Notes

Preface


4. SFC. The public and some railroad executives referred to the Atchison, Topeka & Santa Fe Railway as the “Santa Fe,” although some railroaders referred to it as the “Atchison.” I follow the popular convention and use “Santa Fe” or “Santa Fe Railway.”

5. Clyde H. Freed, *The Story of Railroad Passenger Fares* (Washington, DC: Clyde H. Freed, 1942). The Interstate Commerce Commission case files that I researched, some only in part, include FPC, PFS, PPS, and WPF.

Introduction


Chapter 1


4. Jack Simmons, The Railway in England and Wales, 1830–1914: Vol. 1, The System and Its Working (Leicester: Leicester University Press, 1978), 56, 58, 91. Simmons observes that after knowledge of the potential accessibility benefits of railways became widespread, communities and individuals believed they had a right to such advantages. However, because of profitability considerations, private railroads could not serve all areas and individuals equally, which gave rise to a tension between the demands of the public and the abilities of railways to serve those demands. The tension could produce extreme geographically based hatred toward particular railroads, notably the hatred shown by Hull toward North Eastern.


18. The Associates built many of their extensions under different corporate organizations, one being the Southern Pacific Railroad.


20. The Central Pacific rails extended to Goshen Junction near Visalia; Southern Pacific rails extended from there to the south.


of the Southern Pacific, 237–292. The population of Los Angeles County stood at 3,530 in 1850 and 11,333 in 1860. It grew to 15,309 in 1870 and 33,381 in 1880. McWilliams implies that the more heady growth rate of the 1870s was well established before the Southern Pacific arrived in 1876. McWilliams, Southern California, 113–118. For the population figures, see Andriot, Population Abstract of the United States, 59–72.


30. The population of Los Angeles County increased from 33,381 in 1880 to 101,454 in 1890. See Andriot, Population Abstract of the United States, 59–72. McWilliams implies that most of the growth took place between 1887 and 1890. McWilliams, Southern California, 118–128, 147, 150–154.


32. Ibid.


34. McWilliams, Southern California, 128, 134, 274.


36. CRHM: Passenger times are from Official Guide. June 1915. The freight time is from Southern Pacific Company, Employees Timetable, San Joaquin Division, 12 February 1922. Passenger and freight times in 1893 would have been no shorter than these times, and almost certainly considerably longer. McAfee, California’s Railroad Era, 202; Daggett, Chapters on the History of the Southern Pacific, 324.

38. After the Santa Fe took control of the Santa Fe & San Joaquin, it agreed with the Southern Pacific to restore local valley rates to their old levels. See Daggett, *Chapters on the History of the Southern Pacific*, 340–346; McAfee, “Constitutional History of Railroad Rate Regulation,” 265–279. However, lower rates remained in effect to Los Angeles and to eastern points. See Blackford, *Politics of Business in California*, 3–12.


41. CRHM: *Annual Reports of the Southern Pacific Company and Proprietary Companies*, 1899–1914. See the “Forty-Third Annual Report of the Southern Pacific Lines and Affiliated Companies, Year Ended 31 December 1926,” 31, for a summary of passenger trends between 1885 and 1926. In 1899, Southern Pacific carried 540 million passenger miles and 3.5 billion ton miles; this increased to 1,640 million passenger miles and 6.6 billion ton miles in 1910. The average trip length of nonsuburban passengers was seventy-one miles in both 1899 and 1914. The high point was eighty-six miles in 1906.

42. National figures are from the U.S. Office of the Federal Coordinator of Transportation, *Passenger Traffic Report* (Washington, DC: 1935), 111. State figures are from SFC, exhibits 629 and 630; transcript, 11600–11603. In 1911 the average Californian spent $6.02 for intrastate travel on just Southern Pacific and Santa Fe. There was another significant intrastate rail passenger carrier, the Northwestern Pacific. I do not know what its noncommute revenues were, but they could have been as high as $1.00 per capita in 1911. In addition, one must estimate expenditures Californians made for interstate rail travel. While this figure was not reported to the California Railroad Commission, railroads did report a suitable proxy. This was total rail passenger revenue from California stations less intrastate revenue, which in 1911 for the Southern Pacific and Santa Fe amounted to about $3.41 per capita. Many non-Californians would have contributed to these revenues. On the other hand, many Californians returning from out of state would have bought tickets at non-California stations, and these revenues are not included. I assume that the
two errors roughly cancel each other. Thus, we have known expenditures per capita for intercity rail in California in 1911 in the amount of $9.43, plus an unknown amount for the Northwestern Pacific. In addition there are unknown intercity revenues from Californians riding the other two interstate carriers, the Union Pacific and Western Pacific.

43. Klein, _Union Pacific_, 122.

44. Klein, _Union Pacific_, 87–88, 121–132. See George Kennan, _E. H. Harriman_, vol. I (Boston: Houghton Mifflin, 1922), 234, for a figure in 1900 of about 2 million shares of Southern Pacific stock outstanding with a market value of about $100 million. On page 242 Kennan states that the Southern Pacific’s funded debt was nearly $350 million in 1900. See pages 257–258 for investment summary.


