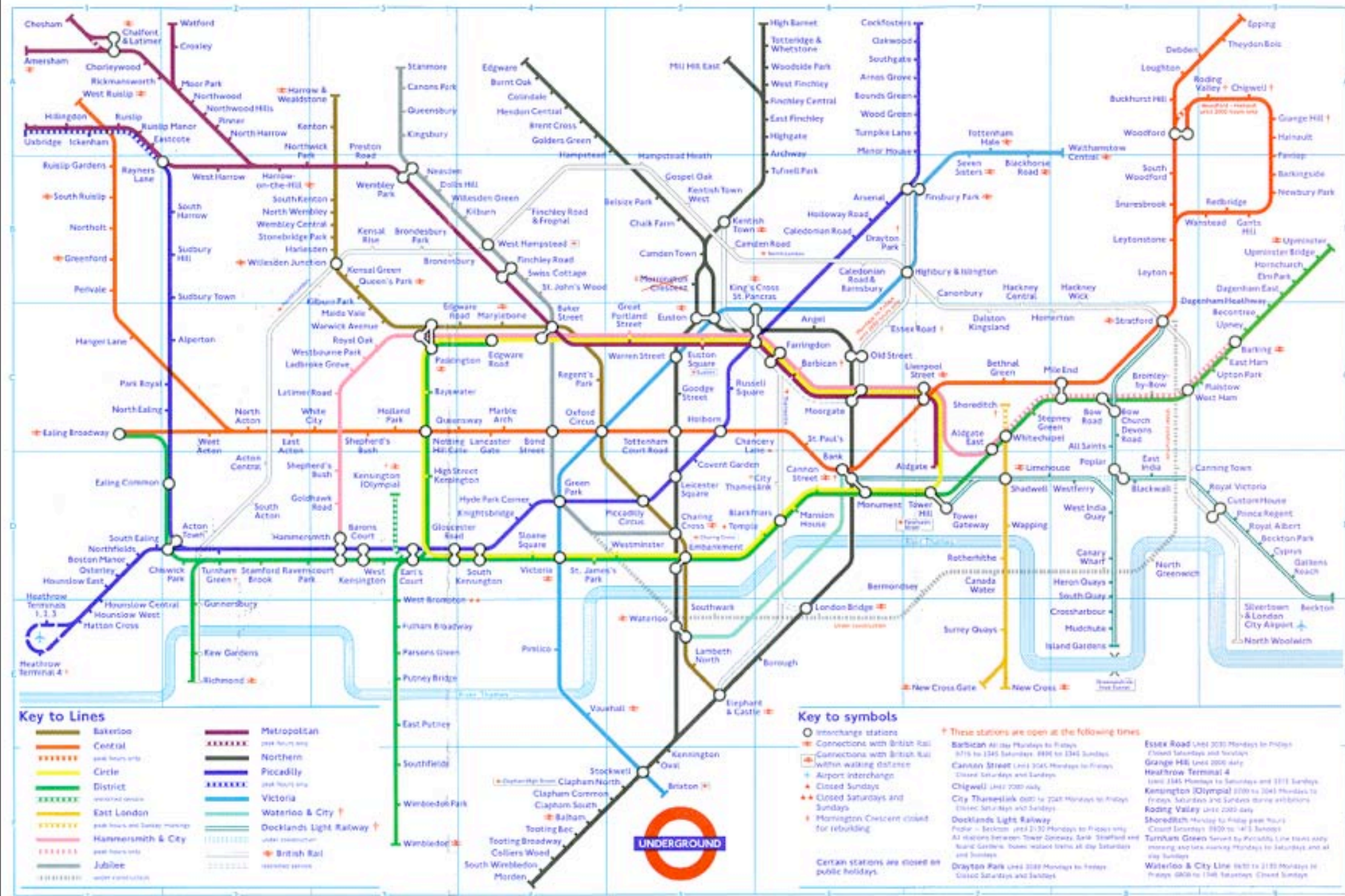


FIGURE 3.7. Linear cartogram of the Washington, D.C., Metro system.



Key to Lines

	Bakerloo		Metropolitan
	Central		Northern
	Circle		Piccadilly
	District		Victoria
	East London		Waterloo & City
	Hammersmith & City		Docklands Light Railway
	Jubilee		British Rail

Key to symbols

- Interchange stations
- Connections with British Rail
- Within walking distance
- Airport interchange
- Closed Sundays
- Closed Saturdays and Sundays
- Morrington Chestnut closed for rebuilding

These stations are open at the following times:

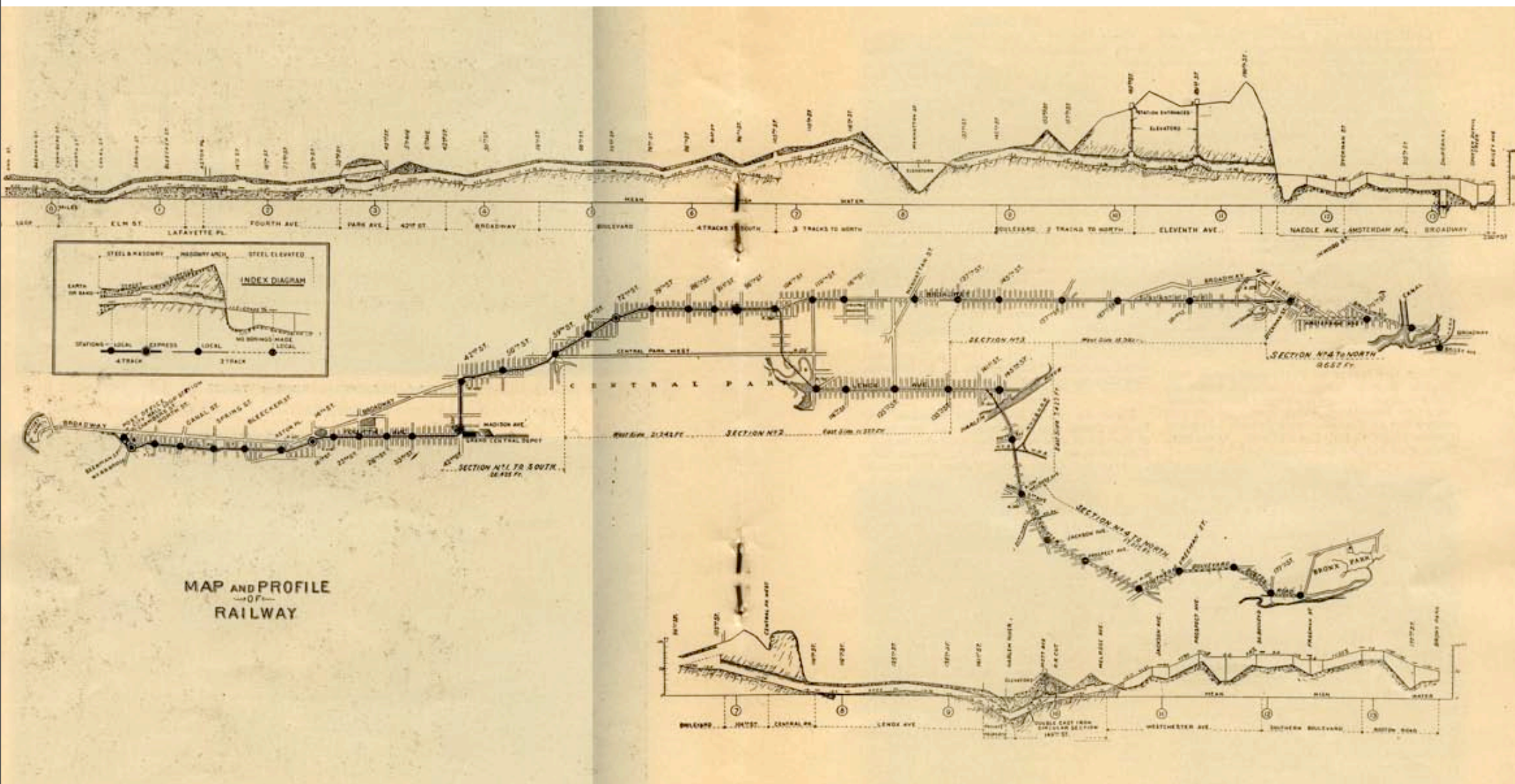
- Barbican** All day Mondays to Fridays 0715 to 1345 Saturdays 0800 to 1345 Sundays
- Canary Wharf** All day Mondays to Fridays 0700 to 1345 Saturdays 0800 to 1345 Sundays
- Chigwell** 1445 to 2000 daily
- City Thameslink** 0600 to 2345 Mondays to Fridays 0700 to 2345 Saturdays and Sundays
- Docklands Light Railway** Friday - Saturday until 2130 Mondays to Fridays only All stations between Tower Gateway, Bank, Shadwell and Island Gardens. Some stations closed all day Saturdays and Sundays
- Drayton Park** Until 2000 Mondays to Fridays Closed Saturdays and Sundays
- Essex Road** Until 2000 Mondays to Fridays Closed Saturdays and Sundays
- Grange Hill** Until 2000 daily
- Heathrow Terminal 4** Until 1345 Mondays to Saturdays and 1315 Sundays
- Kingston (Olympic)** 0700 to 1345 Mondays to Fridays Saturdays and Sundays during athletics
- Roding Valley** Until 2000 daily
- Shoreditch** Monday to Friday (peak hours) Closed Saturdays 0800 to 1415 Sundays
- Tottenham Green** Served by Piccadilly Line. Trains only morning and late evening Mondays to Saturdays and all day Sundays
- Waterloo & City Line** 0630 to 2130 Mondays to Fridays 0800 to 1345 Saturdays Closed Sundays

Certain stations are closed on public holidays.

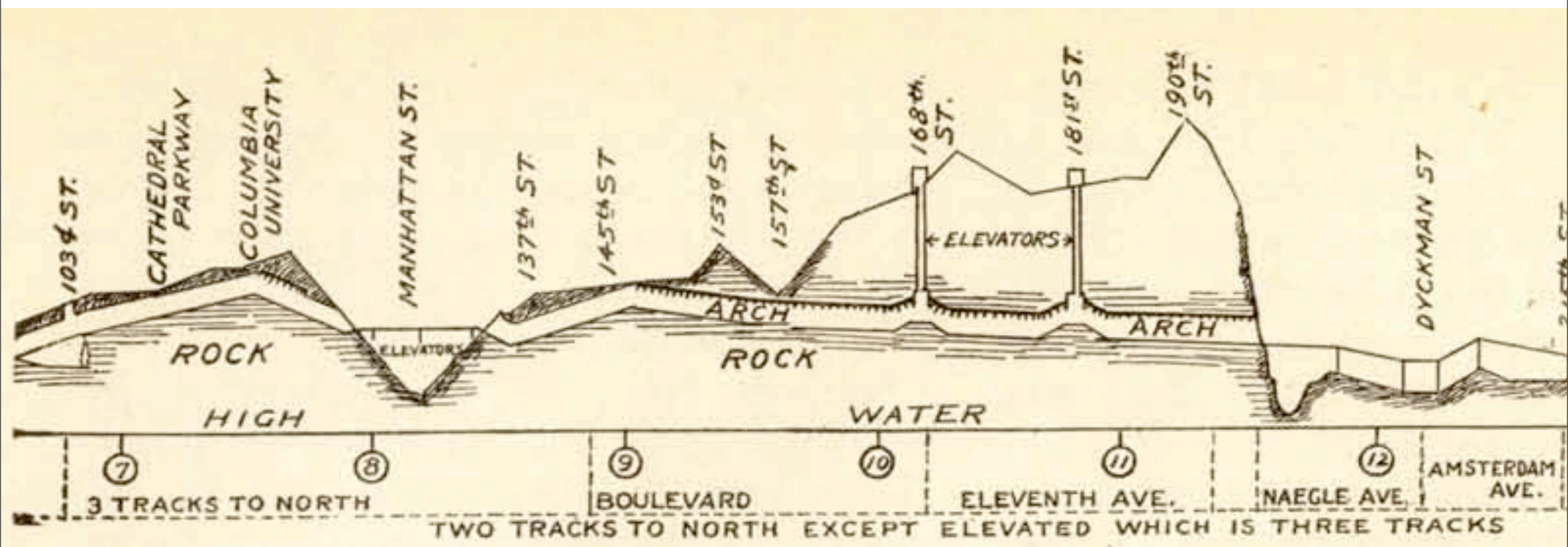
Subway Interlude







<http://www.nycsubway.org/perl/caption.pl?/img/articles/souvenir-mapprofile.jpg>



FROM BROOKLYN BRIDGE TO THE BRONX

CARTE FIGURATIVE des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.

Dressée par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite.

