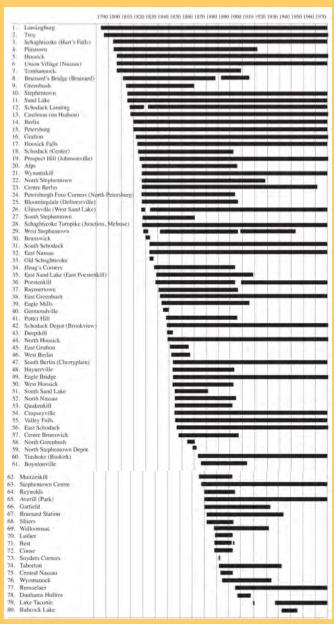
# Modeling Postal History with Postal Numbers

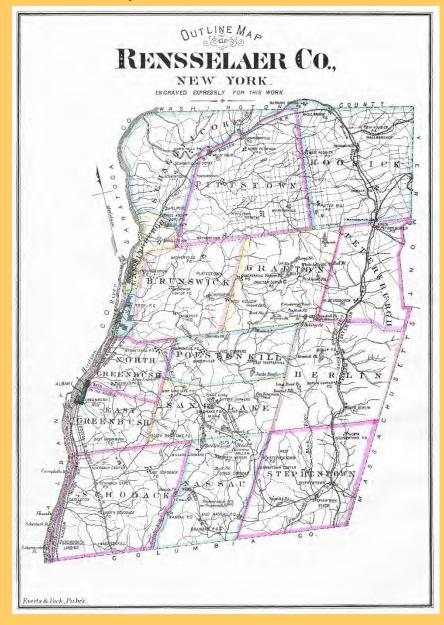


### Diane DeBlois & Robert Dalton Harris

Second International Symposium on Analytical Methods in Philately, November 2015

### Post Offices, Rensselaer County, New York

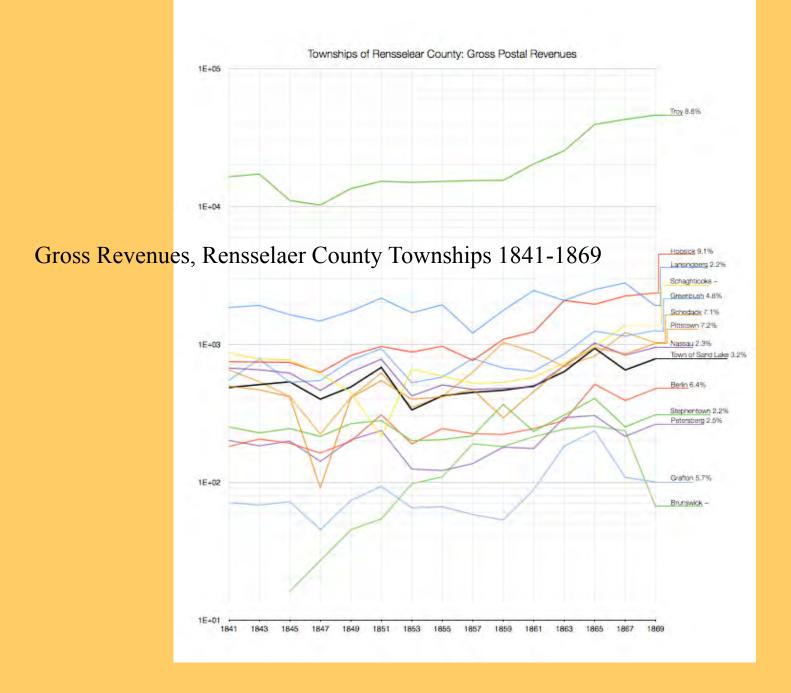




Early persistent offices likely to be township centers

### Gross Revenues = PM Compensation + Net Postage

EXECUTIVE. Sept	1841.	EXECUTIVE.	*105
1042	PO	ST OFFICE DEPARTMENT—New	
POST OFFICE DEPARTMENT—New York.	Post Offices.	Counties. Postmasters.	Compensation. Nett proceeds.
Post Offices. Counties. Postmasters. Sation. Dol. cts. Dol. cts.	Total Call Sales Spin	Classed Allon	Dol. cts. Dol. cts. 38 66 55 77
P. Jeep 7 93 14	00 00 00 00	Ulster Samuel Allen J. Hayes, to May 14,	
Texas Oswego A. D. Ladiew 35 64 61	Unadilla	A. D. Williams	100000
The Furchase Lefforson A. Sanson 5 96 11	Unadilla Centre.	Otsego E. Gregory Otsego H. H. Babcock	. 44 05 77 37
The Purchase		Broome E. Robbins, jr Levi Robinson, jr	34 83 60 60
Three Mile Say Cavuga W. B. A. to Jan )			
Throopy inc 1 159 05 550		Clinton Henry Frizell Fulton Joseph Marsh	
Ticonderoga 3 29			
Ticonderoga			
Tioga   S. W. Smith   20 41   34   34   34   34   34   35   36   37   37   37   37   37   37   37		Oswego A. Skinner	
Tivon Steuben Abel Remain to April 1	EK.	J. A. Sintin, to Decem-	1
*Tobehanna	Unionville		1
*Tomhannock Rensselaer Jos. Reed	Unner Aquebog	Bartlett Griffing, ir.	16 10 27 00
Richmond Edwar 22 13/ 13/ 13	Minimum V India	Theorems Creorge Wheeler	* * NO NO NO NO
Tonawanda Gtouben Rich. 10wid 33 90	89 Upper Red Hoo	k. Dutchess Lyle Cholwell Steuben J. J. Poppins	146 77 297 66
TOWICSTING Delegan Jables Louis 10 13			
Towlesville Steunom James Towner 19 15  Towner's Putnam P. Corsett, ir 19 15  S. L. Rood, to Dec. 7 47	29 Uxbridge	Montgomery . J. P. Jones	53 10 0 22
Chaming Si, 1040	Valatie	Columbia J. Vanderpool	150 62 279 45
	2 87 Valonia Springs	Broome Lucian Stowell  H. R. Dow, to Sep-	
Townsendville Seneca A. B. Jones 113 23	28	Opendage tember I. 1840	26 78 49 15
Transit		I Forll	
Trenton Fana. (L. Cook, to Man 31 64	8 73 Van Buren Cen	tre Onondaga Jonathan Skinner for Chautauque G. C. Osbourn	
Broome   Broome   Book Kinney			
Montg'mry December, 1840 (	Van Ettenville	Chemung James Van Etten Herkimer D. Van Horn	39 14 65 94
Tripe's Hill	23 58 Van Hornsyme 72 76	( Ca Ea Estrouse, to exep	1 11
Troupsburgh	72 76 87 82 Varick		A Completely
* Troy Tompkins James McLenau 172 66	23 65 38 54 Varna	Warmsteine William Scutt. 2d	55 86 55 84
Trumansburg         Cortlandt         Asa Babecek         81 23           Trutton         Onondaga         Henry F. King         16 44           Tully         John A. Bailey         9 27	30 44 Varysburgh	Genesee J. C. Salisbury ( Peter Price, to June	*** 40 00
TullydoJohn A. Baney	The state of the s	Cavuga 18, 1841	45 13 80 18
Tully vancy	4 cmco	E W. Bateman	. )
Mills Jos. O. Mott 39 15	75 51 Verbank	Dutchess John G. Greene Chautauque. Charles P. Ward	35 27 58 63
Mills         Lewis         Jos. O. Mott         39         15           Turin         Livingston         D. La Rue         24         85           Tusearora         Ulster         J. O. Hasbrouck         28         38           Ulster         Seatth         28         38         38			
Turin	Vernon		
Tuscarora Ulster J. O. Hasbrouck 28 38 Tuthill Seneca H. S. Williams, to Tyre G. December 31, 1840 79 68		do Hiram Cody George T. Peckham	97 45 167 43
Tyrone Steuben L. T. Abell	Verona Centre	rederick II. Loom	is *5 01 9 91
Tyrone		*14	



% at right indicates rates of growth

204

[ Doc. No. 139. ]

South Voluntown, to be supplied from Voluntown; 5 miles, and back, once a week.

### STATE OF NEW YORK.

"Proposals for carrying the mails of the United States from the 1st of July, 1837, to the 30th June, 1841, inclusive, on the following post routes in New York, will be received at this Department until the 10th day of May next, inclusive; to be decided on the 31st day of said month." [See advertisement of 23d of January, 1837.]