46. Electric train miles are derived from 1919 headways given for each route for different times of the day, and the route lengths as found in Robert S. Ford, _Red Trains in the East Bay_ (Glendale, CA: Interurbs Press, 1977), 151, 327–332. All other figures are derived from the 1915 Southern Pacific system timetable (in author’s collection) by multiplying the annual runs of each train by the distance that it traveled on each run. I classified through trains as those traveling more than three hundred miles without local stops.

47. SFC, exhibit 112.

48. The schematic actually understates the volume of local service, for it leaves out service on the Santa Fe, whose network of branch lines in the valley by this time, while not as extensive as the Southern Pacific’s, still provided intense competition. It also neglects electric interurban trains of the Visalia Electric, the Tidewater Southern between Modesto and Stockton, and the Central California Traction between Stockton and Sacramento.


50. The January–February 1915 Southern Pacific system timetable (in author’s collection) is the basis of this analysis. I calculated the average speed of every steam train operated by the Southern Pacific Company, Pacific System.

51. Daggett, _Chapters on the History of the Southern Pacific_, 347–354; see also Klein, _Union Pacific_, 122–123.

52. Blackford, _Politics of Business in California_, 78–95; McAfee, _California’s Railroad Era_, 197–207.


54. Franklin Hichborn, _Story of the Session of the California Legislature of 1911_ (San Francisco: James H. Barry, 1911). Hichborn’s account of the 1911 legislature gloats over the defeat of the Southern Pacific forces, commenting from time to time how previous leaders of the legislature who were known as railroad men could be seen lurking around the halls at times of crucial votes, but how they did not appear to utilize their remaining influence.

55. Hichborn, _Story of the 1911 Legislature_, 147–151; Nash, _State Government


64. Giles T. Brown, Ships That Sail No More: Maritime Transportation from San Diego to Puget Sound, 1910–1940 (Lexington: University of Kentucky Press, 1966). Brown's sources are reports on Section 4 ICC cases, opinions and orders from the California Railroad Commission, and quoted railroad official statements from West Coast newspapers.


68. This was the Savage Act of 1907. See Nash, State Government and Economic Development, 328–329; Boudier, Paths of Humanity, 3–4.


73. Bruce E. Seely, *Building the American Highway System: Engineers as Policy Makers* (Philadelphia: Temple University Press, 1987), 18, 96, 102, 131. Seely claims that initial interest in roads centered on connecting farms with local markets. Interest in through roads did not develop until the 1920s. This assessment is wrong for the California state highway system, where the main emphasis of the 1909 plan was on intercity roads paralleling the railroads. Counties may have championed farm-to-market roads, however.


75. ACSC: *Joint Engineering Report*, part 1, 19, 21, 24; Part 2, 18, 99–100.


79. Ibid.

80. ACSC: *Touring Topics* 6 (1914), 8.

81. Letter from Peggy Wickman Bogan of Glenview, IL, to Gregory L. Thompson, 1 August 1985, covering two short histories of the Greyhound Corporation. Neither histories were dated; one appears to be from the late 1930s and was written by Carl L. Colreg or Correg (the name is not clear); the other is unsigned and appears to be from the early 1950s. For incorporation of the story into histories of the Greyhound Corporation, see Carlton Jackson, *Hounds of the Road: A History of the Greyhound Bus Company* (Bowling Green, Ohio: Bowling Green University Press, 1984), 7–10; Oscar Schisgal, *The Greyhound Story: From Hibbing to Everywhere* (Chicago: J. G. Ferguson, 1985), 3–5.


83. SFC, transcript, 6753; exhibit 328.

84. SFC, transcript, 423.


86. SFC, transcript, 6755. Even as late as the early 1920s, timetables for the larger systems, such as Pickwick, showed service on almost every important state and county road.

87. 8 RCC 190, 220.
88. SFC, transcript, 6753; exhibit 328.
92. Buck Travis testified on the industry’s transformation. He did not place a date on the beginning of the loss of traffic, but he testified that the initial merger movement began as a consequence of the traffic decline. That movement started about 1917. The earliest large system to form was Pickwick Stages, which began to take shape in 1917 (SFC, transcript, 6758–6759; exhibit 325).
94. SFC, transcript, 6751. See also 6846–6849.
95. SFC, transcript, 6571, 6752–6755; Kimball, interviews with Thompson and Seal, St. Helena, CA, 29 September 1984, and with Thompson, 19 May 1985. Kimball, who was a protege of Fred Ackerman, Travis’s closest associate, described Travis’s youth in Nevada. He said that Travis was sent to Harvard to knock off the rough edges, but the effort was generally considered to have been a failure. Travis distinguished himself in football while at school, according to Kimball. See also Meier and Hoschek, Over the Road, 11–12.
96. These included Pickwick Stages operating in two divisions, the Star Auto Stage Association (soon to be incorporated as the California Transit Company), Valley Transit, United Stages, Motor Transit, West Coast Transit, and Western Motor Transportation Company.