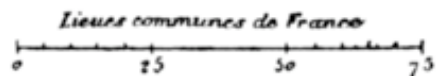
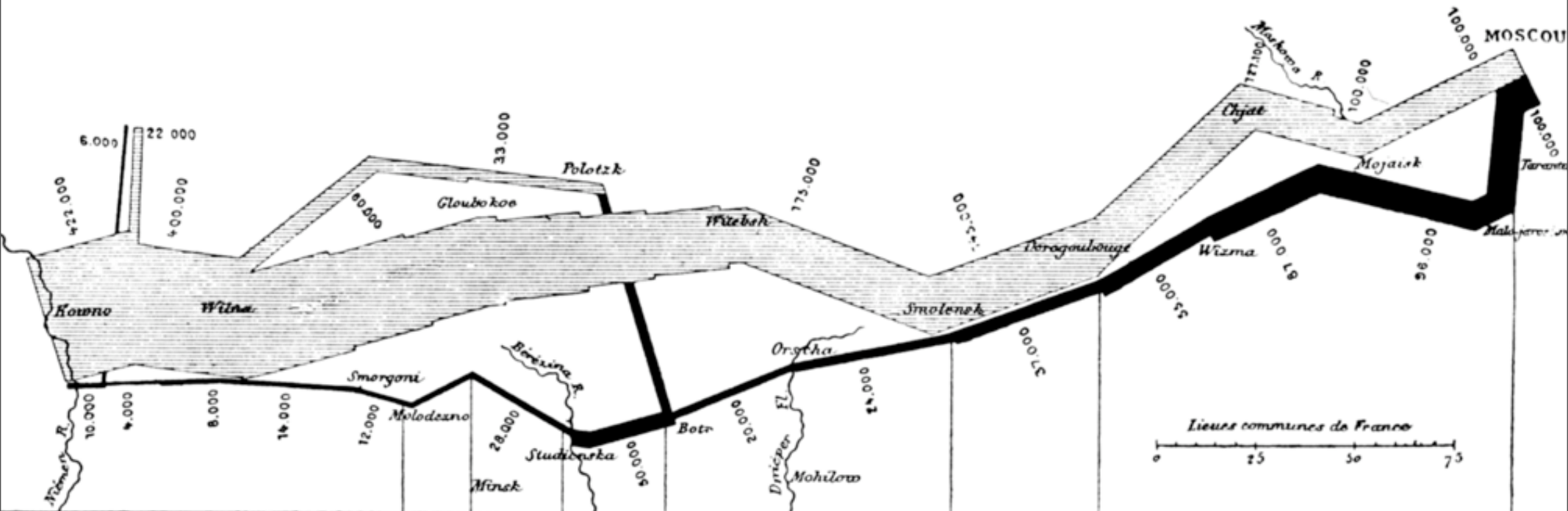
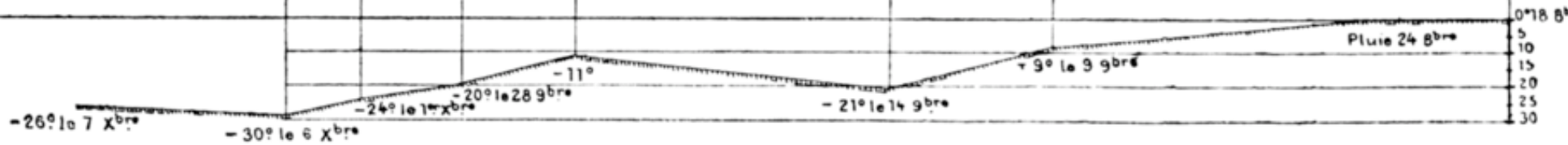
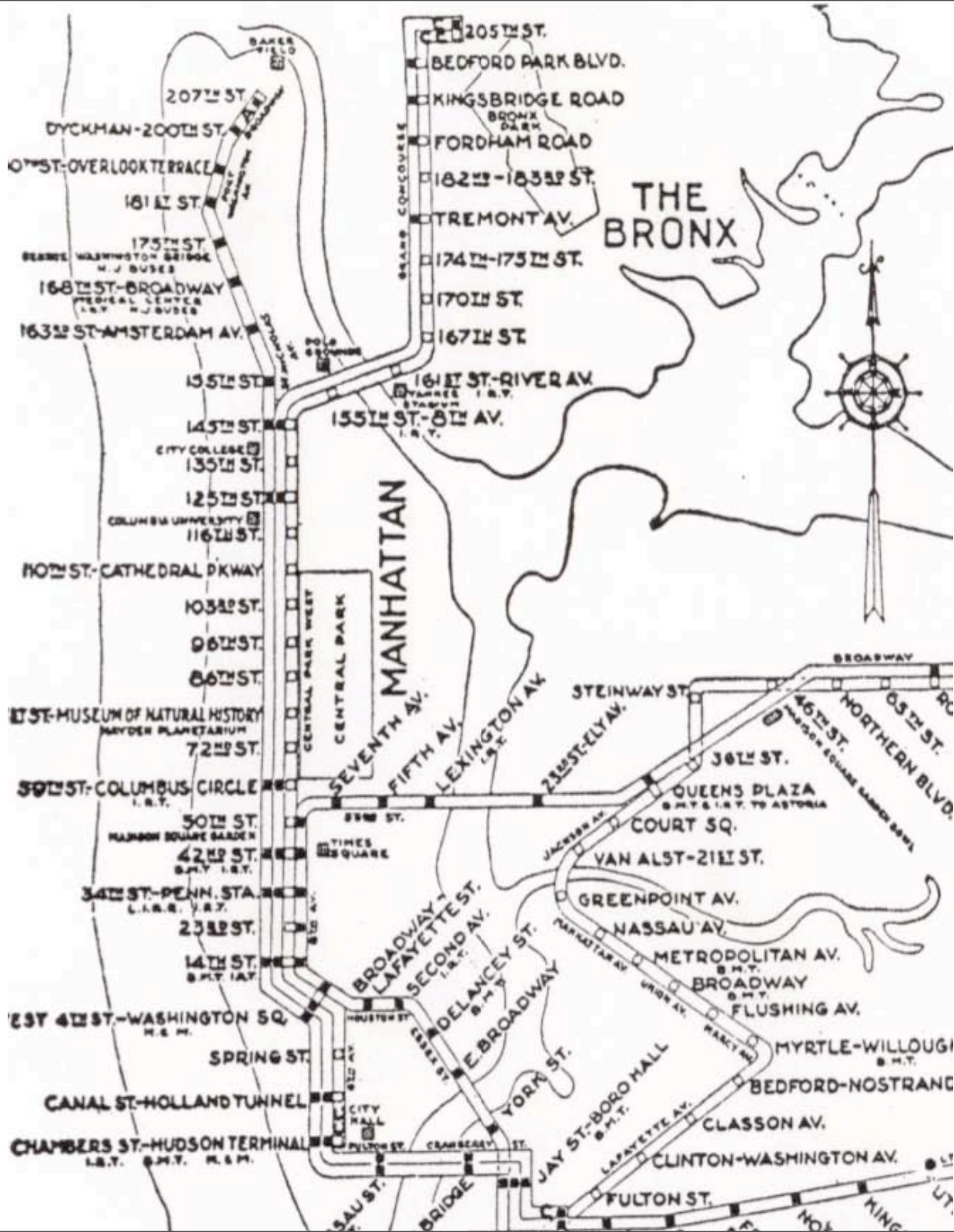


TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro





THE
BRONX

MANHATTAN

207TH ST.
DYCKMAN-200TH ST.
10TH ST-OVERLOOK TERRACE
161ST ST.
175TH ST.
168TH ST-BROADWAY
163RD ST-AMSTERDAM AV.
155TH ST.
145TH ST.
135TH ST.
125TH ST.
116TH ST.
103RD ST.
96TH ST.
86TH ST.
72ND ST.
59TH ST-COLUMBUS CIRCLE
50TH ST.
42ND ST.
34TH ST-PENN. STA.
23RD ST.
14TH ST.
1ST 4TH ST-WASHINGTON SQ.
SPRING ST.
CANAL ST-HOLLAND TUNNEL
CHAMBERS ST-HUDSON TERMINAL

205TH ST.
BEDFORD PARK BLVD.
KINGSBRIDGE ROAD
FORDHAM ROAD
182ND-183RD ST.
TREMONT AV.
174TH-175TH ST.
170TH ST.
167TH ST.
161ST ST-RIVER AV.
155TH ST-8TH AV.

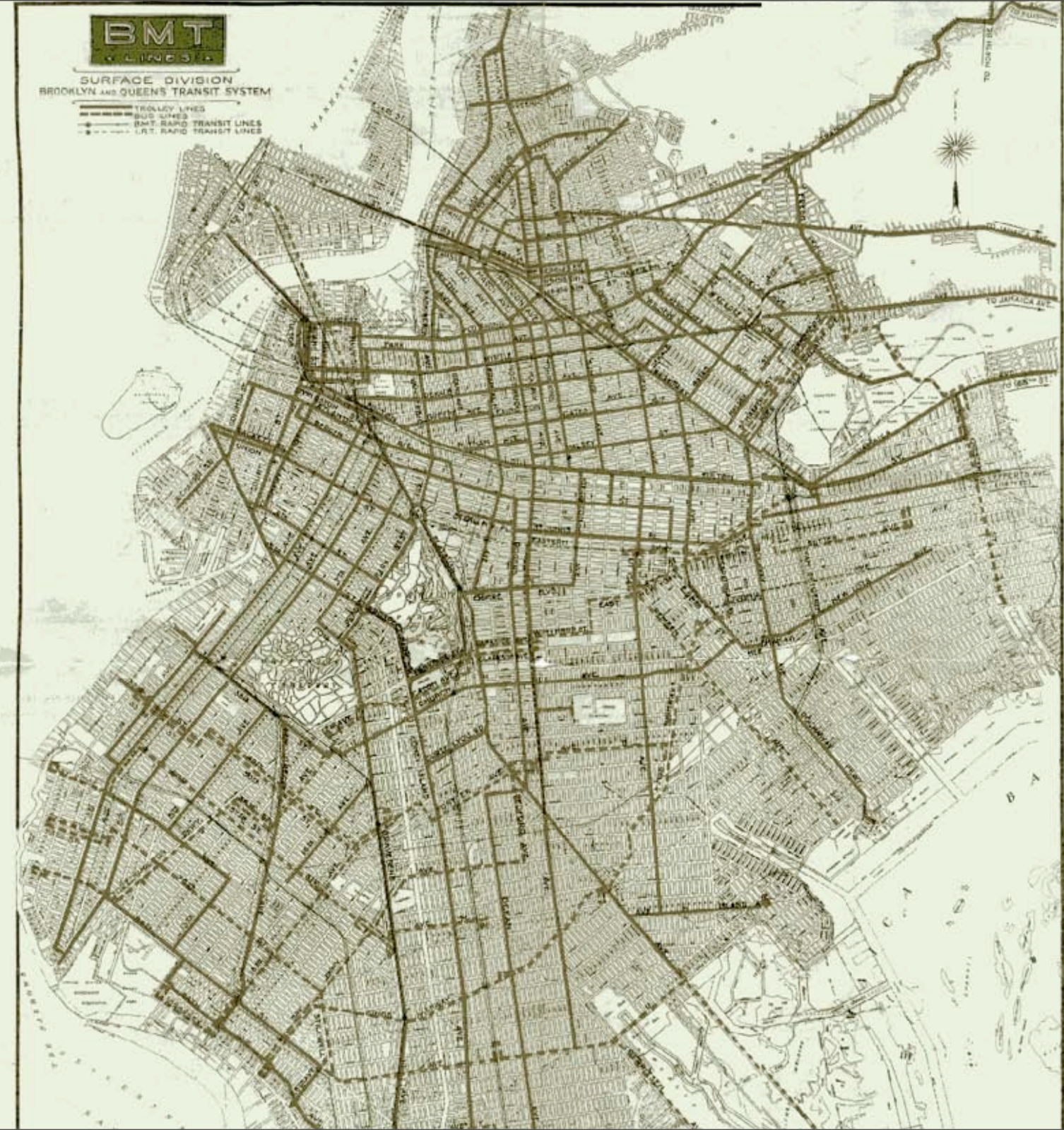
SEVENTH AV.
FIFTH AV.
LEXINGTON AV.
23RD ST-ELY AV.
36TH ST.
QUEENS PLAZA
COURT SQ.
VAN ALST-21ST ST.
GREENPOINT AV.
NASSAU AV.
METROPOLITAN AV.
BROADWAY
FLUSHING AV.
MYRTLE-WILLOUGH
BEDFORD-NOSTRAND
CLASSON AV.
CLINTON-WASHINGTON AV.
FULTON ST.
JAY ST-BORO HALL
LAFAYETTE AV.
NASSAU ST.
BROADWAY
NORTHERN BLVD.
46TH ST.
65TH ST.
ROCKAWAY BLVD.