### ROUTE No. 501.

From New York, by West Point, Newburg, Hamptonburg, Poughkeepsie, Hyde Park, Tivoli, Catskill, Hudson, Coxsackie, Stuyvesant, and Albany, to Troy; 152 miles, and back, daily, in steamboats, during the season of navigation.

Leave New York every day at 5 p. m.; arrive at Troy next day by 7

Leave Troy every day at 4 p. m.; arrive at New York next day by 6

Proposals for running twice daily will be considered.

Bidders' names.

Sums per annum, according to the terms contained in foregoing advertisement.

James Raymond,

\$40,000. Nos. 1 and 2 combined; (not two daily.)

James Raymond, James A. Stevens,

31,500. Received since 10th May. 15,000; twice daily, (once to part of the

offices;) on behalf of the Hudson River Steamboat Association : twice daily, during the running of steamboat, to Newburg, Poughkeepsie, Catskill, Hudson, Albany, and Troy; and once daily to all the other offices named: the company to determine by which line to supply the small offices; and after the election, not to change during the running of both lines for the season.

28th July, 1837.—The Postmaster General orders that a contract for this route be made with A. P. Fonda, individually, taking abundant secu-

(Fonda is the agent of Hudson River Steamboat Association.) rity. (See files.) A. K.

[ Doc. No. 139. ]

ROUTE No. 502.

From New York, by Yonkers, Dobb's ferry, Tarrytown, Sing Sing, Cortlandtown, Peekskill, Wappinger's creek, Poughkeepsie, Hyde Park, Staatsburg, Rhinebeck, Red Hook, Upper Red Hook, Clermont, Livingston, Hudson, Columbiaville, Kinderhook, Valatie, South Schodack, Schodack centre, and Greenbush, to Albany; 152 miles, and back, daily, in four-horse post-coaches during the suspension of steamboat navigationsay from the 15th of December to the 1st of April, in each year.

Leave New York every day at 8 a. m.; arrive at Albany next day by

Leave Albany every day at 6 a. m.; arrive at New York next day by 2 p. m.

Bidders' names.

Sums per annum, according to the terms contained in foregoing advertisement. (See also page 204.)

James Raymond, (see No. 1,) combined bid.

Charles Phelps, - \$12,000 Leonard V. Reed, - 14,000; or \$13,000 taking two hours more time.

J. J. Yates & Co. -10,490 E. Whalin, 11,000

Baker & Walker, Smith & Miller,

and L. V. & J. B. Reed, Eratus Beach,

15,000; or \$14,000, two hours' extension. 9,000. (Beach is the lowest bidder, according to advertisement, on 503, 536, and 537.) Accepted May 31, 1837, with consolidation of 503, 536, and 537. Under this number to run from 15th of December to 15th of April, at \$9,375; and from April to 15th December, at \$5,115, tri-weekly. To be paid each quarter, according to service rendered therein; and two hours to be allowed in addition, for winter service.

John Butterfield, - -James Raymond, (see 501) Baker & Walker, - -

10,400 (Received since May 10th.) 8,500. 12,000, and furnish mail-guard; or \$11,000, time extended.

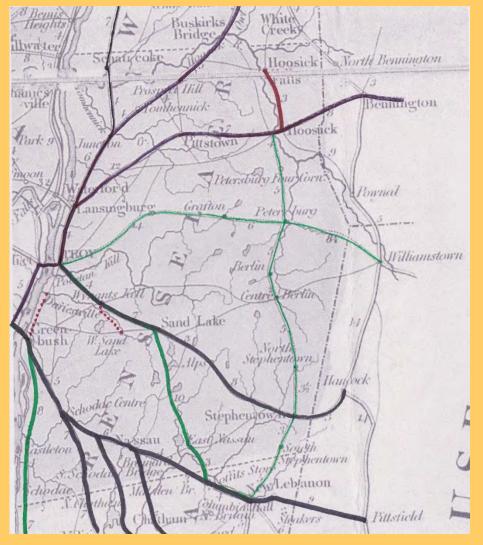
At the request of Erastus Beach, Augustus Morgan and C. L. Beach are united with him in the contract.

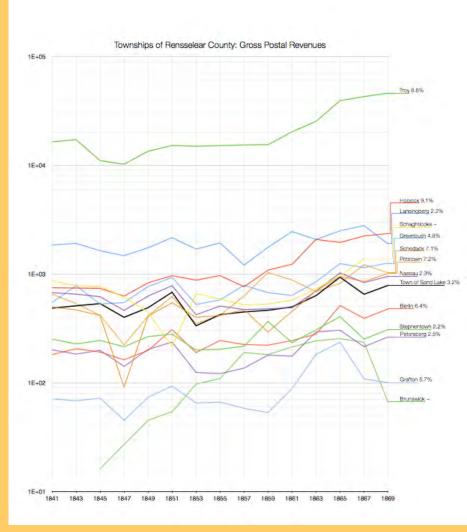
Contract with Beach, Morgan, and Beach, dated 18th August, 1837, at \$14.490: to commence 1st July, 1837; to expire 30th June, 1841. (For schedule, see No. 503.)

Reports included the different proposals, and the chosen contractor (with mode & frequency of the postal route)

205

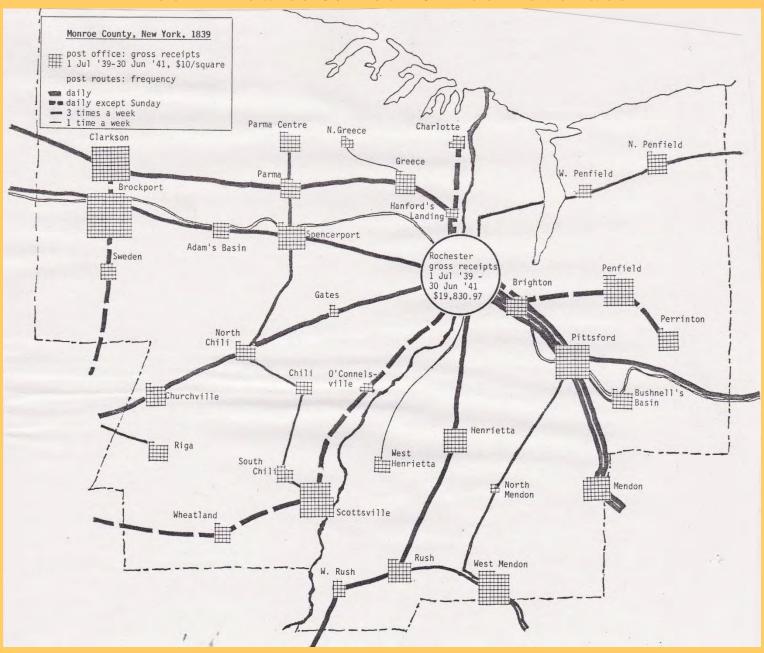
### Postal Routes & Postal Revenues by Township





Postal routes in 1839 frame postal revenues 1841 to 1869

### Postal Routes & Post Office Revenues



### Serial Order of Postal Contracts Reveals Recursive Branching.

## ROUTE No. 513.

From Newburg, (501) by Coldenham, Montgomery, Bullville, Bloomingburg, Wurtsboro', Gales, Monticello, White Lake, Bethel, Fosterdale, Cochecton, Damascus, Penn., Rileyville, Pleasant Mount, Dimocksville, Gibson, New Milford, Great Bend, Conklin, N.Y., Binghampton, Union, and Campville, to Owego; 143 miles, and back, daily, in four-horse post-coaches.

Leave Newburg every day at 3 a. m.; arrive at Owego next days by

8 p. m., and in winter by 12 m., next day after.

Leave Owego every day at 4 a. m., and in winter at 2 p. m. preceding day; arrive at Newburg next day by 7 p. m.

miles and back three t

Bidders' names.