Chapter 2

5. SFC, transcript, 627, 2295, 11126–11127, 14834–14841.
7. CRHM: Southern Pacific Bulletin (April 1921), 6; (December 1921), 13–14; (April 1924), 8–10, 22; (October 1935), 10–11.
8. TWR: see, for example, Shasta Route file, memorandum from M. J. Wise to A. D. McDonald, 8 August 1935.
13. Ibid.
17. Dwight R. Ladd, *Cost Data for the Management of Railroad Passenger Service* (Boston: Harvard University, Graduate School of Business Administration, Division of Research, 1957), 9. Ladd’s study pertains to the 1950s, but he indicates that the structures he described had been in place for decades.
19. Revenue and train mile data for each train on the Southern Pacific were listed in a regular report compiled monthly by the accounting department based upon a seven-day sample. See SFC, transcript, 16931–16933. Both the Southern Pacific and the Santa Fe cited revenues per train mile for particular trains from before World War I, indicating such figures were kept at that time. In the early 1930s origin-destination traffic and revenue data in the U.S. Office of the Federal Coordinator of Transportation, *Passenger Traffic Report* (Washington, DC, 1935), were compiled from records of one-way and round-trip ticket sales. For the method used, see PFS, testimony of report statistician Arthur White, transcript, 1568–1604.
20. SFC, transcript, 627, 2295, 11126–11127, 14834–14841.
23. According to Pullman Company records, the four largest users of its sleeping cars in 1923 were the Pennsylvania Railroad, the New York Central, the Southern Pacific, and the Santa Fe, assigned 838, 821, 455, and 378 cars, respectively. In addition, the El Paso & Southwestern, which was absorbed into the Southern Pacific the next year, was assigned another 18 cars. See PPS, unmarked exhibit titled “The Pullman Company, Response to Request of Commissioner J. B. Campbell, Statement Showing By Specified Geographic Regions and Individual Railroads: (1) Average Number of Pullman Cars Operated; (2) Pullman Contract Revenue Due Railroads; (3) Average Contract Revenue Per Car Operated; (4) Number of Pullman Car Miles Run; (5) Average Mileage Per Car; (6) Average Contract Revenue Per Car Mile. For the Calendar Year 1923,” 1–4.

25. Albro Martin, Enterprise Denied: Origins of the Decline of American Railroads, 1897–1917 (New York: Columbia University Press, 1971). See the appendix and passim for a summary of the argument on railroad investments declining in relation to need over the decade. By the early 1920s, this argument was generally accepted, even by influential people critical of private railroad management, including William Cunningham, William McAdoo, and Joseph Eastman. Cunningham, a Harvard economics professor, took a leave of absence to work as an officer in the United States Railroad Administration and believed that on the whole, government operation of the railroads was beneficial. McAdoo, secretary of the treasury under President Woodrow Wilson as well as Wilson’s son-in-law, served as the first director general of the railroads. Eastman, a protege of Louis Brandeis, served on the Interstate Commerce Commission from 1919 until his death in 1944. He was regarded as one of the two most influential members during the history of the commission, was critical of railroad management, and believed the railroad industry should be nationalized. He was the only member of the commission to favor continued federal control of the railroads. See William J. Cunningham, American Railroads: Government Control and Reconstruction Policies (New York: A. W. Shaw, 1922), 9–22; William G. McAdoo, Crowded Years: The Reminiscences of William G. McAdoo (Boston: Houghton Mifflin, 1931), 111, 223, 303, 455–462; Ari and Olive Hoogenboom, A History of the ICC: From Panacea to Palliative (New York: W. W. Norton, 1976), 91; Claude Moore Fuess, Joseph B. Eastman: Servant of the People (New York: Columbia University Press, 1952), 84, 87–88, 312–313; Earl Latham, The Politics of Railroad Coordination, 1933–1936 (Cambridge, MA: Harvard University Press, 1959), vii–viii.


27. Talcott, Transportation by Rail, 17.


31. In the Five Percent Case (1914) O. E. Butterfield, representing the Eastern carriers, quoted from ICC Docket No. 4606, the Youngstown Sheet & Tube Company Case: “In [the Commission’s] opinion each branch of the service should contribute its proper share of the cost of operation and of return upon the property devoted to the use of the public.” See FPC, transcript, 22395. See also PPS, transcript, 1574–1576, referring to the North Dakota Coal Case, which appears to have been decided in 1910, and in which the commission decided that the carriers were entitled to a compensatory rate on coal, that should not burden other commodities. Also beginning in 1910 the commission decided a series of cases allowing railroads to collect more than a single fare for certain types of Pullman accommodations on
the grounds that they were more expensive to the railroad. See, for example, 18 ICC 135 (1910), 25 ICC 207 (1912), the Nevada Drawing Room Case 36 ICC 351 (1915), 33 ICC 521 (1915), and 43 ICC 51 (1917).