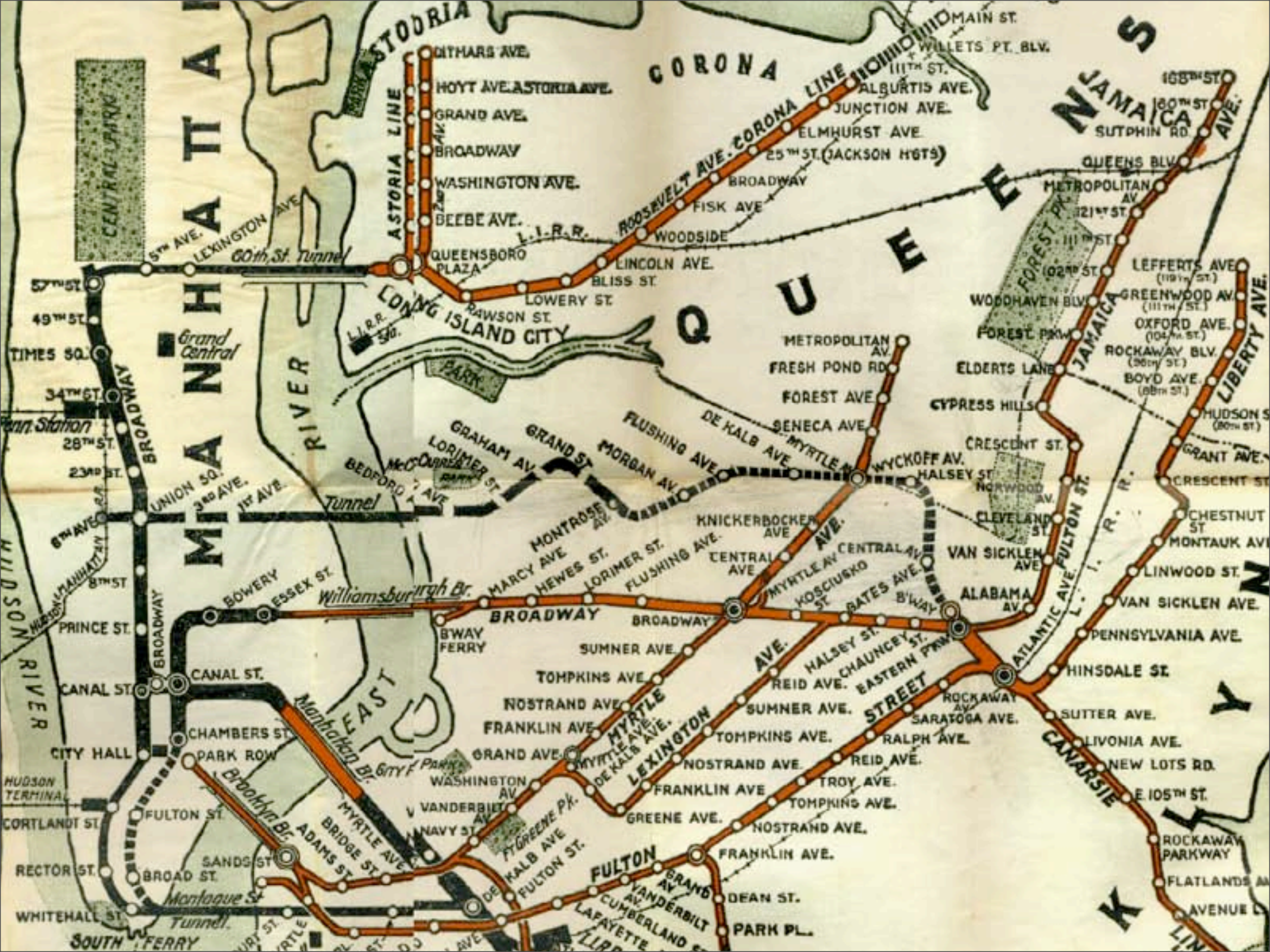




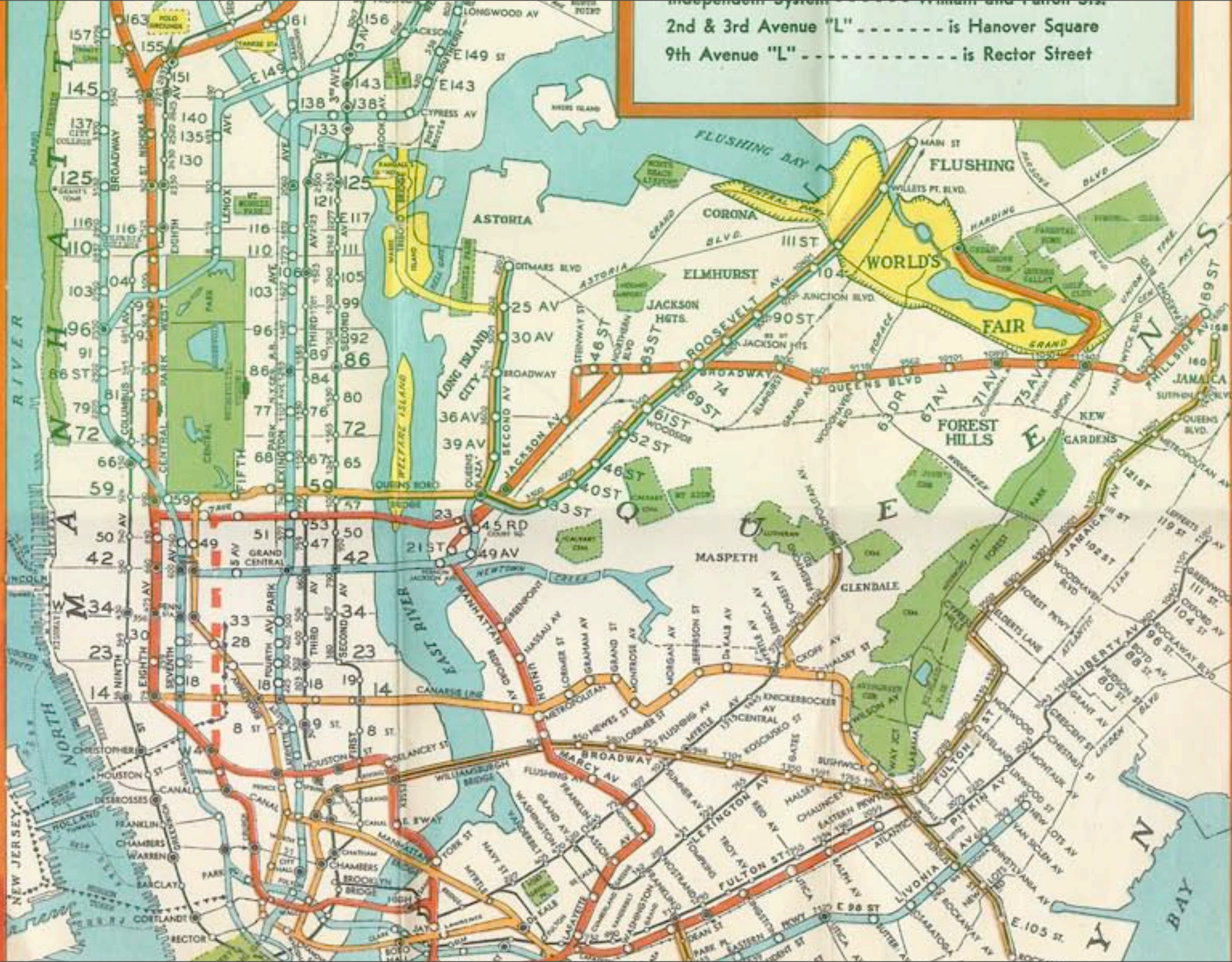
**SURFACE DIVISION
BROOKLYN AND QUEEN'S TRANSIT SYSTEM**

- TROLLEY LINES
- BUS LINES
- BMT RAPID TRANSIT LINES
- L.R.T. RAPID TRANSIT LINES





2nd & 3rd Avenue "L" ----- is Hanover Square
9th Avenue "L" ----- is Rector Street





**RAPID TRANSIT LINES
OF THE
NEW YORK CITY
TRANSIT SYSTEM**

Operated By The
**BOARD OF TRANSPORTATION
THE CITY OF NEW YORK**
250 Hudson Street, New York 13, N. Y.

Please cooperate!
When in doubt, ask any employee.
Help keep the subways clean.
Use receptacles for papers.
Do not rush - Let'em off first.
Move away from doors.
Keep to the right on stairways.
Try to shop between 10 and 4.
Always be courteous.

LOST PROPERTY ROOM
385 Flatbush Ave. Extension, Brooklyn 1, N. Y.
Tel. MAIn 5-6200

**NEW YORK CITY
TRANSIT SYSTEM
SUBWAY
and
ELEVATED LINES**

- **LEGEND** —
- IND LINES
 - IRT LINES
 - BMT LINES
 - IRT AND BMT LINES
 - ⊙ EXPRESS STOPS
 - LOCAL STOPS
 - ELEVATED LINES
 - HOUSE NUMBERS

- TRANSFER LEGEND**
- TRANSFER POINT FOR CITY-OWNED SURFACE LINES
 - TRANSFER POINT FOR PRIVATELY-OWNED SURFACE LINES
 - TRANSFER POINT FOR CITY-OWNED AND PRIVATELY-OWNED SURFACE LINES

NOTE: 24 FROM SUBWAY OR ELEVATED LINES TO BUS OR TROLLEY

OFFICIAL NEW YORK CITY SUBWAY MAP AND STATION GUIDE

Service divisions:
— IND — IRT — MTA

Lines and branches:
— IND — IRT — MTA

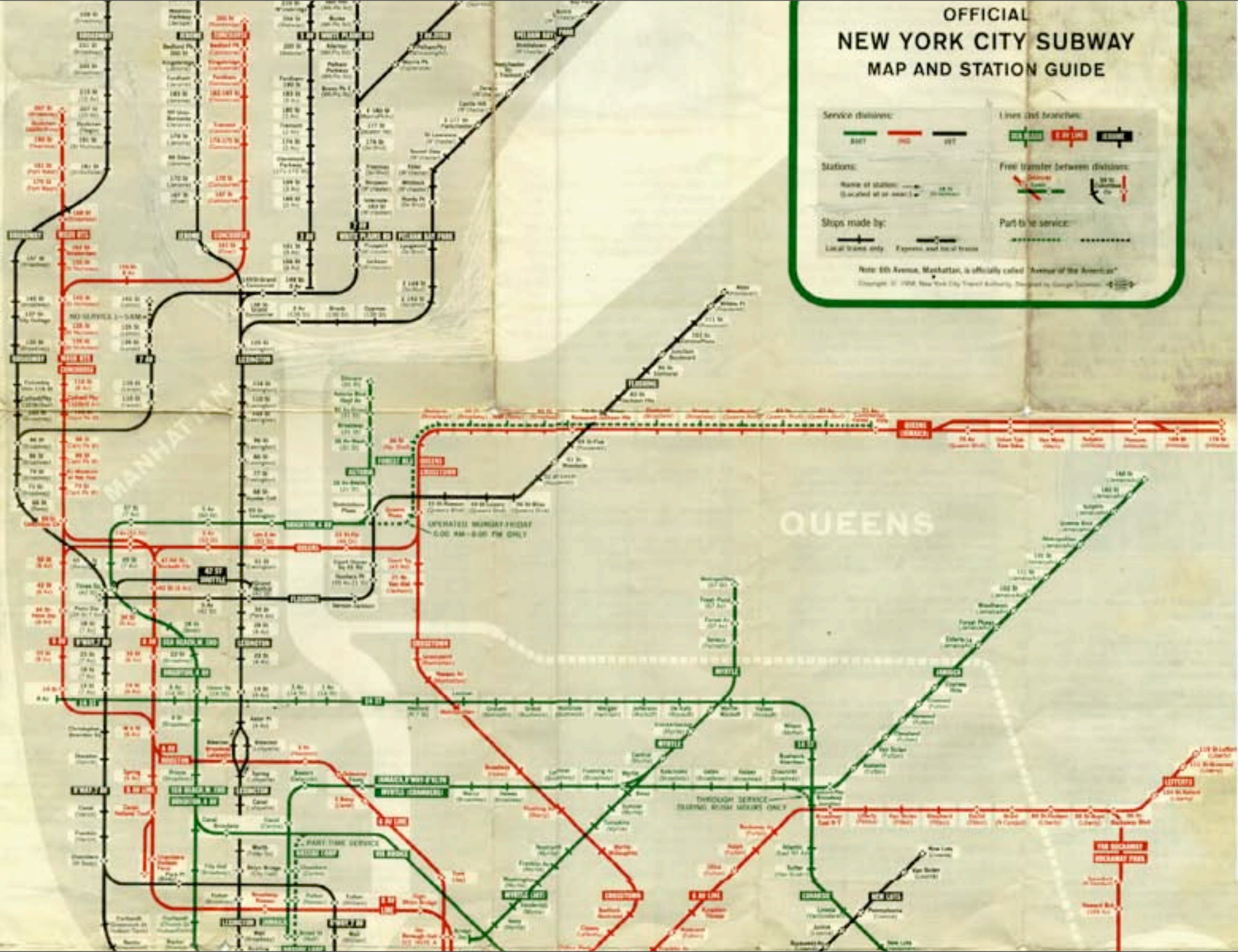
Stations:
 Name of station
 (located at or near)

Shops made by:
— Local trains only — Express and local trains

Free transfer between divisions:

Part-time service:
- - - - -

Note: 6th Avenue, Manhattan, is officially called "Avenue of the Americas"
 Copyright © 1968, New York City Transit Authority. Designed by George S. Gifford.