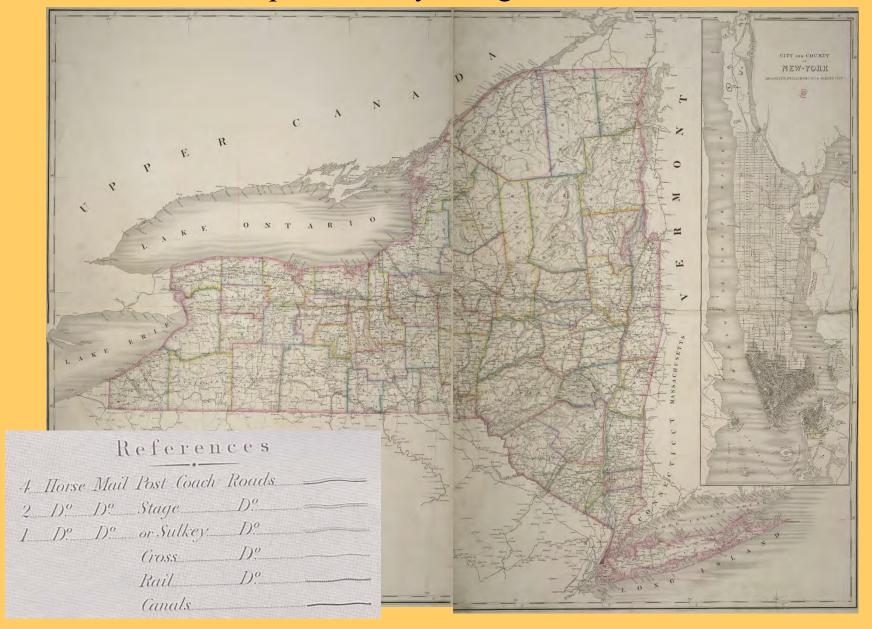
Sums per annum, according to the terms contained in the foregoing advertisement. (See also p. 204.)

Erastus Hathaway, - - \$4,500. Not accepted, because he has heretofore negligently and wilfully failed to perform mail service according to contract. A. K.

J. T. Robinson & Co. \$10,220. Accepted May 31, 1837.

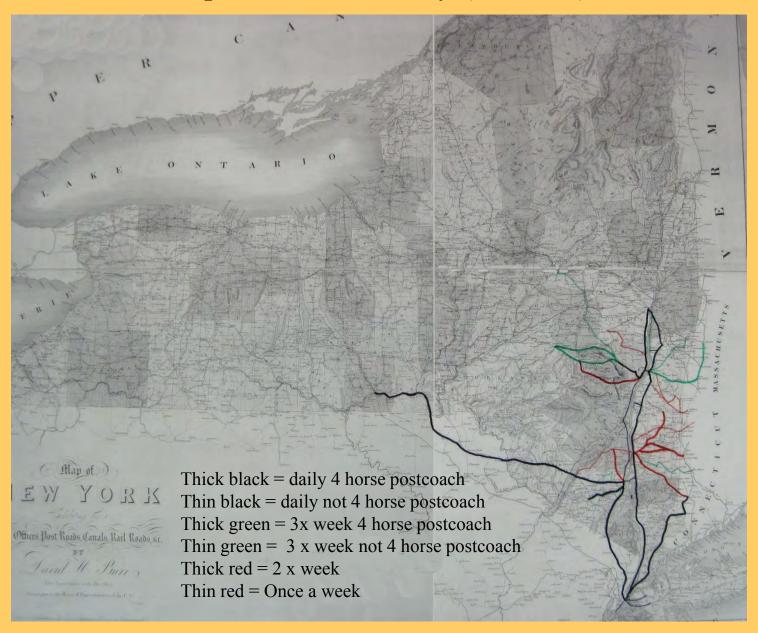
Contract with J. T. Robinson & Co. dated 29th July, 1837: to commence 1st July, 1837; to expire 30th June, 1841.

### Empire State by Design: New York

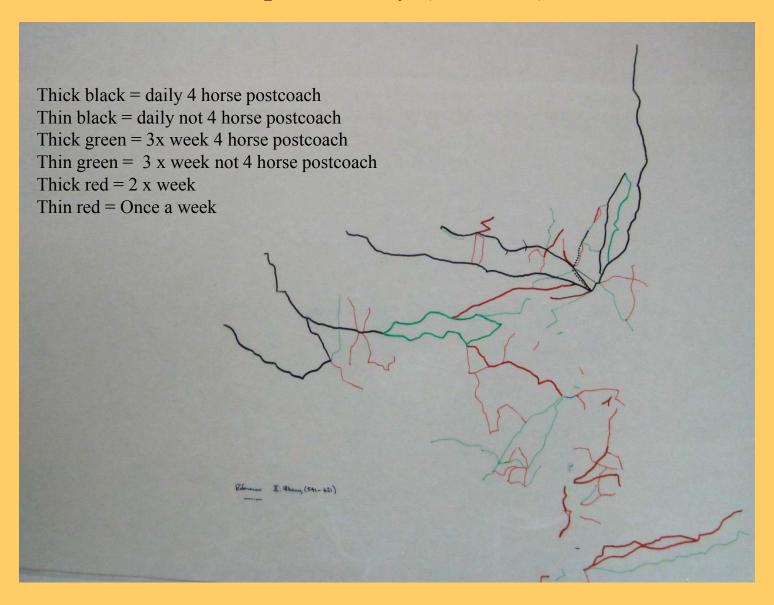


"Map of New York Exhibiting the Post Offices, Post Roads, Canals, Rail Roads, &c. by David H. Burr. (Late Topographer to the Post Office.) Geographer to the House of Representatives of the U.S." [1839]

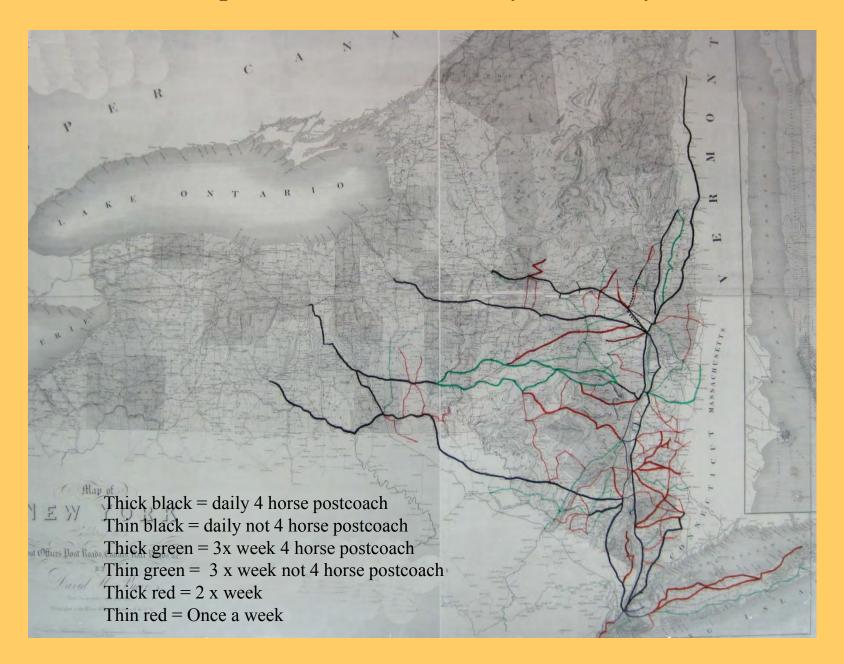
Step 1, New York City (501-540)



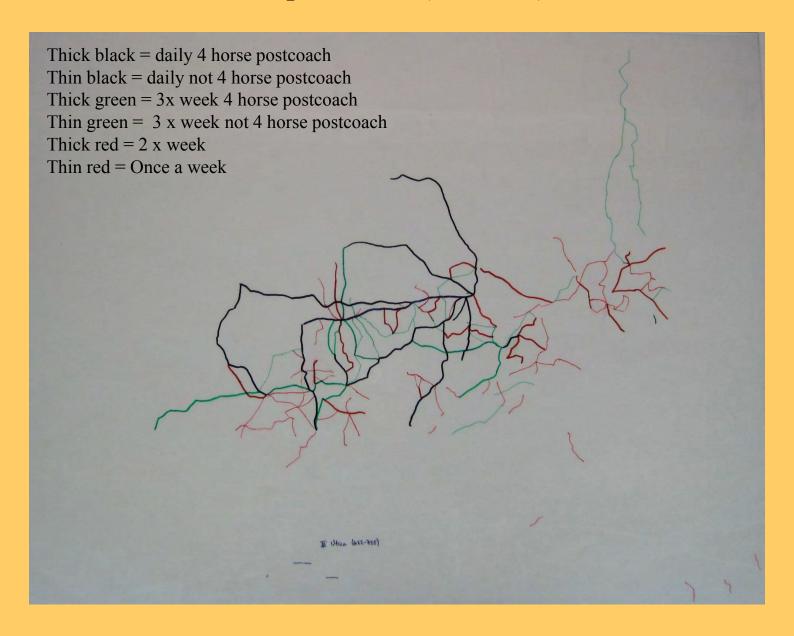
Step 2, Albany (541-621)