32. FPC, 1915, transcript, 22585–22588.
33. 30 ICC 676, 680.
34. See In the Matter of the Separation of Operating Expenses 30 ICC 676 (1914), 677, which stated that separation between freight and passenger service was a necessary first step toward finding costs of particular classes of traffic. The Five Percent Case 31 ICC 351 (1914), 392, states: “We know of no provision of law under which we should be justified in increasing freight rates to provide a return upon property used exclusively in the passenger service, much less to take care of losses incurred in such service. In our opinion each branch of the service should contribute its proper share of the cost of operation and of return upon the property devoted to the use of the public.” Earlier decisions stated that railroads were entitled to a fair return on each and every investment made, and not only on the aggregate investment. See 22 ICC 604; 29 ICC 428, 436.
35. 30 ICC 676; 37 ICC 1, 13.
36. For earlier opposition to cost separation on the grounds that it could not be done, see 29 ICC 428, 434–435. In 37 ICC 1 (1915), 13–19, forty-six roads proposed six methods for separating passenger and freight costs. Results ranged from a high of allocating 33.38 percent of total operating expenses to passenger service to a low of 31.74 percent. Most of the fuss surrounded maintenance of way and structures (MWS) expenses. Here the range was from 45.11 percent of MWS expenses on the high side to 36.88 percent on the low side. The report states that there was no serious difference of opinion among industry leaders on cost separation except in maintenance of way and structures.

Union Pacific correspondence in Maury Klein collection (University of Rhode Island), R. S. Lovett to H. W. Clark, Esq., counsel, Union Pacific System, 10 May 1915. In this letter Lovett states that many joint costs should not be assigned and objects to the ICC’s promulgating uniform rules for cost separation.
38. From 1913 until 1930 the California Railroad Commission published statistics of California’s electric lines in its annual reports. See California Railroad Commission, Annual Report of the Railroad Commission of the State of California (San Francisco). Lines with streetcar service must be disregarded, because electric railways statistics include passenger boardings rather than passenger miles, and the statistics combine streetcar and interurban boardings. Typically, streetcar boardings were many times greater than interurban boardings, completely masking trends in the latter for companies that carried both categories of passengers. In order to decipher interurban trends, it is necessary to examine passenger traffic for only those systems that did not operate streetcars.
39. 31 RCC 457.
40. Its trains carried commuters between eastern Contra Costa County and Oakland and San Francisco, through passengers between the Bay Area and Sacramento, and connecting passengers from the Bay Area to points north of Sacramento via the Northern Electric. Of the 1.1 million passengers using the system in 1920,
approximately 300,000 were commuters and suburban passengers, while approximately 30,000 were connecting passengers. Thus, about 770,000 were passengers between the Bay Area and Sacramento. The commuter and suburban passenger numbers come directly from company records for the year 1929 and my assumption that they were about equal for 1920. For the nation as a whole, commuter traffic did not change much over the decade. The figure can also be arrived at from a 1914 report written for owners of the electric line. The report noted that suburban patronage accounted for 28 percent of total patronage, the balance of which was through traffic to and from Sacramento. Connecting passengers can be counted directly from dispatchers' sheets for the railroad. The Bay Area Electric Railway Museum at Rio Vista, California, contains a collection of these sheets. I tabulated connecting passengers for February and August 1923 and February and June 1927. Annual averages based on each of the four months were 25,039, 35,405, 27,959, and 31,163 passengers, respectively. See WMJS: California Railroad Commission, "In the Matter of the Application of the Sacramento Northern Railway for an Order Authorizing the Discontinuance of Passenger Train Operations between the City and County of San Francisco and the City of Pittsburgh, Contra Costa County, and intermediate points," Application 24127 (1941), transcript, 11.5–12. VS: Bion J. Arnold, "Report to Hirsch, Lilienthal & Company on the Oakland, Antioch & Eastern Railway Line Extending from Oakland to Sacramento" 26 June 1914, 8–9.


43. Edwin A. Pratt, American Railways, Reprinted (With Additions) from the Times (London: Macmillan, 1903), 70.


45. "Gilded Stairs and Marble Halls," Railway Age Gazette 57 (23 October 1914), 724, as cited in WPF: transcript, 960–962, 977.


47. WPF (1914): several western state commissions (not California) ordered railroads about 1907 to reduce intrastate rates from the prevailing rate of about 2.5 cents per mile to 2.0 cents per mile. In Western Passenger Fares the western lines petitioned the ICC to overturn the state orders.

48. For a description of the protracted efforts of the carriers to obtain such freight rate increases, see Martin, Enterprise Denied.


51. CRHM: Southern Pacific Bulletin (20 November 1913), 1; (29 November 1913), 1.


53. CRHM: Southern Pacific Company, Annual Report, Year Ended June 30,
1914, 18. See also Annual Report, Year Ended June 30, 1915, 18, for the same message. In 1916 and 1917 it was reported that local passenger demand continued to fall because of the automobile, but those declines were more than compensated for by growth in longer distance traffic. See Annual Report, Year Ended June 30, 1916, 19; Annual Report, Year Ended December 31, 1917.


56. CRHM: Southern Pacific Bulletin (1 September 1916), 2; (October 1916); (1 December 1916), 8; (1 March 1917).

57. Spencer Crump, Ride the Big Red Cars: How Trolleys Helped Build Southern California (Los Angeles: Crest, 1962), 57, 234–235; George W. Hilton and John F. Due, The Electric Interurban Railways in America (Stanford, CA: Stanford University Press, 1960), 404–405; Robert S. Ford, Red Trains in the East Bay (Glendale, CA: Interurbans Press, 1977), 142–144. Ford presents Southern Pacific testimony that in FY 1913, the deficit of the East Bay lines, based on out-of-pocket costs, was $384,000 on gross revenues of $1,340,000. Southern Pacific at the time valued the electric services at $26.6 million, part of which was attributable to the steam lines existing prior to 1911, and part of which was attributable to the reconstruction of the lines and purchase of new rolling stock associated with electrification. See also CRHM: Southern Pacific Bulletin (15 June 1917), 1; (15 August 1917), 1; (August 1920), 15.