THE BRONX

New York City Rapid Transit Map

Designed by Michael Calcagno
e-mail calcagno@nycsubway.org

1967 Edition

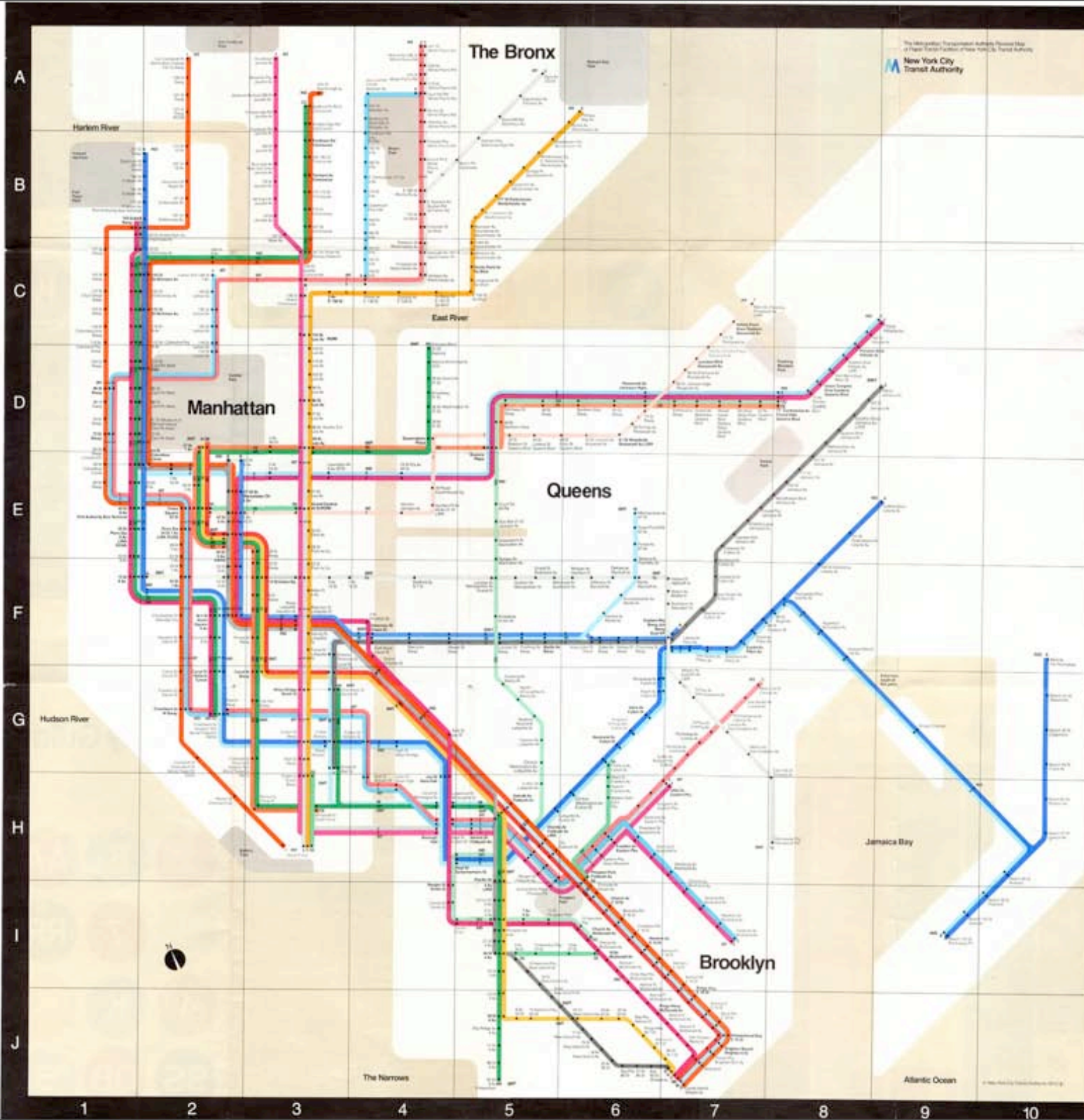
February 17, 2002

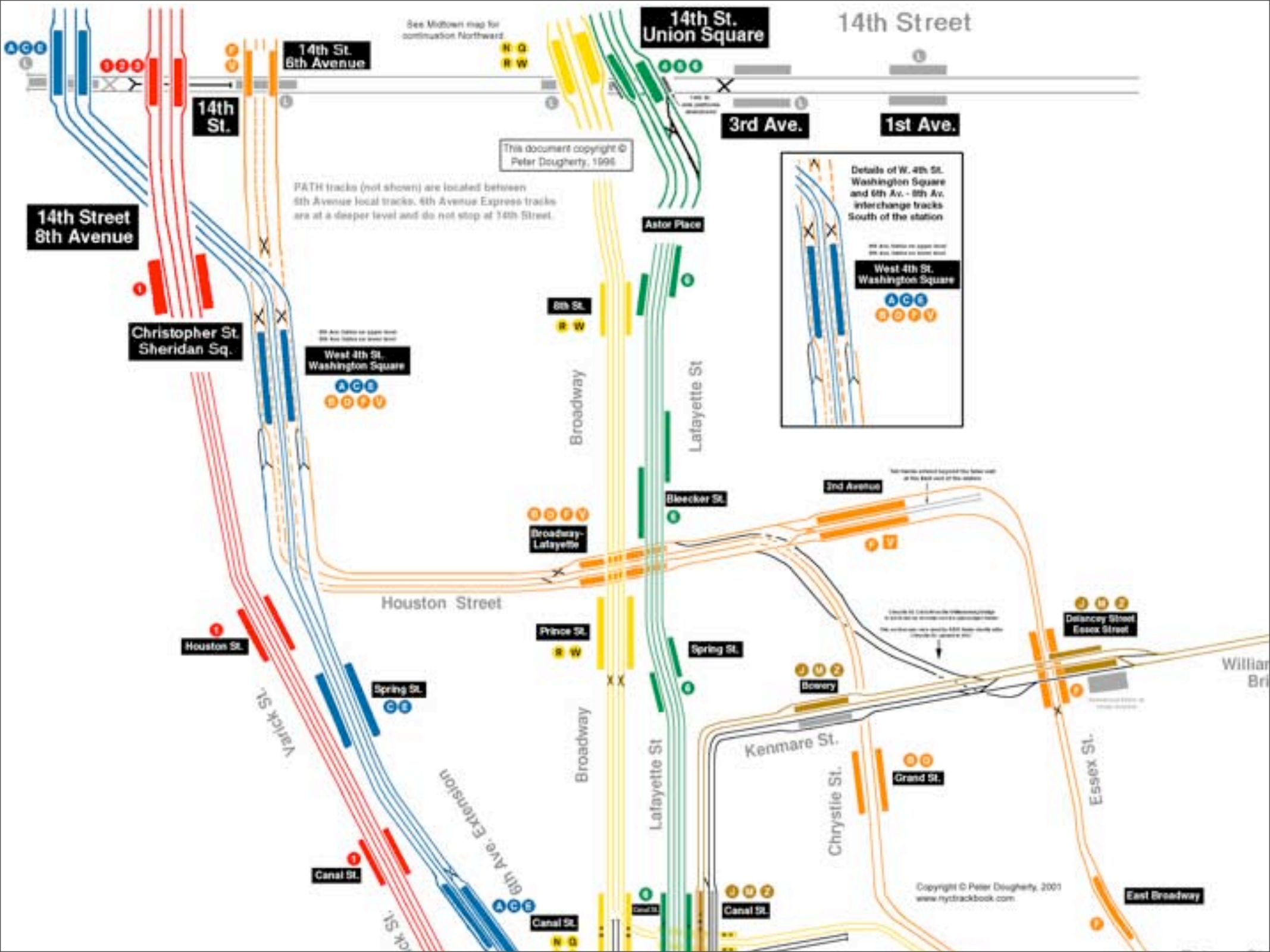
©1996-2002, Michael Calcagno

<ul style="list-style-type: none"> ● Solid line indicates normal service ● Dashed line indicates part time service ● Contour lines ● Train Stopping at this station ● Red indicates Express Local service ● Blue indicates Local service ● Green indicates Terminal service ● Yellow indicates Transfer service ● Orange indicates Express service ● Purple indicates Express service ● Pink indicates Express service ● Light blue indicates Express service ● Dark blue indicates Express service ● Light green indicates Express service ● Dark green indicates Express service ● Light purple indicates Express service ● Dark purple indicates Express service ● Light orange indicates Express service ● Dark orange indicates Express service ● Light pink indicates Express service ● Dark pink indicates Express service ● Light light blue indicates Express service ● Dark light blue indicates Express service ● Light light green indicates Express service ● Dark light green indicates Express service ● Light light purple indicates Express service ● Dark light purple indicates Express service ● Light light orange indicates Express service ● Dark light orange indicates Express service ● Light light pink indicates Express service ● Dark light pink indicates Express service 	<ul style="list-style-type: none"> ● 242 St or Utopian St or 137 St ● New Lots Av ● 145 St ● 148 St ● 150 St ● 152 St ● 154 St ● 156 St ● 158 St ● 160 St ● 162 St ● 164 St ● 166 St ● 168 St ● 170 St ● 172 St ● 174 St ● 176 St ● 178 St ● 180 St ● 182 St ● 184 St ● 186 St ● 188 St ● 190 St ● 192 St ● 194 St ● 196 St ● 198 St ● 200 St ● 202 St ● 204 St ● 206 St ● 208 St ● 210 St ● 212 St ● 214 St ● 216 St ● 218 St ● 220 St ● 222 St ● 224 St ● 226 St ● 228 St ● 230 St ● 232 St ● 234 St ● 236 St ● 238 St ● 240 St ● 242 St ● 244 St ● 246 St ● 248 St ● 250 St ● 252 St ● 254 St ● 256 St ● 258 St ● 260 St ● 262 St ● 264 St ● 266 St ● 268 St ● 270 St ● 272 St ● 274 St ● 276 St ● 278 St ● 280 St ● 282 St ● 284 St ● 286 St ● 288 St ● 290 St ● 292 St ● 294 St ● 296 St ● 298 St ● 300 St ● 302 St ● 304 St ● 306 St ● 308 St ● 310 St ● 312 St ● 314 St ● 316 St ● 318 St ● 320 St ● 322 St ● 324 St ● 326 St ● 328 St ● 330 St ● 332 St ● 334 St ● 336 St ● 338 St ● 340 St ● 342 St ● 344 St ● 346 St ● 348 St ● 350 St ● 352 St ● 354 St ● 356 St ● 358 St ● 360 St ● 362 St ● 364 St ● 366 St ● 368 St ● 370 St ● 372 St ● 374 St ● 376 St ● 378 St ● 380 St ● 382 St ● 384 St ● 386 St ● 388 St ● 390 St ● 392 St ● 394 St ● 396 St ● 398 St ● 400 St ● 402 St ● 404 St ● 406 St ● 408 St ● 410 St ● 412 St ● 414 St ● 416 St ● 418 St ● 420 St ● 422 St ● 424 St ● 426 St ● 428 St ● 430 St ● 432 St ● 434 St ● 436 St ● 438 St ● 440 St ● 442 St ● 444 St ● 446 St ● 448 St ● 450 St ● 452 St ● 454 St ● 456 St ● 458 St ● 460 St ● 462 St ● 464 St ● 466 St ● 468 St ● 470 St ● 472 St ● 474 St ● 476 St ● 478 St ● 480 St ● 482 St ● 484 St ● 486 St ● 488 St ● 490 St ● 492 St ● 494 St ● 496 St ● 498 St ● 500 St ● 502 St ● 504 St ● 506 St ● 508 St ● 510 St ● 512 St ● 514 St ● 516 St ● 518 St ● 520 St ● 522 St ● 524 St ● 526 St ● 528 St ● 530 St ● 532 St ● 534 St ● 536 St ● 538 St ● 540 St ● 542 St ● 544 St ● 546 St ● 548 St ● 550 St ● 552 St ● 554 St ● 556 St ● 558 St ● 560 St ● 562 St ● 564 St ● 566 St ● 568 St ● 570 St ● 572 St ● 574 St ● 576 St ● 578 St ● 580 St ● 582 St ● 584 St ● 586 St ● 588 St ● 590 St ● 592 St ● 594 St ● 596 St ● 598 St ● 600 St ● 602 St ● 604 St ● 606 St ● 608 St ● 610 St ● 612 St ● 614 St ● 616 St ● 618 St ● 620 St ● 622 St ● 624 St ● 626 St ● 628 St ● 630 St ● 632 St ● 634 St ● 636 St ● 638 St ● 640 St ● 642 St ● 644 St ● 646 St ● 648 St ● 650 St ● 652 St ● 654 St ● 656 St ● 658 St ● 660 St ● 662 St ● 664 St ● 666 St ● 668 St ● 670 St ● 672 St ● 674 St ● 676 St ● 678 St ● 680 St ● 682 St ● 684 St ● 686 St ● 688 St ● 690 St ● 692 St ● 694 St ● 696 St ● 698 St ● 700 St ● 702 St ● 704 St ● 706 St ● 708 St ● 710 St ● 712 St ● 714 St ● 716 St ● 718 St ● 720 St ● 722 St ● 724 St ● 726 St ● 728 St ● 730 St ● 732 St ● 734 St ● 736 St ● 738 St ● 740 St ● 742 St ● 744 St ● 746 St ● 748 St ● 750 St ● 752 St ● 754 St ● 756 St ● 758 St ● 760 St ● 762 St ● 764 St ● 766 St ● 768 St ● 770 St ● 772 St ● 774 St ● 776 St ● 778 St ● 780 St ● 782 St ● 784 St ● 786 St ● 788 St ● 790 St ● 792 St ● 794 St ● 796 St ● 798 St ● 800 St ● 802 St ● 804 St ● 806 St ● 808 St ● 810 St ● 812 St ● 814 St ● 816 St ● 818 St ● 820 St ● 822 St ● 824 St ● 826 St ● 828 St ● 830 St ● 832 St ● 834 St ● 836 St ● 838 St ● 840 St ● 842 St ● 844 St ● 846 St ● 848 St ● 850 St ● 852 St ● 854 St ● 856 St ● 858 St ● 860 St ● 862 St ● 864 St ● 866 St ● 868 St ● 870 St ● 872 St ● 874 St ● 876 St ● 878 St ● 880 St ● 882 St ● 884 St ● 886 St ● 888 St ● 890 St ● 892 St ● 894 St ● 896 St ● 898 St ● 900 St ● 902 St ● 904 St ● 906 St ● 908 St ● 910 St ● 912 St ● 914 St ● 916 St ● 918 St ● 920 St ● 922 St ● 924 St ● 926 St ● 928 St ● 930 St ● 932 St ● 934 St ● 936 St ● 938 St ● 940 St ● 942 St ● 944 St ● 946 St ● 948 St ● 950 St ● 952 St ● 954 St ● 956 St ● 958 St ● 960 St ● 962 St ● 964 St ● 966 St ● 968 St ● 970 St ● 972 St ● 974 St ● 976 St ● 978 St ● 980 St ● 982 St ● 984 St ● 986 St ● 988 St ● 990 St ● 992 St ● 994 St ● 996 St ● 998 St ● 1000 St 	<ul style="list-style-type: none"> ● 71 Continental Av ● Lusk Av or Broad Channel ● Far Rockaway or Rockaway Pl ● 168 St Adams Convent or Rock Pl ● Canal St or Broad St ● 8 Av ● Prospect Pl ● 9 Av ● Delmar Av ● Special ● Rush-Hour Service ● 57 St ● Brighton Beach ● 57 St ● Brighton Beach ● 96 St ● 95 St ● 94 St ● 93 St ● 92 St ● 91 St ● 90 St ● 89 St ● 88 St ● 87 St ● 86 St ● 85 St ● 84 St ● 83 St ● 82 St ● 81 St ● 80 St ● 79 St ● 78 St ● 77 St ● 76 St ● 75 St ● 74 St ● 73 St ● 72 St ● 71 St ● 70 St ● 69 St ● 68 St ● 67 St ● 66 St ● 65 St ● 64 St ● 63 St ● 62 St ● 61 St ● 60 St ● 59 St ● 58 St ● 57 St ● 56 St ● 55 St ● 54 St ● 53 St ● 52 St ● 51 St ● 50 St ● 49 St ● 48 St ● 47 St ● 46 St ● 45 St ● 44 St ● 43 St ● 42 St ● 41 St ● 40 St ● 39 St ● 38 St ● 37 St ● 36 St ● 35 St ● 34 St ● 33 St ● 32 St ● 31 St ● 30 St ● 29 St ● 28 St ● 27 St ● 26 St ● 25 St ● 24 St ● 23 St ● 22 St ● 21 St ● 20 St ● 19 St ● 18 St ● 17 St ● 16 St ● 15 St ● 14 St ● 13 St ● 12 St ● 11 St ● 10 St ● 9 St ● 8 St ● 7 St ● 6 St ● 5 St ● 4 St ● 3 St ● 2 St ● 1 St ● 0 St ● -1 St ● -2 St ● -3 St ● -4 St ● -5 St ● -6 St ● -7 St ● -8 St ● -9 St ● -10 St ● -11 St ● -12 St ● -13 St ● -14 St ● -15 St ● -16 St ● -17 St ● -18 St ● -19 St ● -20 St ● -21 St ● -22 St ● -23 St ● -24 St ● -25 St ● -26 St ● -27 St ● -28 St ● -29 St ● -30 St ● -31 St ● -32 St ● -33 St ● -34 St ● -35 St ● -36 St ● -37 St ● -38 St ● -39 St ● -40 St ● -41 St ● -42 St ● -43 St ● -44 St ● -45 St ● -46 St ● -47 St ● -48 St ● -49 St ● -50 St ● -51 St ● -52 St ● -53 St ● -54 St ● -55 St ● -56 St ● -57 St ● -58 St ● -59 St ● -60 St ● -61 St ● -62 St ● -63 St ● -64 St ● -65 St ● -66 St ● -67 St ● -68 St ● -69 St ● -70 St ● -71 St ● -72 St ● -73 St ● -74 St ● -75 St ● -76 St ● -77 St ● -78 St ● -79 St ● -80 St ● -81 St ● -82 St ● -83 St ● -84 St ● -85 St ● -86 St ● -87 St ● -88 St ● -89 St ● -90 St ● -91 St ● -92 St ● -93 St ● -94 St ● -95 St ● -96 St ● -97 St ● -98 St ● -99 St ● -100 St
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See Midtown map for continuation Northwest