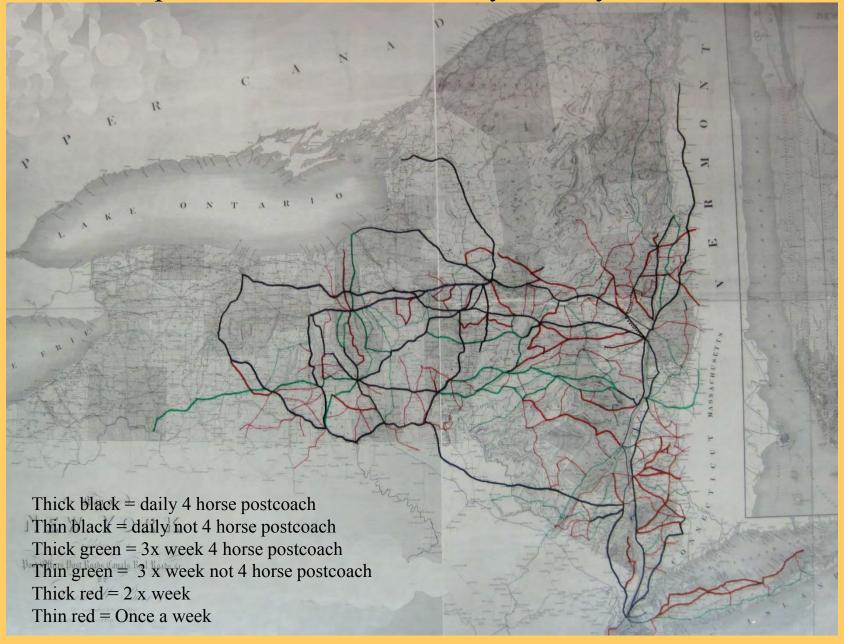
Step 1 & 2, New York City & Albany



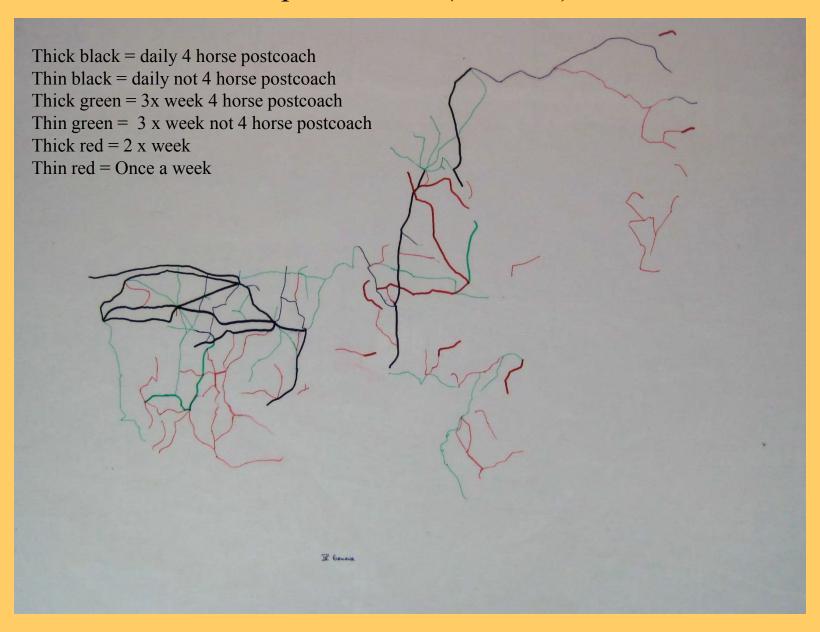
Step 3, Utica (622-725)



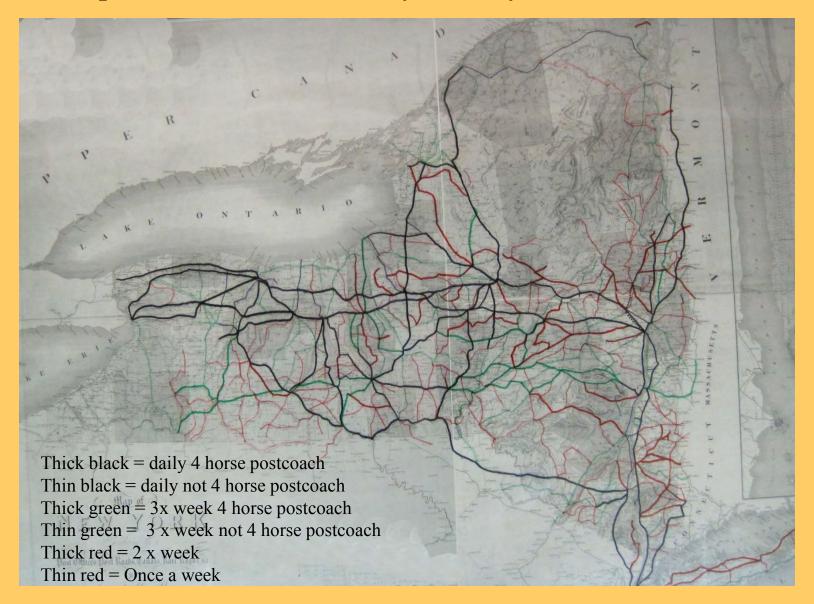
Steps 1, 2 & 3, New York City, Albany & Utica



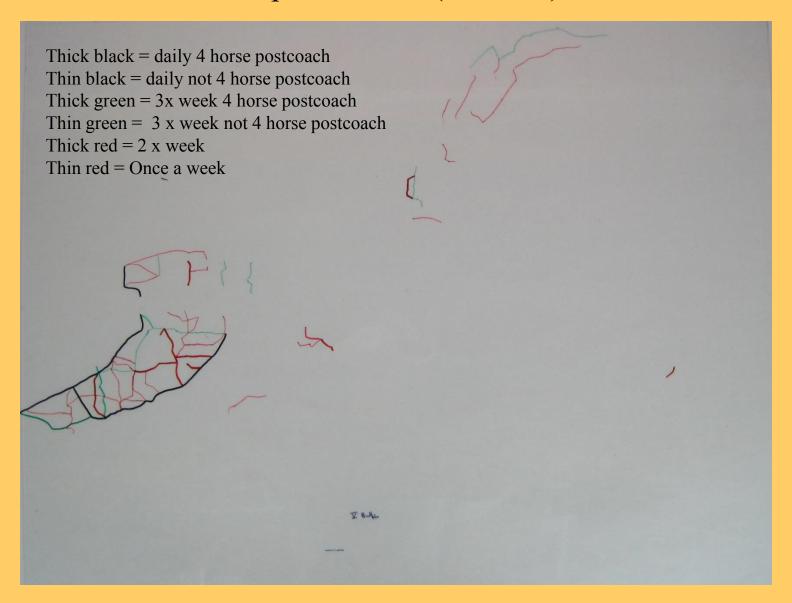
Step 4, Geneva (726-828)



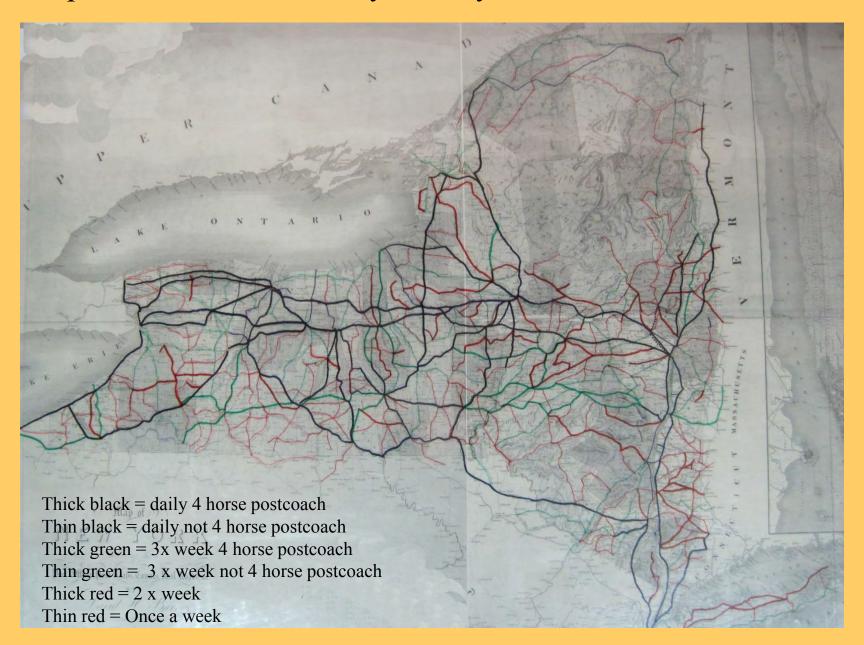
### Steps 1 to 4, New York City, Albany, Utica & Geneva