58. Martin, Enterprise Denied, 32.

59. PPS, exhibit 65. For costs and weights, see John H. White, Jr., The American Railroad Passenger Car (Baltimore: Johns Hopkins, 1978), 107–144, 187. For the Pullman Company’s converting its fleet to steel, see page 275. It released its first production model in 1910; by 1913 twenty-one hundred all-steel sleeping cars were in operation—one-third of the fleet.

Southern Pacific wooden coaches built around 1908 weighed about 41 tons and seated about seventy passengers. By the middle 1920s Southern Pacific steel coaches weighed about 70 tons and seated about ninety passengers. An eight-car wood coach train (one baggage car and seven coaches) pulled by a large 4-6-0 steamer offering .036 pounds of tractive effort per pound of train weighed 1,725 pounds per seat. The cars for such a train weighed 328 tons, while the locomotive weighed another 95 tons. An eight-car steel train of the late 1920s (one baggage car and eight coaches) pulled by a large 4-8-2 steamer offering .036 pounds of tractive effort per pound of train weighed 2,495 pounds per seat, a 45 percent increase in tare weight per seat. The cars for such a train weighed 530 tons, while the locomotive weighed another 256 tons.

According to White, Pullman sleeping cars typically weighed between 50 and 60 tons at the end of the wood era. Steel Pullman cars weighed about 70 tons. See pages 268, 273–275.

60. CRHM: Southern Pacific Bulletin, (20 December 1913), 1–2, contains Sproule’s warning.

61. The San Francisco Chronicle for 8 August 1912, 7/6, reported a Southern Pacific capital program of $32 million for 1913. The major projects were a new, more direct line between California and Oregon called the Natron Cut-Off; double tracking of the mainline east from Sacramento over the Sierra; and double tracking
of the line between Bakersfield and Mojave over Tehachapi Pass. The story also reported a $22 million capital budget for the Santa Fe, which included funds to be spent on the Tehachapi project.


63. SFC, exhibit 112, showing intra- and inter-California train mileage of Santa Fe.


67. California services operated in different years are shown in SFC, exhibits 106, 112.

68. CRHM: *Official Guide of the Railways*, July 1915, 979 and 815; SFC, transcript, 641–643, 660–661; exhibit 137. Exhibit 137 shows passenger revenue per train mile for trains 15 and 16, respectively the *Saint* and the *Angel*, by month between 1914 and 1917. For 1914, 1915, 1916, and 1917 the *Saint* grossed $1.09, $1.58, $0.91, and $1.25 per train mile, respectively, while the *Angel* grossed $1.35, $1.76, $1.06, and $1.49. At the time Santa Fe’s California fare yield was about 2.4 cents per passenger mile, indicating a range of thirty-eight to seventy-three passengers on each train.

69. SFC, transcript, 1680–1681. See also 1672–1673 and exhibit 112. Despite the presence of the Pacific Electric, all three of the major steam railroads serving Los Angeles still operated extensive local service in that area in 1915, but all abandoned most such service by 1920. Comparisons of timetables between 1915 and 1919 show that in the former year the Southern Pacific still operated three local trains daily on its Colton Line and four on its Santa Ana line. By 1919 most of this service was gone. In 1915 the Santa Fe operated seven daily trains on its Redlands loop and extensive local service on both of its mainlines between Los Angeles and San Bernardino, as well as on its San Diego route. Again, by 1919 most of this service was gone. The Salt Lake Route operated substantial local service in 1915. In 1919 it still operated several daily trains to Long Beach and on to the shipyards. By 1921 most of its local service was gone, except as extensions of mainline trains.


Chapter 3

1. The operating ratios for CY 1920 are cited in Reduced Rates 68 ICC 728 (1922). For the eastern region the ratios were 103 and 90 for freight and passenger service, respectively. For the southern region they were 97 and 83. For the western region they were 91 and 83. See also William J. Cunningham, American Railroads: Government Control and Reconstruction Policies (New York: A. W. Shaw, 1922), 249.


3. Ibid.

4. In PPS, Brief and Argument for Western Carriers, 4–8, there is a long quotation from Dayton–Goose Creek Railway Co. v. United States et al. 68 L. Ed. 216 (decided 7 January 1924). The opinion states that the ICC is required under the Transportation Act of 1920 to set rates giving the railroad an adequate return. However, even if a railroad has an adequate return, the commission may allow railroads to raise rates on classes of traffic whose revenues are noncompensatory: “The [Transportation Act of 1920] does not require that the net return from all the rates shall affect the reasonableness of a particular rate or class of rates. In such an inquiry, the Commission may have regard to the service done, its intrinsic cost, or a comparison of it with other rates, and need not consider the total net return at all. Paragraph 17 of Section 15a makes this clear.”