14th St. Union Square

14th Street

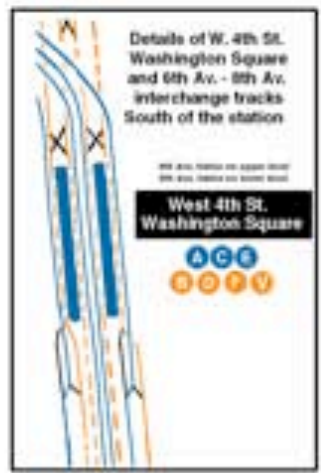
14th St. 8th Avenue

3rd Ave.

1st Ave.

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PATH tracks (not shown) are located between 8th Avenue local tracks. 6th Avenue Express tracks are at a deeper level and do not stop at 14th Street.



14th Street 8th Avenue

Christopher St. Sheridan Sq.

West 4th St. Washington Square

ACE
D F V

6th St.

R W

Broadway

Lafayette St

2nd Avenue

Broadway-Lafayette

D F V

Houston Street

Prince St.

R W

Broadway

Lafayette St

Spring St.

C E

Dowry

J M Z

Dalancy Street Essex Street

Houston St.

Spring St.

C E

Variety St.

6th Ave. Extension

Canal St.

A C E

Canal St.

R W

Canal St.

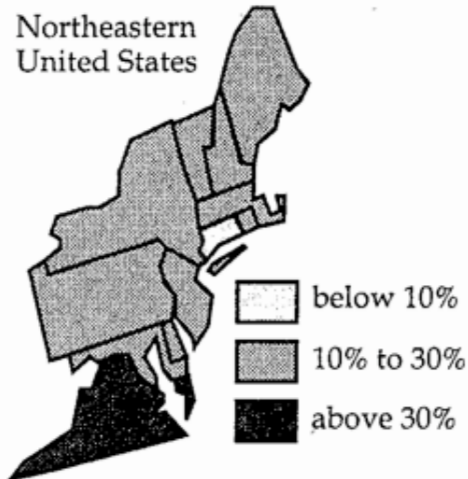
J M Z

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www.nytrackbook.com

East Broadway



Occupied Housing Units
Lacking a Telephone, 1960



Occupied Housing Units
Lacking a Telephone, 1960

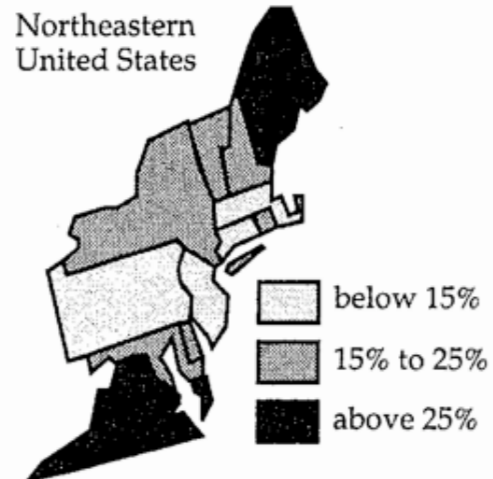
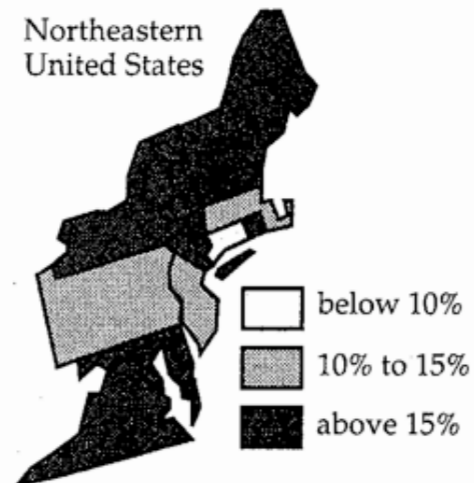


FIGURE 3.10. Different sets of class breaks applied to the same data yield different-looking choropleth maps.

Occupied Housing Units
Lacking a Telephone, 1960



Occupied Housing Units
Lacking a Telephone, 1960



FIGURE 3.11. Class breaks can be manipulated to yield choropleth maps supporting politically divergent interpretations.

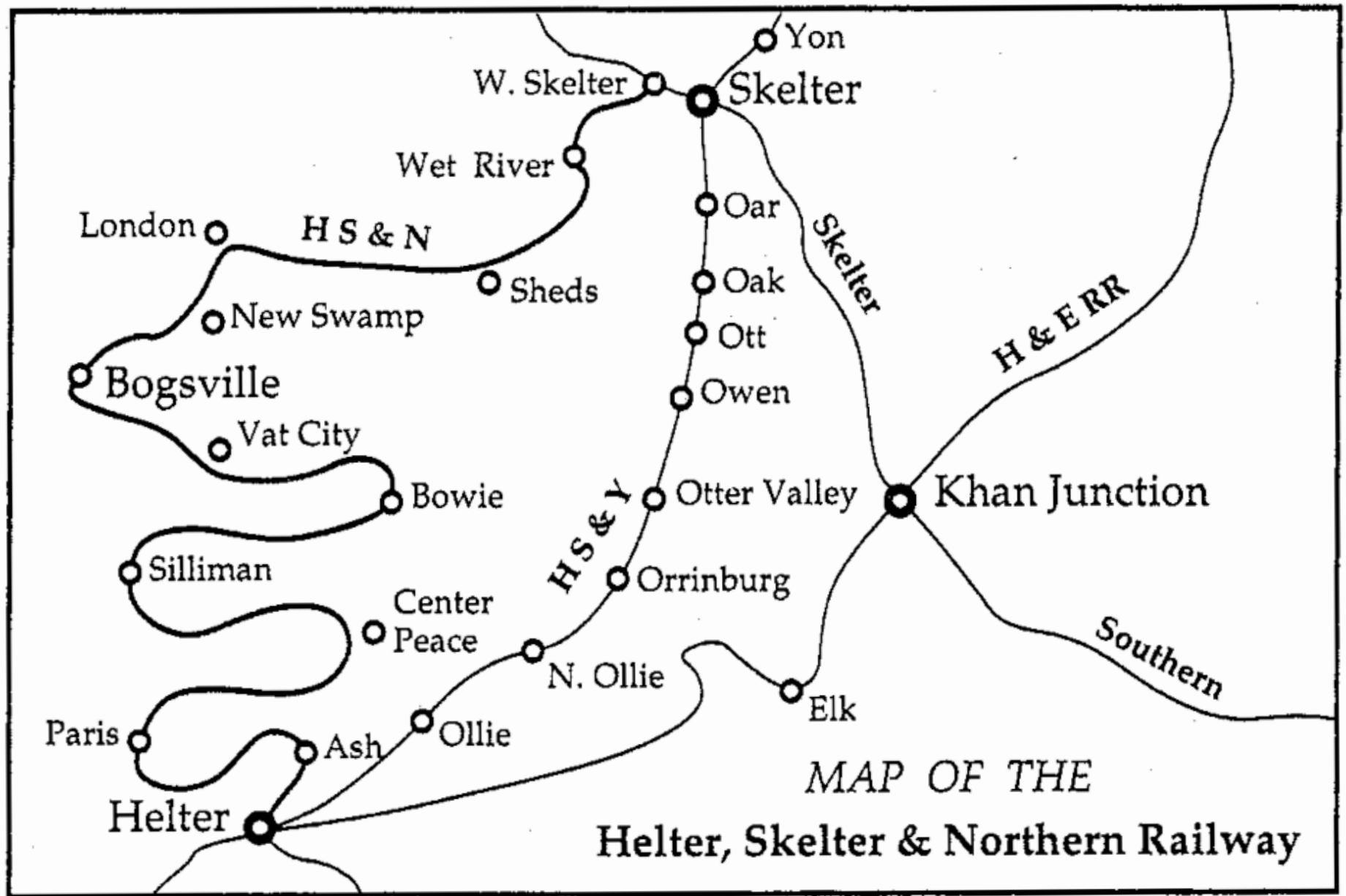


FIGURE 5.1. Engineering department's map of the Helter, Skelter and Northern Railway.

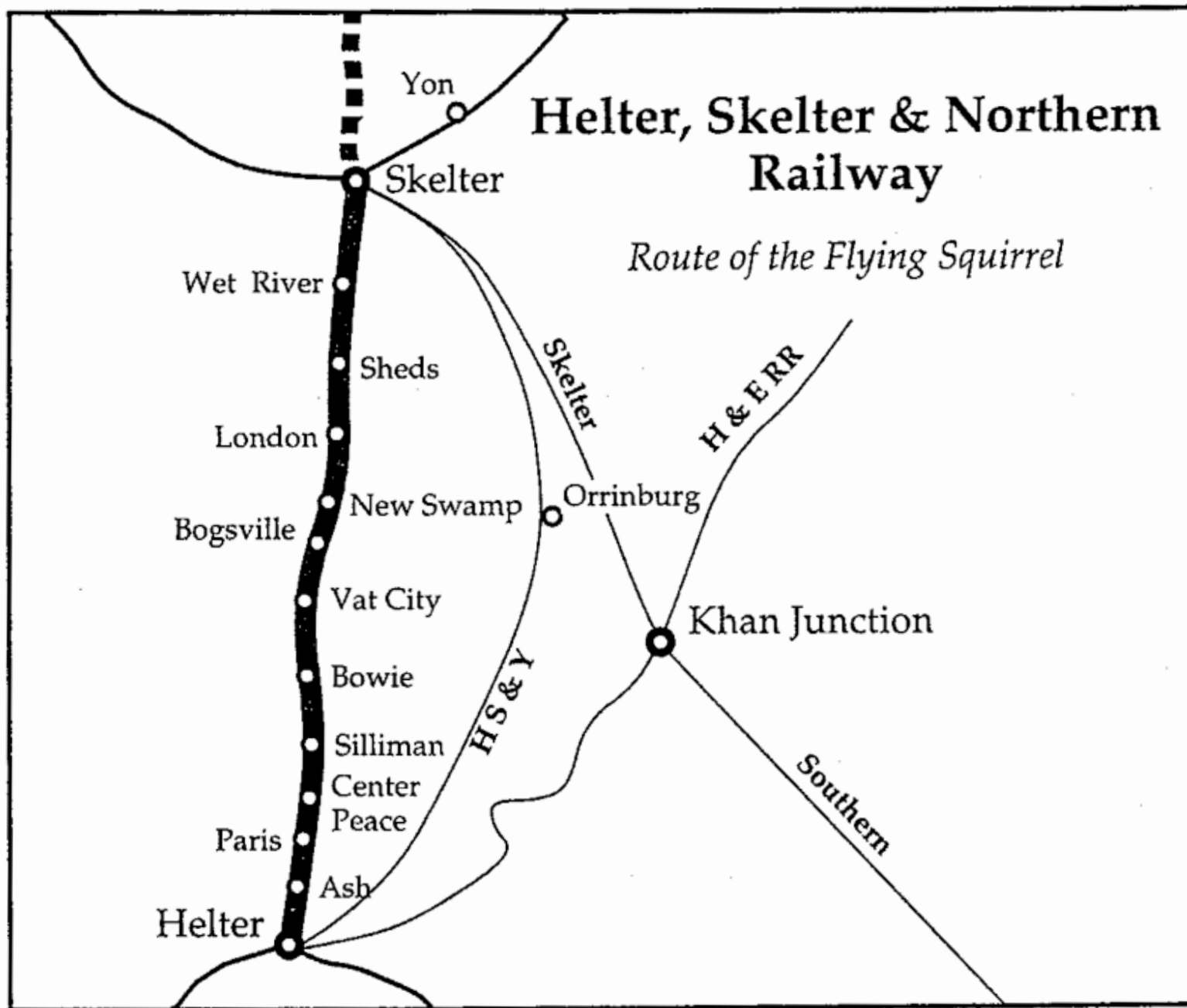


FIGURE 5.2. Advertising and timetable map of the Helter, Skelter and Northern Railway.