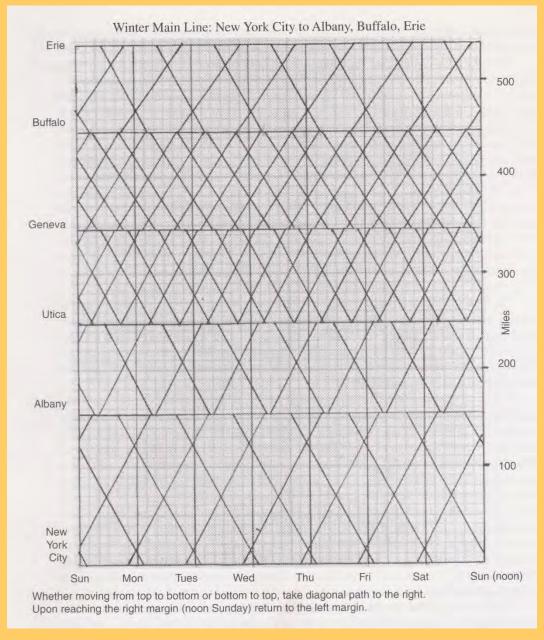
Step 5, Buffalo (829-880)



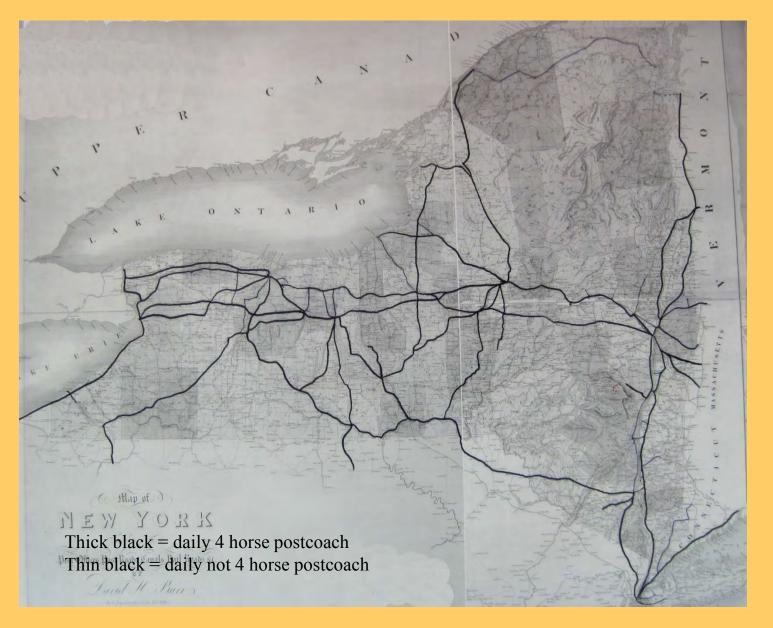
Steps 1 to 5, New York City, Albany, Utica, Geneva & Buffalo



### Recursive Branching Facilitates Close Scheduling

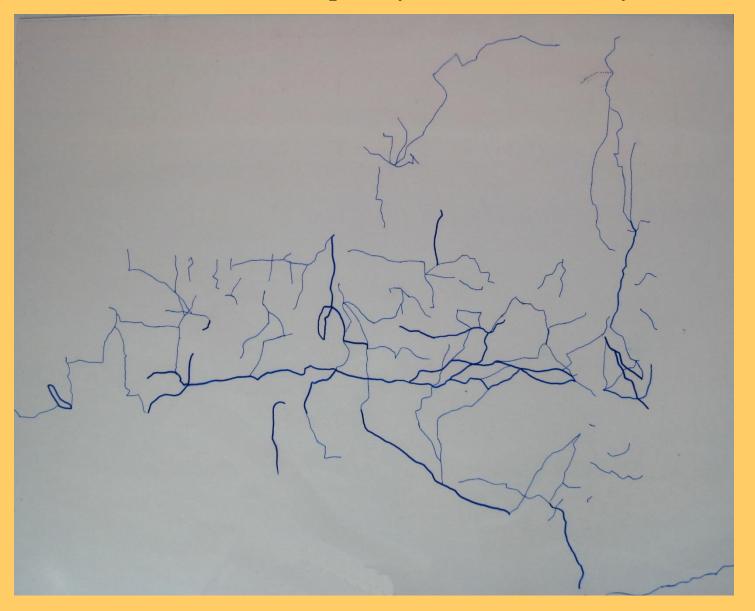


### Postal Route Frequency: Daily



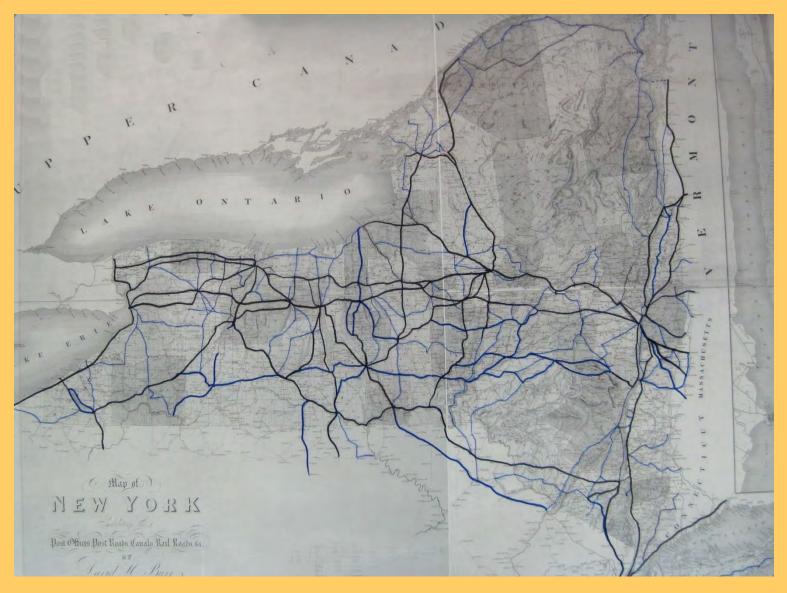
Frequency of mails is a measure of postal connectivity

# Postal Route Frequency: 3 Times Weekly



Thick blue = 3x week 4 horse postcoach Thin blue = 3x week not 4 horse postcoach

### Postal Route Frequency: Daily + 3x Weekly



Thick black = daily 4 horse postcoach
Thin black = daily not 4 horse postcoach

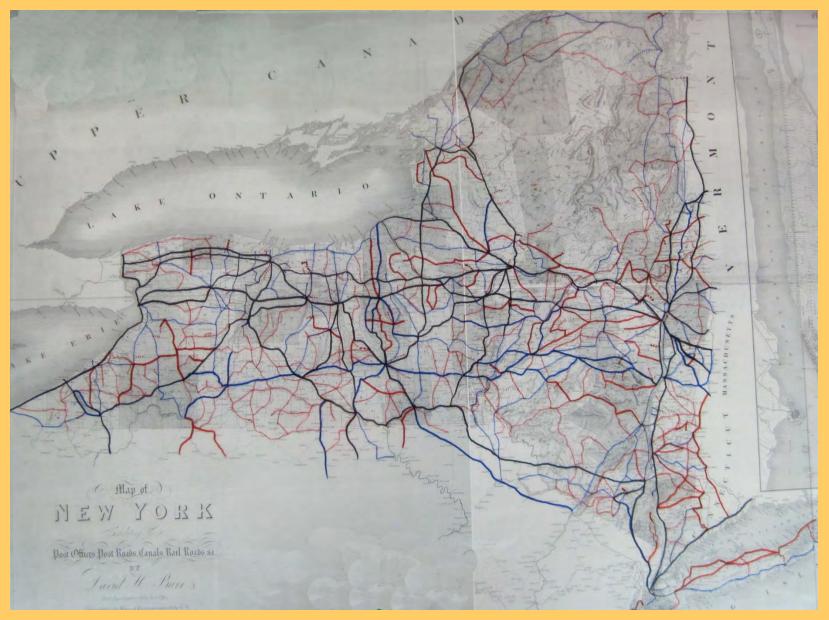
Thick blue = 3x week 4 horse postcoach Thin blue = 3x week not 4 horse postcoach