5. On the restoration of competitive passenger service, see Increased Rates, 58 ICC 220 (1920), 227, 239–240. See also Cunningham, American Railroads, 210–211. Railroads implemented only two pooling agreements for passenger service during the 1920s. See Hoogenboom, History of the ICC, 109. By the mid-1930s only a few more pools had been created. See SFC, Southern Pacific Brief, 219–222. Cases cited in the brief on the formation of pools, all of which the ICC readily approved, were Montreal to Kennebunk and Portland, ME: 201 ICC 699; Duluth and Milwaukee: 194 ICC 430, 220 ICC 659; Duluth and Twin Cities: 107 ICC 493, 112 ICC 403, 132 ICC 413, 161 ICC 659; Portland and Seattle: 96 ICC 116, 128 ICC 149, 167 ICC 308, 169 ICC 244, 194 ICC 424, 218 ICC 239.

6. Increased Rates 58 ICC 220 (1920); Reduced Rates 68 ICC 728 (1922).


8. PPS, transcript, 776.
9. 58 ICC 220; PPS, transcript, 539–549.
10. 68 ICC 728, 95 ICC 469.
12. There is a large literature on the alteration of American social and economic life as a consequence of the adoption of the automobile. In particular, see James J. Fink, *The Automobile Age* (Cambridge, MA: MIT Press, 1988); John B. Rae, *The Road and Car in American Life* (Cambridge, MA: MIT Press, 1971); Howard L. Preston, *Automobile Age Atlanta: The Making of a Southern Metropolis, 1900–1935* (Athens: University of Georgia Press, 1979); Norman T. Moline, *Mobility and the Small Town, 1900–1930: Transportation Change in Oregon, Illinois* (Chicago: University of Chicago, Department of Geography, Research Paper No. 132, 1971); Warren James Belasco, *Americans on the Road: From Autocamp to Motel, 1910–1945* (Cambridge, MA: MIT Press, 1979). Moline’s work is particularly important for its description of the role of steam railroad and electric interurban passenger service in the small town before the automobile and the subsequent complete change in travel patterns as a consequence of the automobile. Belasco’s work is important for the effect of the automobile on mainline railroad leisure and business travel, while Rae stresses the point, also made in all of the other works, that the automobile’s main effect was not to merely absorb the traffic of public modes but to vastly expand the base of travel. Preston’s work examines the effect of the auto on intrametropolitan travel and pays close attention to its effect on Atlanta’s transit system.
15. CALTRANS: *California Highways and Public Works* 1 (January 1924), 3; 1 (March 1924), 5; 5 (January 1928), 9.
16. CALTRANS: *California Highways and Public Works* 1 (January 1924), 5; 1 (March 1924), 5; 1 (July 1924), 4; 2 (December 1925), 4–7; 3 (October 1926), 4.
19. CALTRANS: *California Highways and Public Works* 7 (January 1930), 9–10; 9 (February 1932), 3, 29. The first article describes the new Ridge Route, the second the California ten-year highway plan.
21. SFC, transcript, 6760; exhibit 325. Exhibit 325, prepared by Earl Bagby,

22. SFC, exhibit 647; transcript, 6766, 7074–7075.


26. This statistic was derived from a November 1920 Santa Fe survey of the patronage characteristics of its passenger trains. See PPS, exhibit 57.

27. SFC, exhibit 629 shows revenue trends individually for the two railroads.


29. For the Southern Pacific position and reports of railroad workers’ views see CRHM: Paul Shoup, “Are Railroads of the Country Passing?” Southern Pacific *Bulletin* (September 1921), 29–30; (October 1921), 9; (November 1921); (December 1921), 16; (January 1922), 9; (February 1922), 11, 15, 16, 18; (March 1922), 7; (January 1923), 26. The Vallejo demonstration is reported in “SP Men Present Views on Motor Competition,” *Bulletin* (April 1922), 7. Paul Shoup, in “Commercial Auto Lines Cost Train Service,” *Bulletin* (May 1922), 14, asserts, “There is among owners of private machines a feeling growing stronger and stronger against the highways being turned into roadbeds for public utility purposes.” At the time Shoup, a vice president, headed the company’s subsidiary electric operations. He served as company president from 1929 to 1933.

30. SFC, exhibit 325; transcript, 6760. In this testimony, Travis stated that the Motor Carriers Association was formed in 1921, but he amended his testimony later to state that it was formed at an earlier date.

31. PPS, exhibit 28.

32. Cost figures are reported only for scattered abandonment cases. From the mid-1920s, these include 23 RCC 750 on the discontinuance of two daily Southern Pacific gas-electric round trips between Anaheim and Los Angeles, 1923. Out-of-pocket costs of $0.47 and $0.42 per car mile were shown, not including track or roadway maintenance, station expenses, superintendence or general expenses, depreciation, taxes, or interest. Revenue was $0.13 to $0.15 a car mile. 32 RCC 419 on the discontinuance of two daily trains on the Santa Rosa branch shows direct
train expenses of $0.58 per train mile, defined as train and engine crews, fuel oil, locomotive repairs, locomotive and train supplies, and expenses. To these are added taxes and passenger car repairs to yield what is called total out-of-pocket expenses of $0.64 a train mile. To this figure is added an allowance for maintenance of way and indirect expenses, for total expenses per train mile of $0.72. In 34 RCC 874, discontinuance of the Sacramento–Colfax locals in 1930, expenses are shown as $1.05 per train mile for the steam train and $0.60 per mile for the motor train.