Upward Airlines—Reach for the Clouds

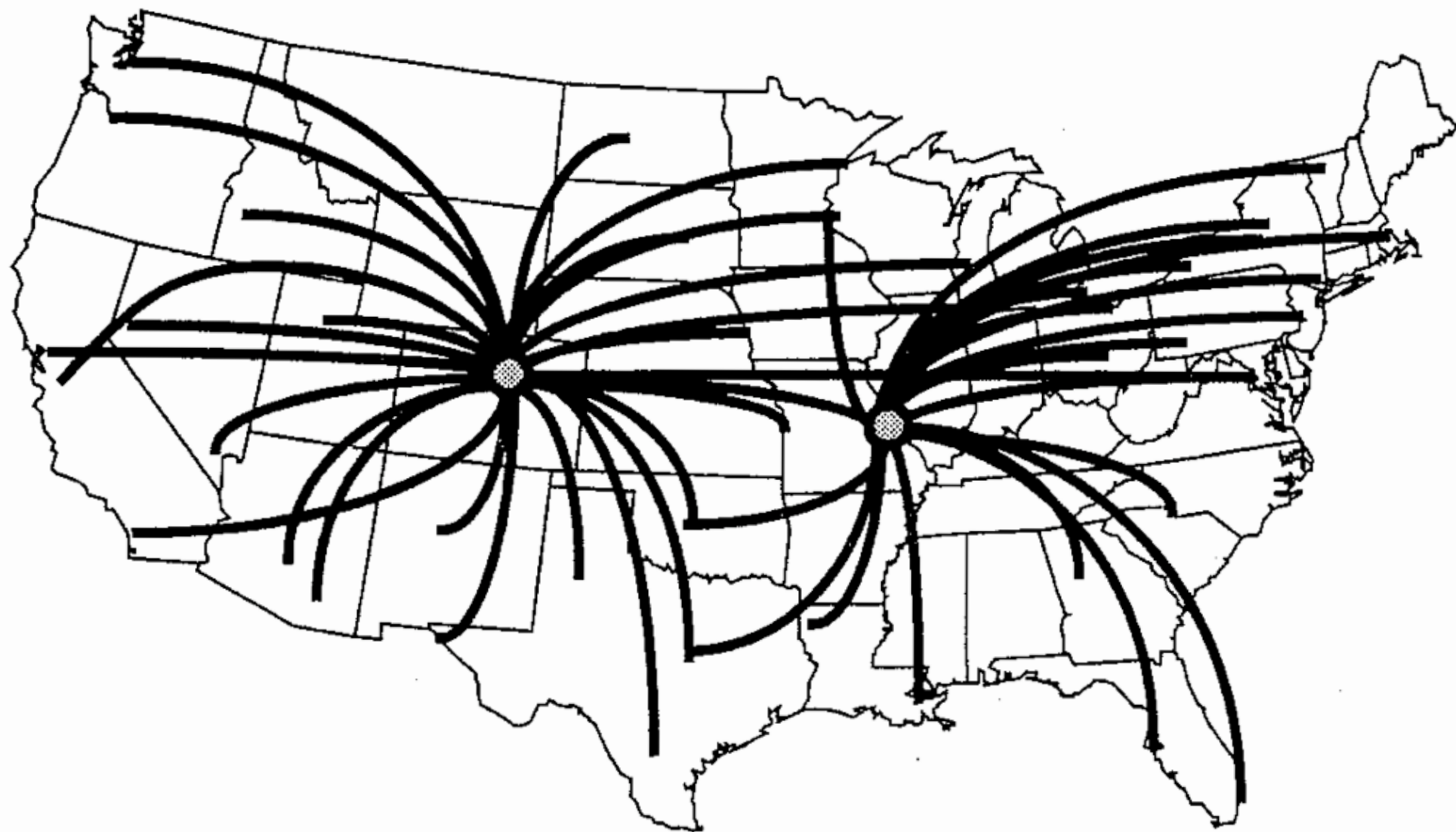
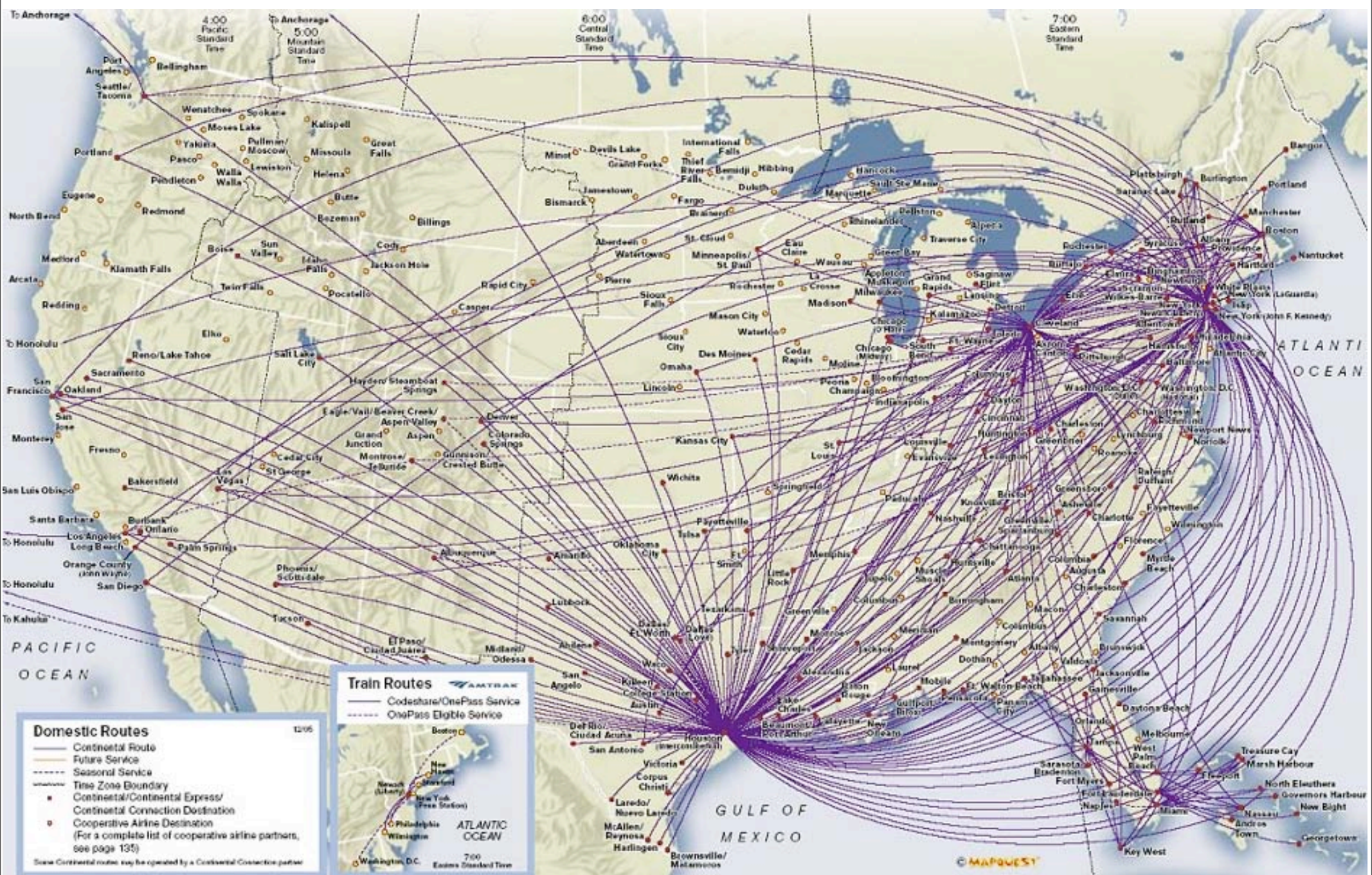


FIGURE 5.3. Advertising map emphasizing Upward Airlines' service area and connections.



Domestic Routes

- Continental Route
- Future Service
- Seasonal Service
- - - Time Zone Boundary
- Continental/Continental Express/Continental Connection Destination
- Cooperative Airline Destination (For a complete list of cooperative airline partners, see page 135)