Postal Route Frequency: Weekly & Semi-Weekly



Thick red = 2x week Thin red = Once a week

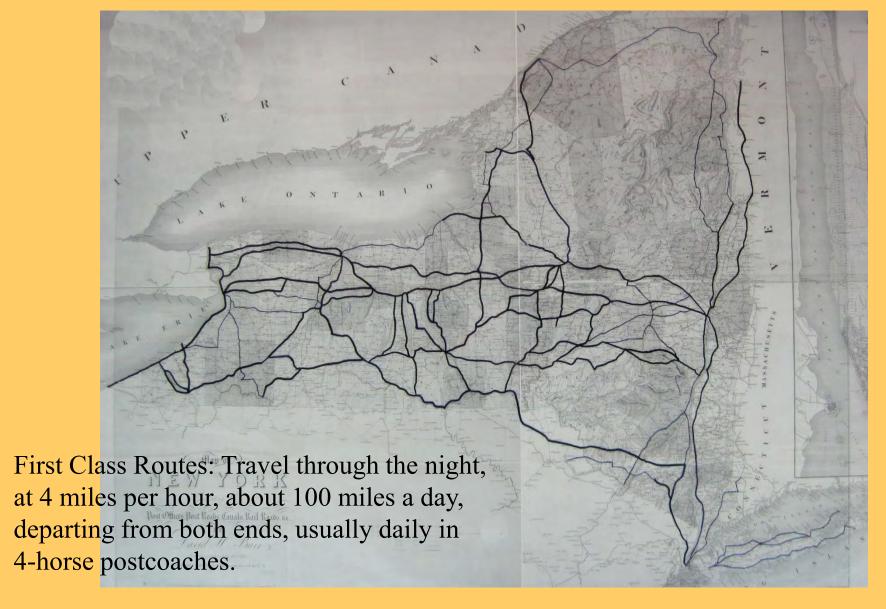
### Postal Route Frequencies Statewide



Thick black = daily 4 horse postcoach
Thin black = daily not 4 horse postcoach

Thick blue = 3x week 4 horse postcoach Thin blue = 3x week not 4 horse postcoach Thick red = 2x week Thin red = Once a week

### Postal Route Classification Promoted Economies of Scale\*



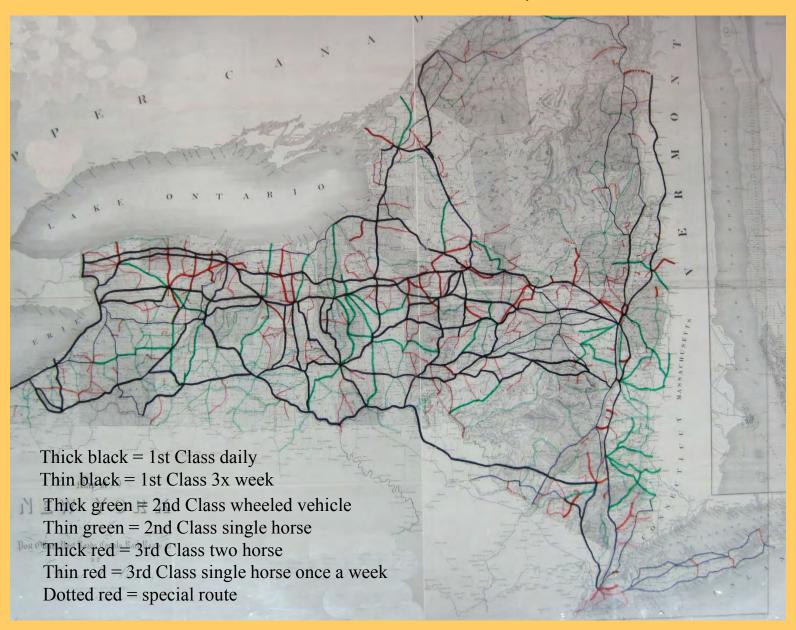
\*For the transportation of newspapers

Thick black = 1st Class daily
Thin black = 1st Class 3x week

### Second & Third Class Postal Routes

Second Class Routes traverse in daylight, out one day 35 miles, back the next, usually thrice weekly in stage wagons. Third Class Routes, farm to market, out in the morning, back in the afternoon, weekly, no more than 20 miles. Thick green = 2nd Class wheeled vehicle Thin green = 2nd Class single horse Thick red = 3rd Class two horse Thin red = 3rd Class single horse once a week Dotted red = special route (supplied for the net postage)

### Postal Routes in New York State, All Classes



### Classification of the Railroads for Carrying Mail

pensation ted.

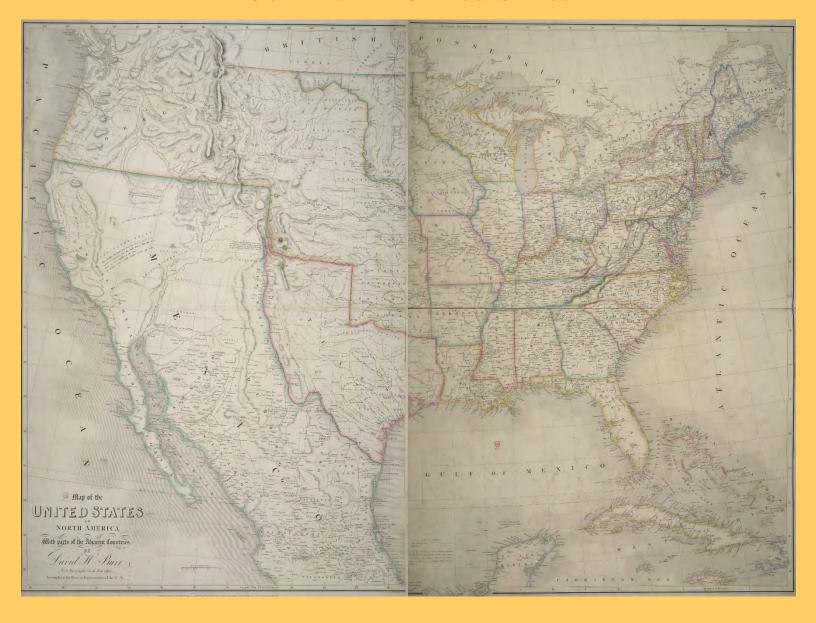
made with

mail may be gransmitted

Provise: com- Provided, That, for the conveyance of the mail on any limi-railroad of the first class, he shall not pay a higher rate of compensation than is now allowed by law; nor for carrying the mail on any railroad of the second class, a greater compensation than one hundred dollars per mile per annum; nor for carrying the mail on any railroad of the third class, a greater compensation than fifty dollars per mile per annum. And in case the Postmaster General shall not be able to conclude a contract for carrying the In case a con- mail on any of such railroad routes, at a compensation not tract cannot be exceeding the aforesaid maximum rates, or for what he railroad, how the may deem a reasonable and fair compensation for the service to be performed, it shall be lawful for him to separate the letter mail from the residue of the mail, and to contract, either with or without advertising, for conveying the letter mail over such route, by horse express or otherwise, at the greatest speed that can reasonably be obtained, and also to contract for carrying over such route the residue of the mail, in wagons or otherwise, at a slower rate of speed.

> From Law Enacted March 3, 1845. 3 Classes of railroad: First Class - paid no more than \$300 per mile per annum Second Class - no more than \$100 Third Class - no more than \$50

### Continental United States



### Balanced Postal Economy: Systematic Growth at 7% per Annum



### 1830s Revenue Outstripping Expenditures: Postage Reduction Recommended



# Statement of the postal receipts and expenditures for the fiscal year ending June 30, 1847

### Annual Reports, by State, from both the PMG and the Auditor

Table of mail service for the year ending June 30, 1855, as exhibited by the state of the arrangements at the close of the year.

[The entire service and pay are set down to the State under which it is numbered, though extending into other States, instead of being divided among the States in which each portion of it lies.]