In 1935 Southern Pacific’s president, Angus D. McDonald, asked a staff assistant to prepare operating cost estimates of a new train he was contemplating. Marion J. Wise responded with a memo showing that the average out-of-pocket cost for a nine-car air-conditioned coach train of standard cars pulled by a 4-8-2 locomotive would be $1.00 per train mile. See TWR: Shasta Route file, memorandum from M. J. Wise to A. D. McDonald, 8 August 1935, untitled.

When the Santa Fe prepared its case for operating buses and streamlined trains through the San Joaquin Valley, it included estimated costs for operating the Saint and the Angel prior to World War I, as well as cost comparisons between steam local trains and buses. Again, train mile costs averaged about $0.79 in pre–World War I dollars for the all-Pullman Saint and Angel and between $1.04 and $1.18 in 1935 dollars for what the Santa Fe considered typical steam coach trains operating in California in 1935. See SFC, exhibits 105 and 136.

33. SFC, transcript, 8267–8273.
34. SFC, transcript, 8267.
37. SFC, transcript, 8267.
38. SFC, transcript, 6797–6798, 7089, 8267–8268, 8273.
39. SFC, exhibit 325; transcript, 6797–6798, 7089, 8287, 8489–8490. The Santa Cruz–Watsonville decision was decided on 28 October 1928 and reported in 32 RCC 332.
40. TWR: Shasta Route file, Wise to McDonald, 8 August 1935.
41. SFC, transcript, 10936.
42. Who’s Who in America 23 (Chicago: Marquis, 1944–45), 1410; CRHM: Southern Pacific Bulletin (April 1921), 6; McGann, interview with Thompson, Hillsborough, CA, 18 May 1985. McGann worked in Southern Pacific’s executive offices during the 1930s and 1940s and later became vice president of research for the company.
43. SFC, transcript, 11400. See also 8608 for Pacific Greyhound general manager Lee D. Jones subscribing to cut-off fare view. See also PFS, transcript, 254, 299–310.
44. See SFC, transcript, 10848, 10994–10995. Santa Fe president Samuel Bledsoe also subscribed to this view; SFC, transcript, 250. So did Pacific Greyhound general manager Lee D. Jones: SFC, transcript, 8540–8542.
45. CRHM: Southern Pacific Company, Annual Reports, 1931, 1932, 1933; Bulletin (May–June 1931), 11–12; Passenger Train Earnings Show Improvement (September 1929), 6.
Up to June 25, 1936, vol 1, 176. The Santa Fe’s James B. Duffy testified almost identically on 13 May 1936. See SFC, transcript, 2344–2346.

77. SFC, exhibit 112; Bryant, *History of the Atchison, Topeka and Santa Fe Railway*, 332–335.

78. SFC, exhibits 45 and 76.

79. SFC, exhibit 45.

Chapter 4

1. SFC, exhibit 647; transcript, 6766, 7074–7075, 7088, 7091–7092.
2. SFC, transcript, 6782, 7088–7093.
3. 32 RCC 332. The case was decided 28 October 1928.
4. SFC, transcript, 6787–6788, 6797, 7093–7094.
5. SFC, Southern Pacific Brief, 223–225; transcript, 6791, 6793, 10672–10673. The Southern Pacific approached the Santa Fe a second time in 1933 to buy into Pacific Greyhound, when the bus company purchased a bus route between Los Angeles and Albuquerque that ran along the Santa Fe mainline. The Santa Fe again refused.

6. SFC, transcript, 6787–6788, 6797, 7093–7094.

8. SFC, transcript, 8288; Santa Fe Abstract, 1326.
9. SFC, transcript, 8622–8623.
10. SFC, transcript, 7120–7123.
11. SFC, transcript, 7616.
12. SFC, transcript, 7120–7123.
13. SFC, transcript, 6782, 7123–7124; exhibit 333. For comments on Wren (who Pacific Greyhound’s management rarely mentioned in Santa Fe Case testimony), see *Motor Coach Age* 31/12 (December 1979), 11; 24/10 (October 1972), 16.