Some Continental routes may be operated by a Continental Connection partner

Train Routes

- Codeshare/OnePass Service
- - - OnePass Eligible Service

7:00 Eastern Standard Time

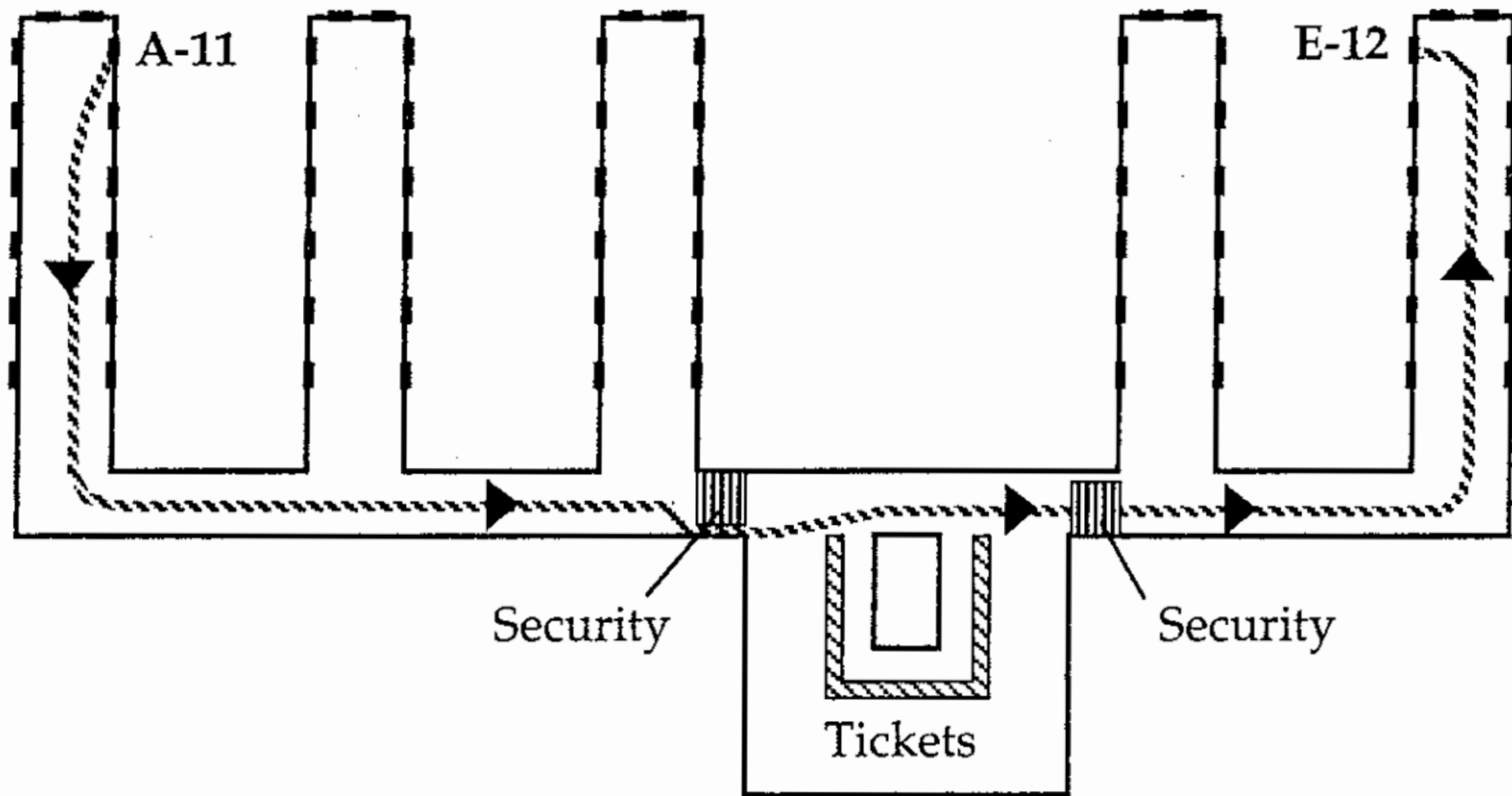
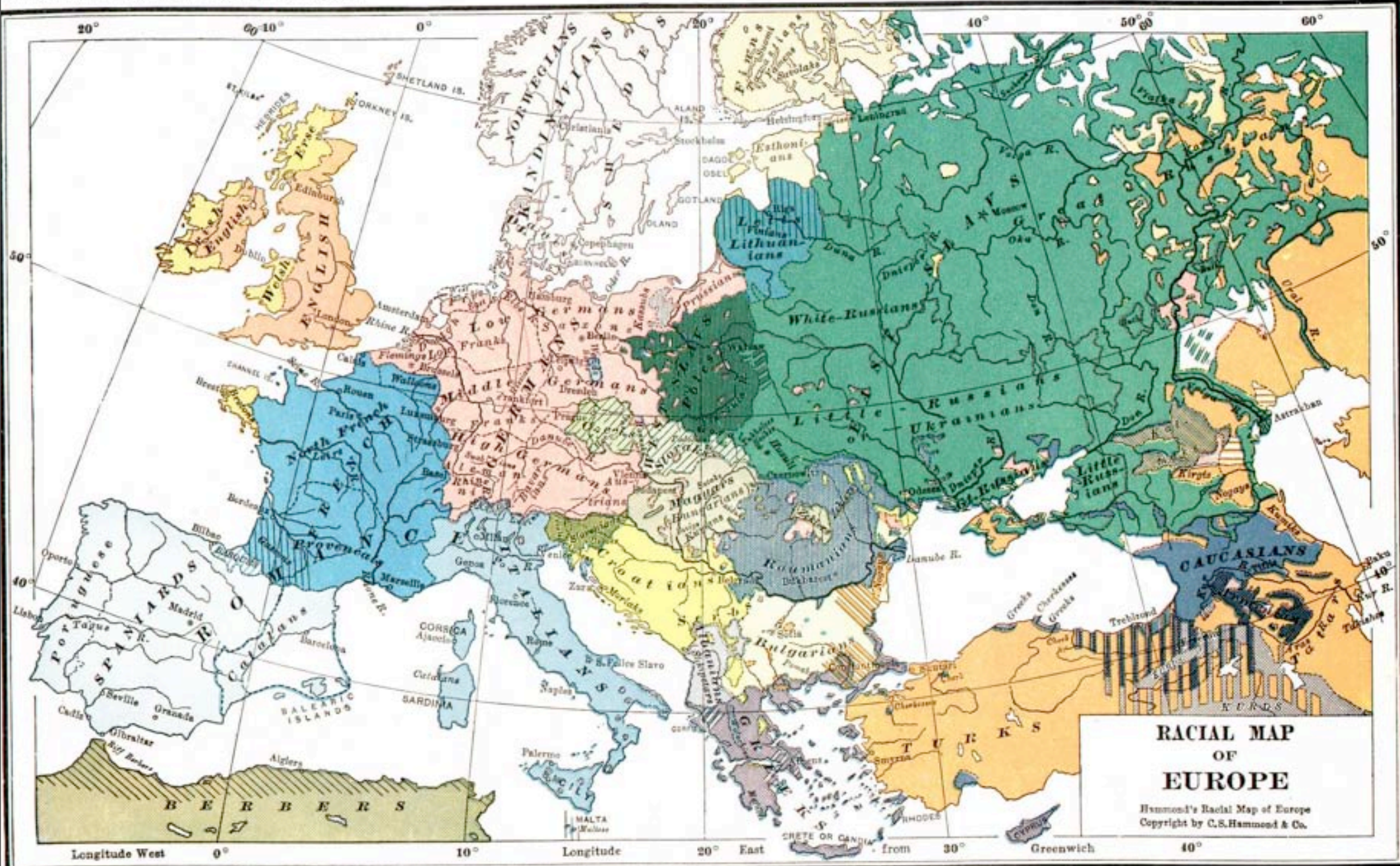
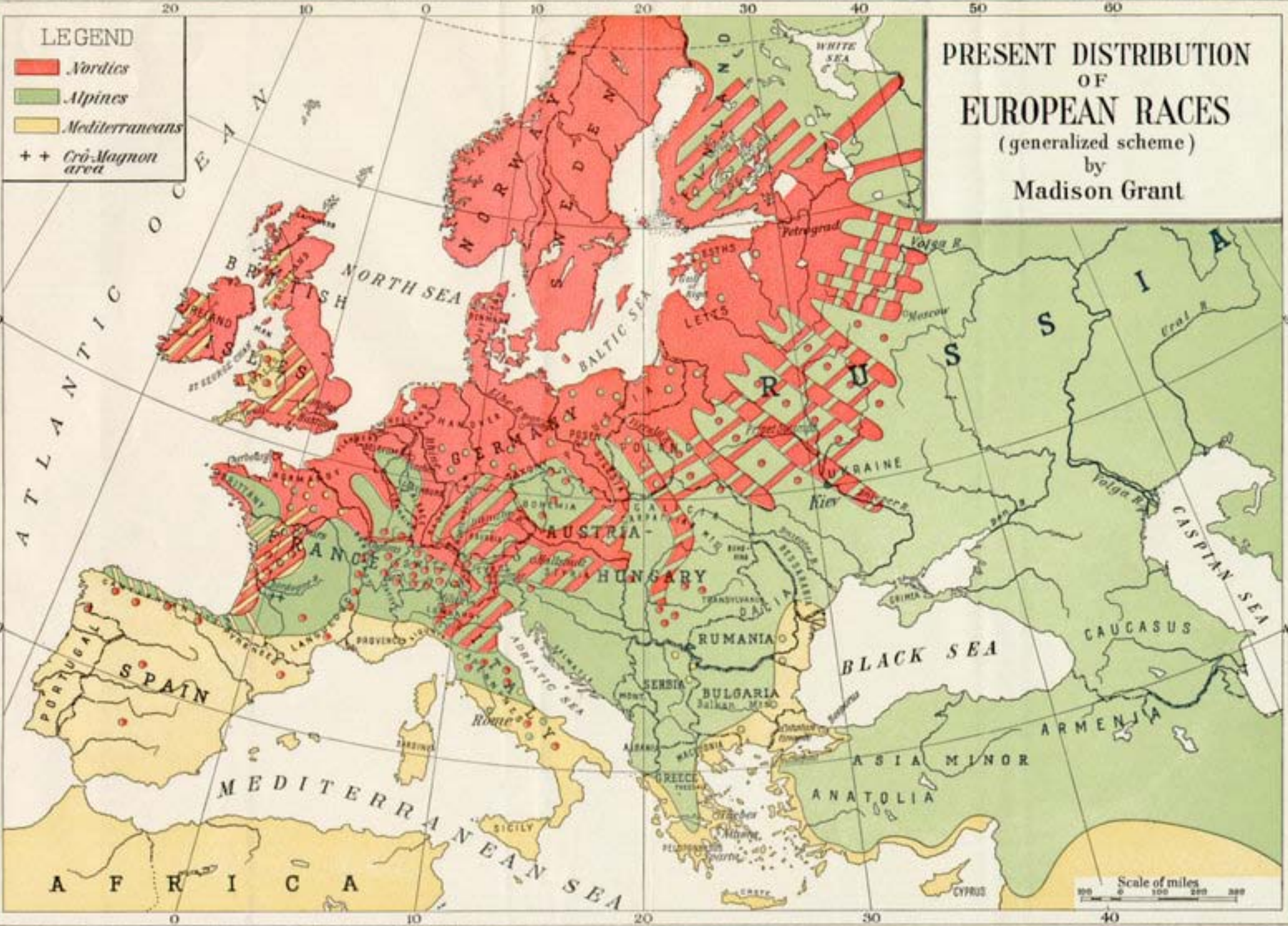


FIGURE 5.4. The hub map Upward Airlines won't publicize: the fifteen-minute luggage-laden trek from gate A-11 to gate E-12, with a stop at the security checkpoint.

Ethnic Distribution Maps of Europe





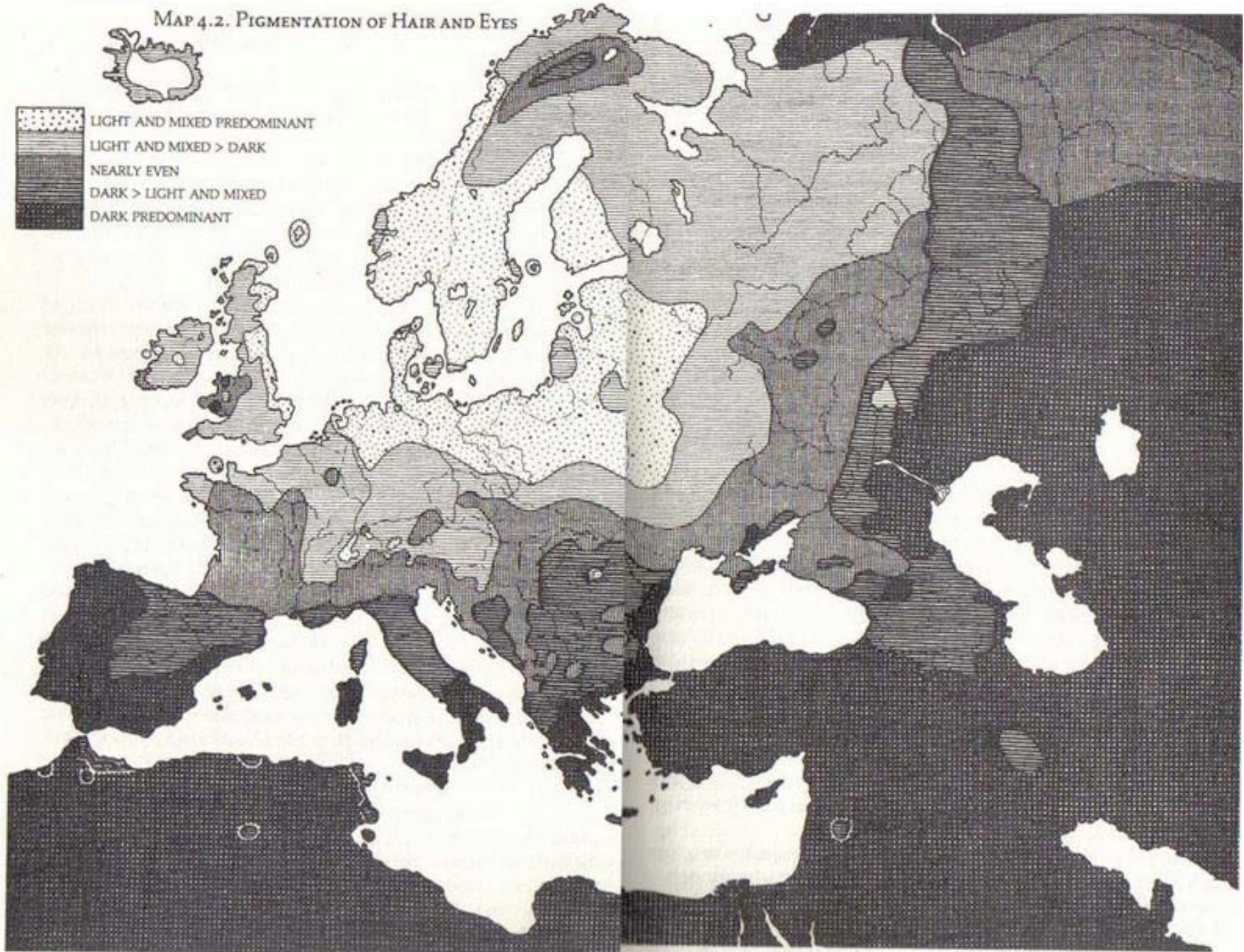
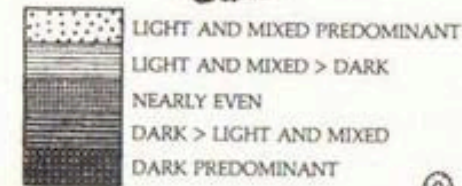
LEGEND

- Nordics*
- Alpines*
- Mediterraneans*
- Crô-Magnon area*

PRESENT DISTRIBUTION OF EUROPEAN RACES
(generalized scheme)
by
Madison Grant

Scale of miles
0 100 200 300

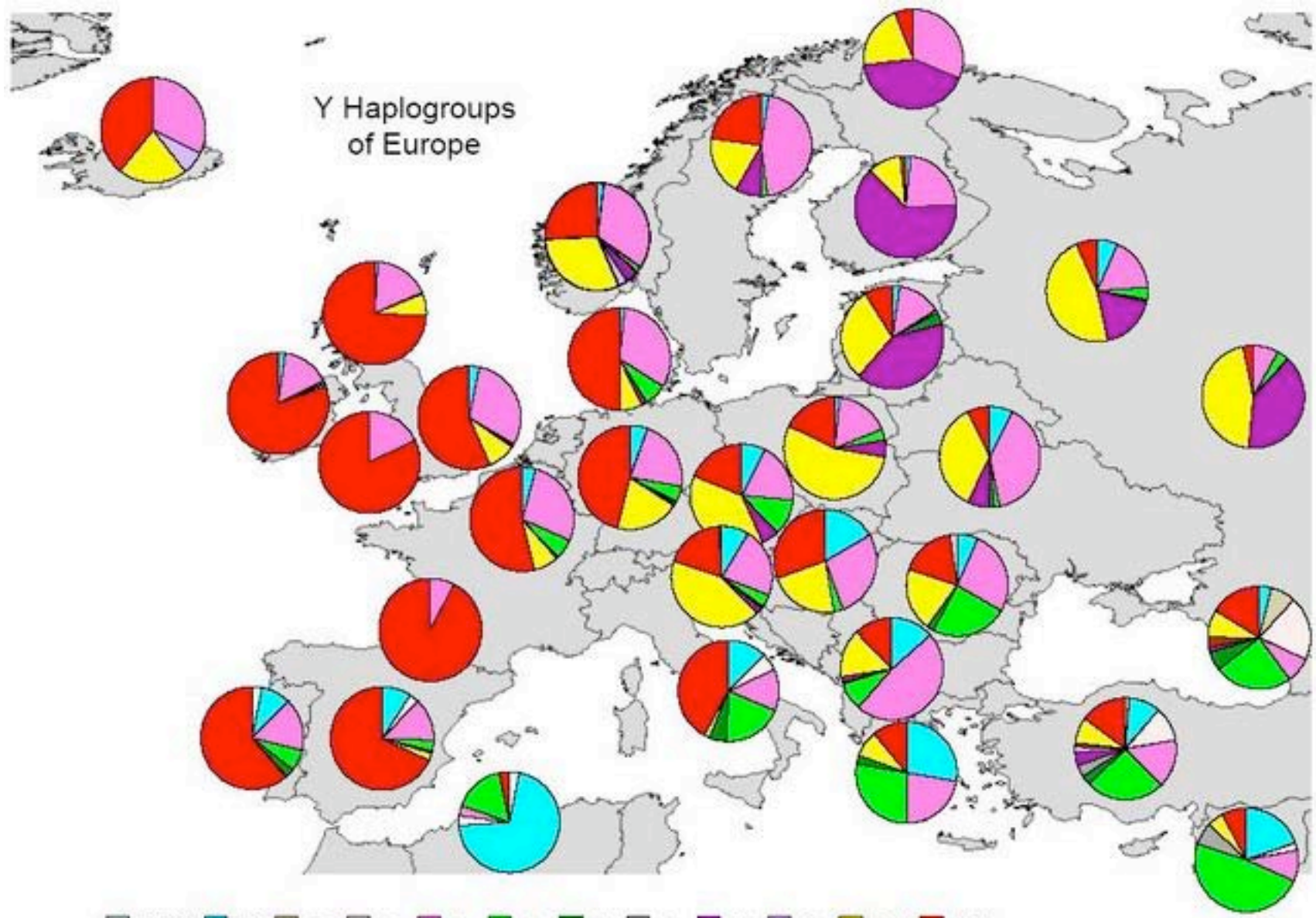
MAP 4.2. PIGMENTATION OF HAIR AND EYES



SOURCE: Drawn by Elmer Rising, ca. 1939.