	Length of		ANNU	AL TRAN	SPORTATIO	N AND R	ATE OF CO	ST.		Total an- nual trans-	qual trans- nual trans- nual trans- nual trans- nual trans- nual rans-					
States & Territories.	routes.	Mode not	specified.	In o	eoneh.	In ste	sambout.	By r	ailroad.	portation by mode not specified.	portation by coach.	portation by steam boat.		portation.	of cost.	
	Miles.	Miles.	Dollars.	Miles.	Dollars.	Miles.	Dollars.	Miles.	Dollars.	Miles.	Miles.	Miles.	Miles.	Miles.	Dollars.	
Maine New Hampshire Vermont Massachusetts Rhode Island Connectent New York New York New York Pennsylvania Delaware Maryland Ohio Virginia North Carolina North Carolina North Carolina Heingan Himois Wisconst Himois Wisconst Himois Missourt Missourt Missourt Tennessee Alabama Missippi Arkapass	1, 985 2, 361 3, 129 1, 979 1, 979 1, 979 2, 686 13, 750 9, 767 9, 767 13, 453 14, 025 6, 583 6, 583 6, 619 6, 619 6, 619 13, 712 1, 71	1, 884 701 563 795 157 709 5,164 777 7,615 211 1,473 7,825 6,319 5,762 4,219 5,464 4,275 4,235 4,230 9,209 9,350 6,117 7,366 6,118 6	13, 230 7, 378 5, 431 14, 599 9, 553 11, 1903 6, 537 65, 29, 669 20, 663 20, 663 62, 710 46, 737 44, 735 44, 735 46, 097 46, 097 47, 135 84, 063 14, 073 14, 073 14, 073 14, 073 14, 073 14, 073 14, 073 17, 073 18, 073 17, 0	2, 432 803 1, 341 811 112 550 5, 478 1, 475 4, 663 9, 910 9, 910 9, 910 9, 910 9, 910 9, 910 9, 910 1, 975 455 911, 185 32, 279 9, 173 1, 185 3, 444 1, 525 1, 238 1, 538 1, 538	34, 412 9, 142 16, 074 17, 179 2, 191 103, 227 16, 798 81, 171 7, 545 18, 484 74, 685 32, 943 94, 943 15, 189 94, 189 16, 319 16, 319	260 59 12 402 27 55 1,130 1,958 1,958 1,636 3,508 1,508 206 350 1,558 489 306 677 906	8,500 5,99 600 14,799 2,422 1,257 8,400 4,460 15,700 4,260 4,260 10,647 2,836 7,800 15,000 6,521 45,665 15,000 6,521 45,665 15,000 6,521 40,600 7,8	395 421 427 1,256 94 708 2,732 405 1,046 614 2,471 739 1,016 649 1,127 1,858 191 241 258 103	39, 335 31, 019 46, 094 124, 290 9, 044 67, 830 301, 830 55, 396 119, 622 *159, 008 274, 270 103, 700 104, 700 104, 700 105, 852 130, 368 6, 300 2, 200 17, 886 31, 113 34, 113 38, 650	430, 140 192, 556 148, 772 348, 691 71, 888, 691 1, 592, 883 1, 592, 883 1, 592, 883 1, 592, 883 1, 594, 595 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 595, 697 1, 597, 106 1, 597, 106 1, 597, 107 1, 598, 598 1, 591, 598 1, 591, 598 1, 591, 598 1, 591, 598 1, 591, 598 1, 591, 598 1, 591, 598 1, 5	991, 276 309, 816 508, 394 448, 344 448, 344 50, 486 9, 764, 064 9, 764, 064 137, 569 131, 224 137, 569 131, 224 136, 824 146, 686 2427, 760 247, 788 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 247, 889 248, 788	28, 080 152, 880 152, 880 29, 432 7, 488 270, 608 18, 636 12, 860 115, 762 49, 296 166, 400 240, 864 181, 050 136, 588 136, 58, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 136 34, 528 258, 768 268 268 268 268 268 268 268 268 268 2	1,555,032 117,312 807,958 3,488,129 487,812 1,077,574 2,032,175 773,477 431,534 1,652 1,543 1,652 1,652 1,652 1,652 1,652 1,652 1,652 1,652 1,652 1,543 1,54	1, 810, 480 1, 016, 184 1, 106, 184 1, 285, 006 2, 502, 300 2, 502, 300 2, 502, 300 2, 502, 300 2, 502, 300 2, 502, 300 1, 306, 300 1, 306, 300 1, 906, 304 1, 906 1, 906, 304 1, 906	150, 467 167, 798 233, 251 85, 134 140, 678 190, 186 319, 118 90, 705 205, 188 206, 555 167, 227 142, 669 236, 598 206, 598	60

	*									3							
Louisiana	5,161 11,775 2,339 992 980 1,139 308 570	3,979 8,968 964 728 70 999 308 570	55,524 86,012 25,600 16,767 1,150 13,548 984 3,328	724 1,637 1,064 120 910 140	33,050 57,657 49,915 3,650 33,500 1,200	458 1,170 304 144	70,920 52,000 8,100			1,039,008 139,984 75,712 7,280		194,880 175,656 29,952		1,749,000 692,016 118,144 29,120	137, 405 214, 589 127, 515 28, 517 34, 650 14, 748 984 3, 328		
Total	227,908	145,753	1,430,665	49,203	1,215,979	14,619	625,505	18,333	2,073,089	24,879,752	18,859,118	4,459,827	19,202,469	67, 401, 166	5,345,238 354,970		
gers Foreign mails						8,599	478,082	§52	§133, 385	***********		270,984	2,508	273, 492	611, 467		
Total	227,908	145,753	1,430,665	49, 203	1,215,979	23,218	1,103,587	18,385	2,206,474	24,879,752	18,859,118	4,730,811	19,204,977	67,674,658	6,311,675		

For each state, by mode of transportation, miles of post road and giving miles of transportation and expense

Maine, Wew Hampshire Vermont. Vermont. Missachusetts Missachusetts Missachusetts Missachusetts Missachusetts Counceiteut Counceiteut Pennsylvatia Meryarut M	States.
2,2,2,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3,3	Letter postage.
25. 25. 25. 25. 25. 25. 25. 25. 25. 25.	Newspaper postage.
\$16, 587 45 82 107 98 10 10 10 10 10 10 10 10 10 10 10 10 10	Total receipts.
888 88 88 88 88 88 88 88 88 88 88 88 88	Compensation to postmasters.
**************************************	Incidental expenses.
2	Total compensation and incidental expenses,
6 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Transportation.
\$\\\^{\text{88}} \text{48} \text{88} \text{88} \text{88} \text{88} \text{88} \text{88} \text{88} \text{89} \text{88} \text{89} \text{89} \text{89} \text{89} \text{89} \text{99}	Total expenses.
\$17, 154 93 \$6, 77 8 31 \$6, 77 9 31 \$6, 77 9 34 \$6, 77 9 8 \$6, 77 9 9 9 \$6, 77	Excess of expenditures over receipts.
9817 129 68 100 K PAR 129 109 100 100 K PAR 129 100 100 100 100 100 100 100 100 100 10	Excess of receipts over expenditures.

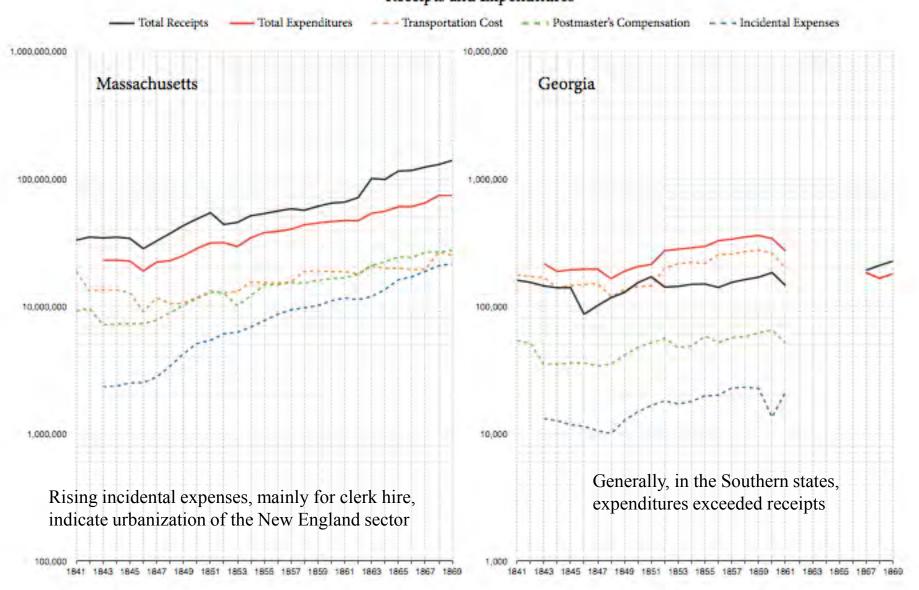
<sup>\*</sup>The Baltimore, Wilmington, and Philadelphia railroad, is under a Maryland number.
†This embraces the steambout service from Louisville to Cincinnati, and from Louisville to New Orleans.
†This includes the route from New Orleans to Mobile.
†This is for service from Panama to Aspinwall, performed by the Panama Railroad Company at a stipulated price per pound, according to the weight of mail, and which varies

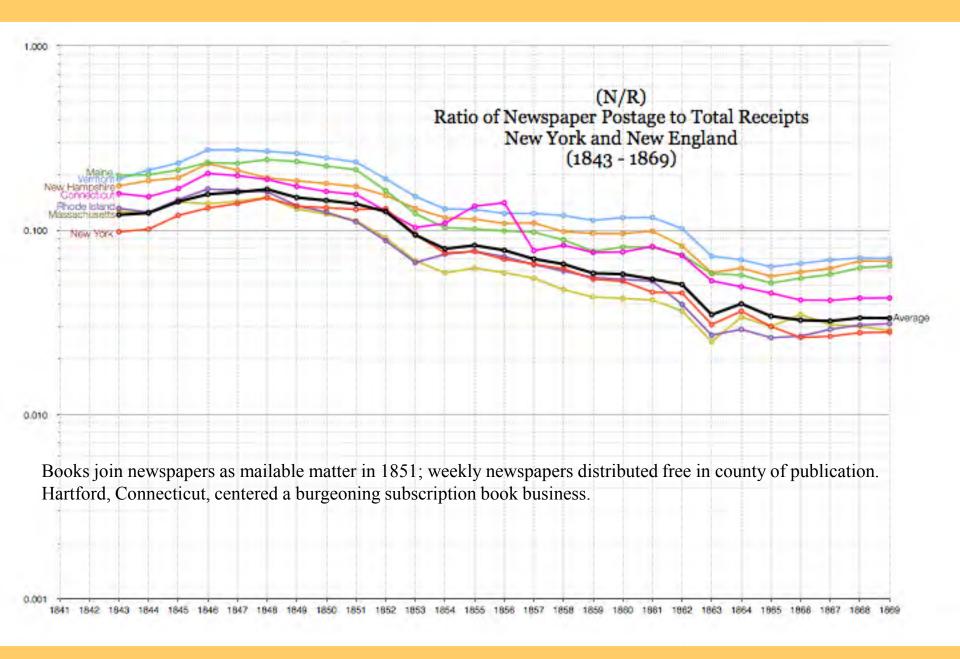
This is on the cost of coach transportation in Missouri and New Mexico, without a corresponding increase in the service, arises from act of Congress of March 3, 1855, allowing \$20,570 additional in Missouri, and \$16,750 additional in New Mexico.

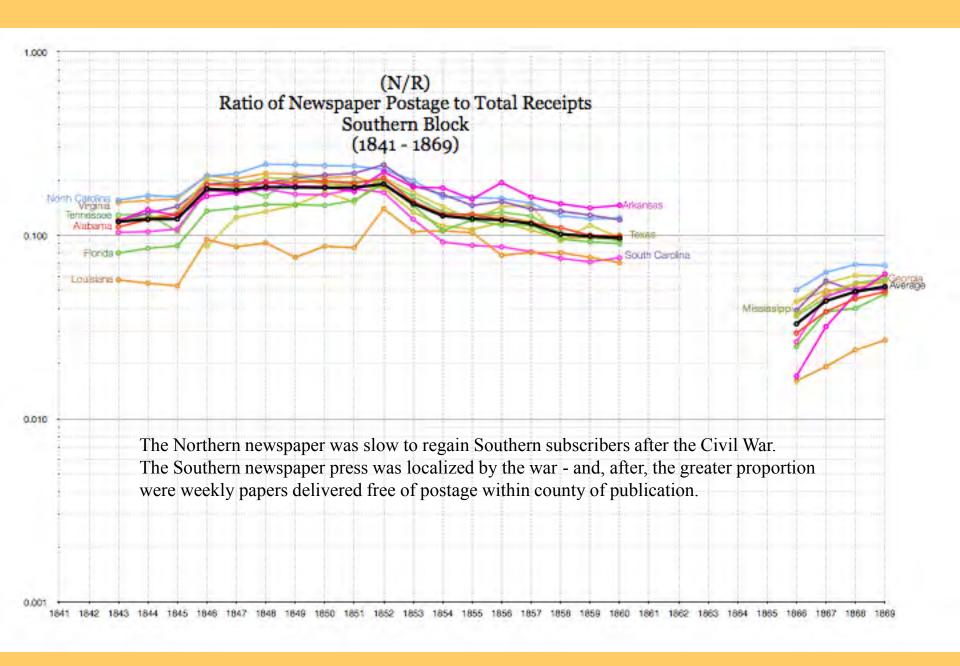
WM. H. DUNDAS, Second Assistant Postmaster General.

### Regional Disparities

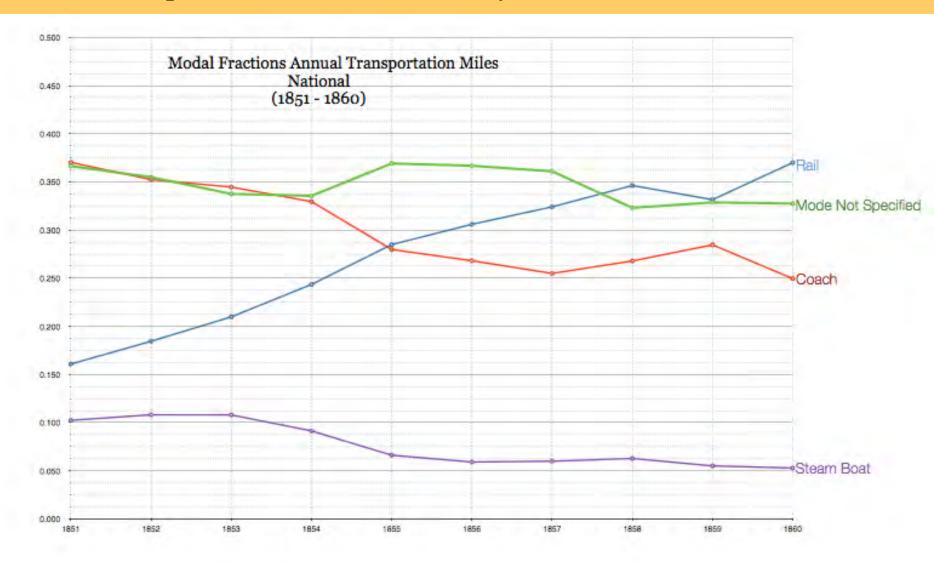
1840 - 1870 Receipts and Expenditures



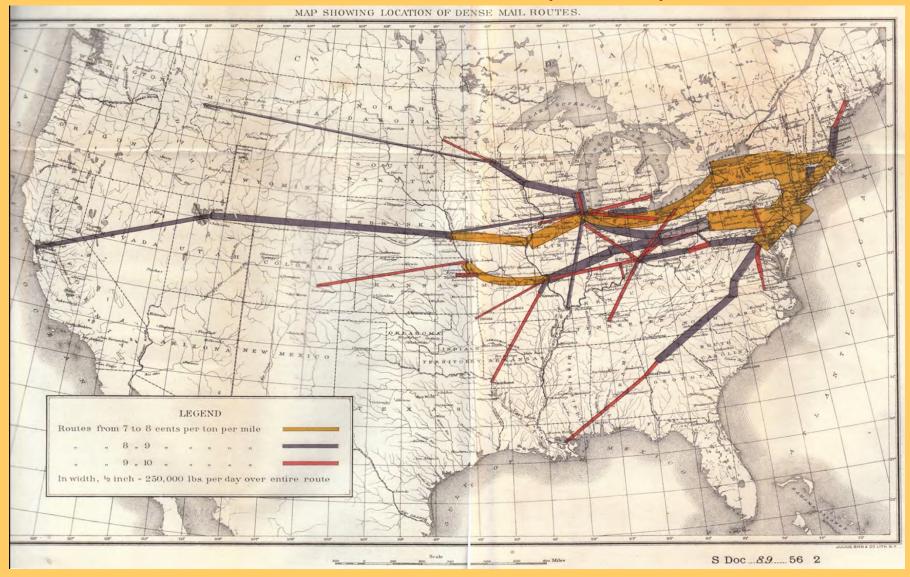




### Railroad Supercedes Coach as Primary Carrier on First Class Routes



### Network Climax: the Railway Mail System



By 1900, in order to transport printed matter, economies of scale required an aggressive aggregation of the mails