THIS map combines data on the pigmentation of hair and eyes in modern Europe. Light hues cluster around the North Sea and the Baltic in the lands most recently deglaciated. Hair is darkest to the west in Wales, Ireland, the Faroes, Iceland, and

parts of western Norway. There, browns and reds are frequent, and the local blonds are mostly golden, while farther east in Baltic and Slavic lands the combination of brown eyes and ashen hair is common. Although not shown here, in the west exposed skin may be red and raw; in the east it is smoother and shinier and tans more easily.



Y Haplogroups of Europe

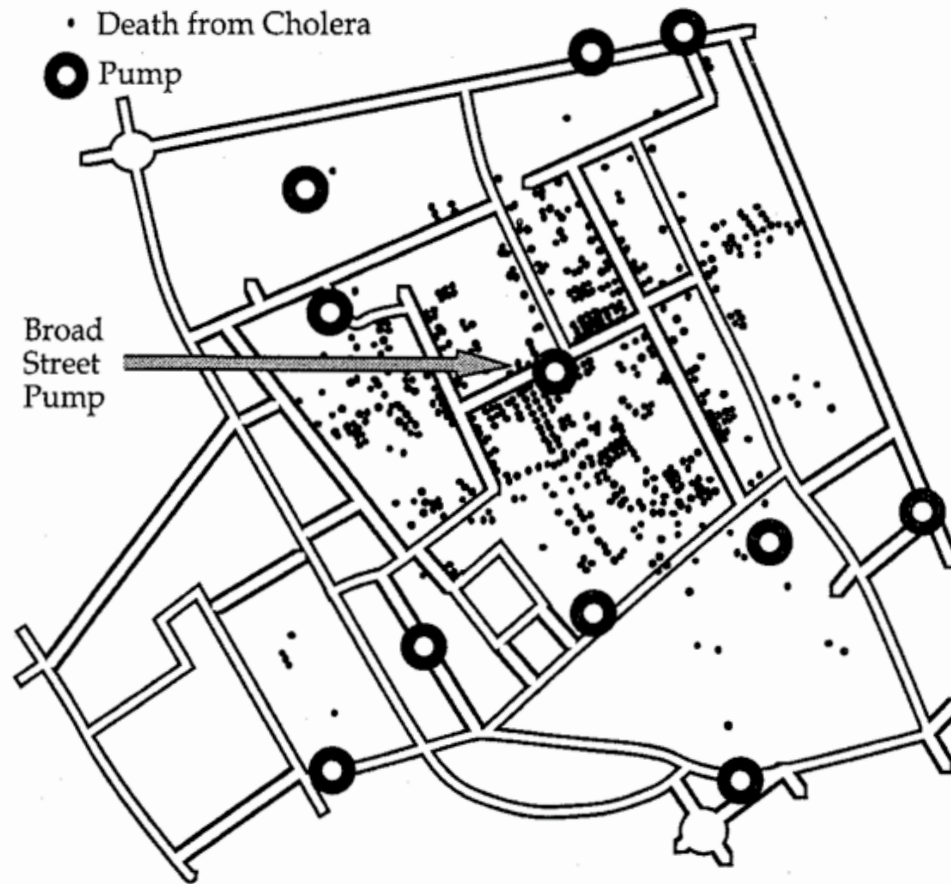
- ExE3b
- E3b
- F
- G
- I
- J
- K
- L
- N
- Q
- R1a
- R1b

Exercise Three: Map the Floor for a Purpose

- Take five minutes and draw an applied map of the ITP floor
 - Pick a purpose:
 - guide a visitor
 - move in a large machine
 - redo the lighting
 - political map
 - electrical outlets
 - how to get out in a fire
 - population density
 - productivity
 - scents
 - promote ITP
 - criticize ITP
 - ...or another compelling purpose
- You'll present your map to us briefly



Snow's Dot Map



Areal Aggregations and Density Symbols

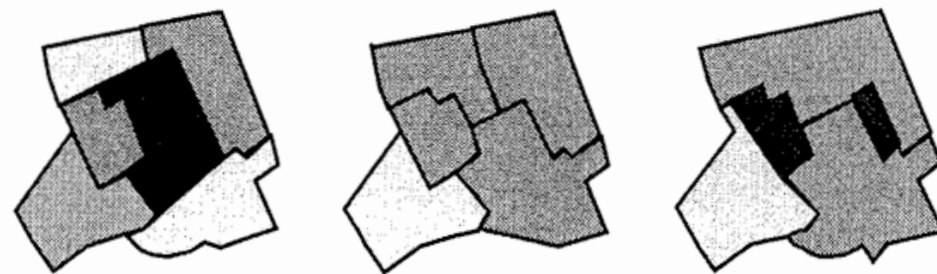
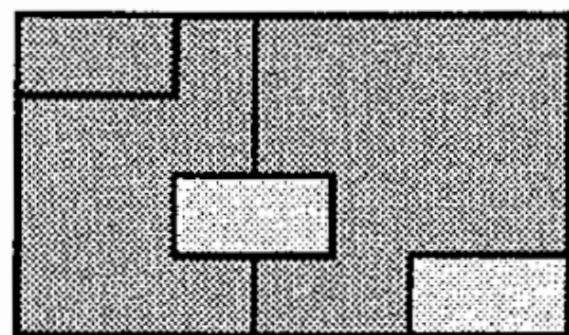




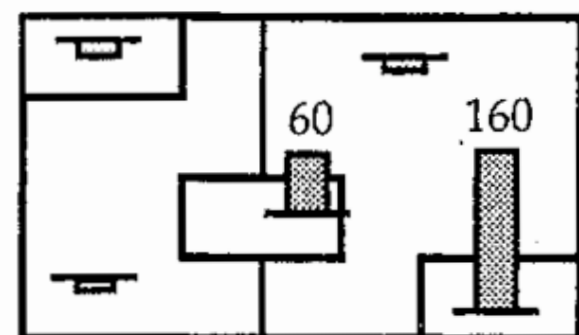
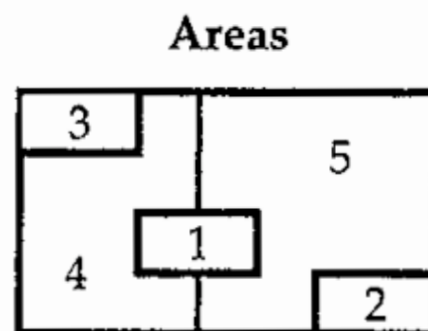
FIGURE 10.18. A reconstruction of John Snow's famous dot map of cholera (above) and three choropleth maps (below) produced by different areal aggregations of this part of London.

Area	Labor Force (000s)	Unemployment (000s)			Unemployment Rate			Percentage Change
		t_1	t_2	Change	t_1	t_2	Change	
1	3,000	120	180	+60	4.0%	6.0%	+2.0%	+50.0%
2	16,000	640	800	+160	4.0%	5.0%	+1.0%	+25.0%
3	2,500	125	113	-12	5.0%	4.5%	-0.5%	-9.6%
4	800	56	48	-8	7.0%	6.0%	-1.0%	-14.3%
5	500	40	35	-5	8.0%	7.0%	-1.0%	-12.5%



Percentage Change in the
Unemployment Rate

 Decrease by 9% to 15%
 Increase



Increases in
Persons
Seeking
Work
(thousands)



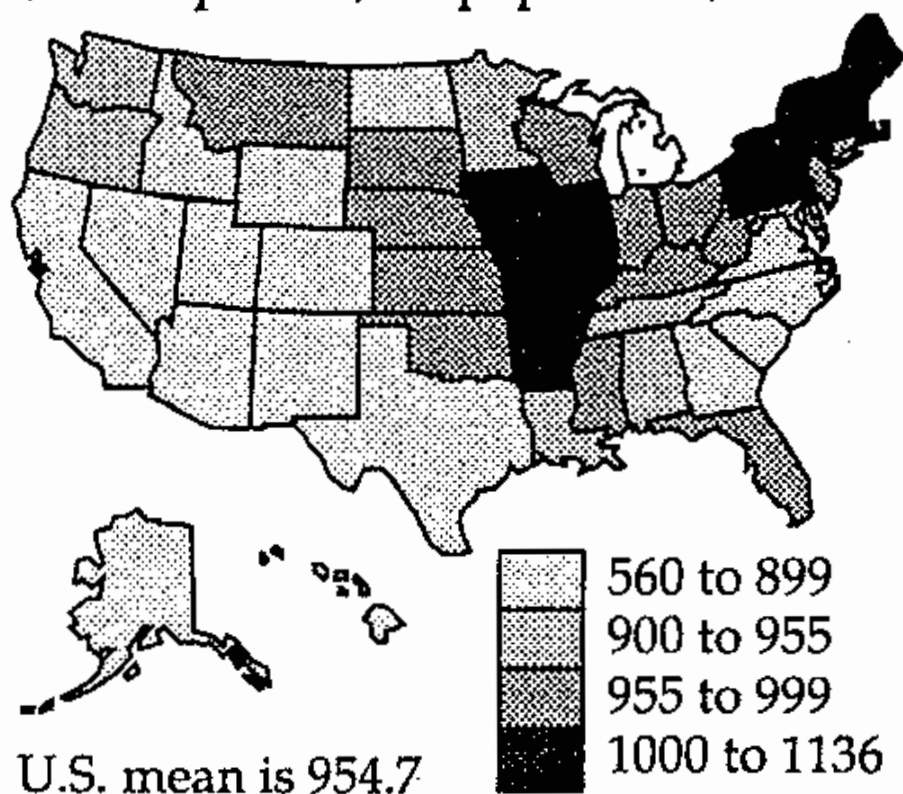
 Increase
 Decrease

FIGURE 10.19. Unemployment data (top) for a hypothetical region (bottom center) yield different maps, supporting an optimistic (bottom left) and a pessimistic (bottom right) view of recent temporal trends.

Crude Death Rate, 1960

(deaths per 100,000 population)



Age-Adjusted Death Rate, 1960

(deaths per 100,000 population)

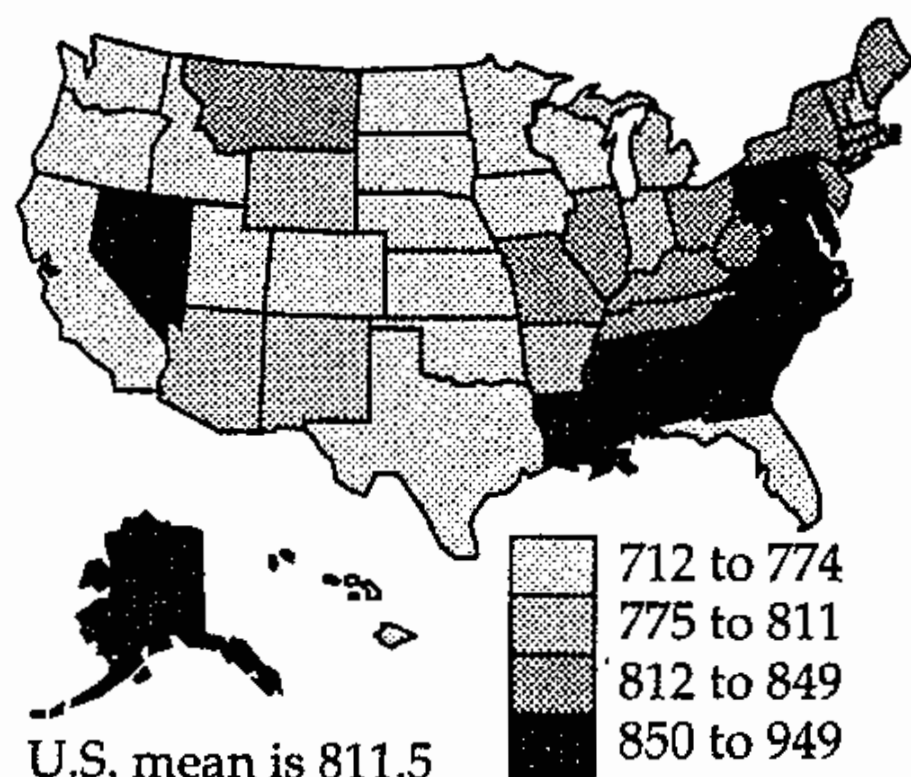


FIGURE 10.20. Maps of the crude death rate (left) and the age-adjusted death rate (right) can present markedly different geographic patterns of mortality.

Pachube

- New sensor logging site:
 - <http://www.pachube.com/>

Readings and Assignments

- Readings
 - Lady Tasting Tea, last chapter
 - Influence, first chapter