15. SFC, exhibits 329, 330, 331.
16. SFC, transcript, 6782, 7123–7124; exhibit 333.
18. SFC, transcript, 7125.
20. SFC, transcript, 8418–8419.
21. SFC, transcript, 8628–8630; see 8631 for quote.
22. SFC, transcript, 11817–11818.
23. SFC, exhibit 367.
24. SFC, exhibits 385 and 645a–c; transcript, 6818, 6822, 11817–11818.
25. SFC, transcript, 6810–6817, 8426.
26. SFC, transcript, 6818–6822.
27. SFC, transcript, 8424.
28. SFC, transcript, 8425–8426.
29. Kimball, interview with Thompson and Seal, St. Helena, CA, 29 September 1984; SFC, testimony of Travis, transcript, 6818–6819, 6887.
30. SFC, exhibits 369, 381, 382. During the period March to September 1936 the load factors for the Valley and Coast routes were 54 and 63 percent respectively. For the entire year of 1935, Pacific Greyhound’s average load factor measured as passenger miles divided by seat miles was 54 percent. That for the Coast Route was 58 percent, while that for the Valley Route was 53 percent.
31. Pacific Greyhound computed the average one-way fare per mile between approximately fifty principal points in California for the years 1929–1936. The same points were used each year. SFC, exhibit 337.
33. SFC, exhibits 359–360.
34. SFC, exhibit 340; transcript, 11174.
35. SFC, transcript, 1198–1199.
37. Meier and Hoschek, *Over the Road*, 81–83, 101; *Motor Coach Age* 24 (October 1972), 13–14; SFC, transcript, 6842; see exhibit 338 for price comparisons.
39. SFC, transcript, 6840–6841.
40. SFC, transcript, 6836–6837.
42. SFC, exhibit 338, which presents a detailed roster of Pacific Greyhound Lines bus equipment and purchases between 1929 and 1936.
43. SFC, exhibit 359 shows annual passenger revenue. The average fare per passenger mile described earlier in this chapter, divided into this amount each year, yields annual passenger miles. Based on revenue results for the first nine months of 1936 compared to those of 1935, together with an estimated fare yield of 1.6 cents per passenger mile after 1 July 1936, Pacific Greyhound is estimated to have carried approximately 455 million passenger miles in 1936. SFC, exhibit 385 shows that the $2.21 million in revenue earned between January and June of 1936 was 13 percent higher than that earned during the same period of 1935 at the same fare level. Fares were reduced from a base of 2.0 cents per mile to a base of 1.5 cents per mile on 1 July 1936. Revenue for July, August, and September of 1936 was 14 percent over that for the same period of 1935. From this exhibit, we know the revenue for the first six months of 1935 was $2.0 million. From exhibit 359 we know that passenger revenue for all of 1935 was $6.9 million. Thus, revenue for the last half of 1935 must have been $4.9 million, and other exhibits verify the substantial seasonal peaking implied. Assuming a growth of 13 percent in 1936, which seems reasonable based on the first three months’ experience following the fare decrease, we have an estimated revenue for the last half of 1936 of $5.5 million. At an average yield of 1.6 cents per passenger mile, this level produces 344 million passenger miles during the last six months. At an average yield of 2.0 cents
per passenger mile, the $2.21 million revenue during the first six months produces 111 million passenger miles, or 455 million for the year.

44. SFC, exhibit 381.

45. The highway commission also completed other projects on this route between 1932 and 1934, including a new high-speed bypass around Saugus and a new high-speed road descending from the summit of Tejon Pass to the valley floor.

46. ACSC: *Touring Topics* 25 (January 1933), 26. Kimball, interview with Thompson and Seal, St. Helena, CA, 29 September 1984, and with Thompson, St. Helena, 19 May 1985. Kimball graduated from a transportation economics course at the University of Southern California in 1935 and then joined a trucking line that specialized in attracting volume traffic at low fares away from the Southern Pacific. He attributed the existence of the truck carrier to the opening of the new Ridge Route, which he said doomed the Southern Pacific as a profitable carrier of intra-California freight.

47. See, for example, CALTRANS: *California Highways and Public Works* 14 (September 1938), 4, 10, on the opening of the new four-lane divided Altamont Pass realignment, which had two-thousand-foot minimum radius curves and cut 8.5 miles from the old route. The previous route was characterized by narrow winding turns and lengthy traffic congestion delays.

48. CALTRANS: *California Highways and Public Works* 7 (December 1930), 5–7, 20, describes the first braided junction, while *California Highways* 12 (February 1935), 6–7, 20, 24, describes the first grade separated urban arterial, Ramona Boulevard, which ran east from Los Angeles for six miles without a grade crossing. The Arroyo Seco and Cahuenga Pass routes, whose first parts opened in July 1940, are typically called California’s first freeways, but the earlier Ramona Boulevard, if not a freeway, was something radically different from roads that preceded it.


50. Felix S. McGinnis, Southern Pacific’s vice president of passenger traffic, observed in February 1937, “I think practically all travelers on the highway claim they do it in 10, some of them do it in less.” He was referring to driving between San Francisco and Los Angeles. See SFC, transcript, 11247.

51. SFC, Pacific Greyhound Timetable, October–November 1936; transcript, 8665–8667, 9035; Answering Brief, 276–277.

52. Technically, this is twenty-seven and seventeen bus miles per route mile for each of the two routes. SFC, exhibit 364.

53. SFC, Pacific Greyhound and Southern Pacific system timetables for October–November, 1936.


55. U.S. Federal Coordinator of Transportation, *Passenger Traffic Report*, appendix 1, presents results from the 1933 traffic survey, which yields both the annual number of passengers traveling between selected points and the annual revenue generated by that traffic. A division of passengers into revenue yields the average fare actually paid between each pair of points.

56. Derived from SFC, exhibit 348.

57. Wildcat sedans occasionally operated between Los Angeles and either Stockton or Sacramento. Even more rarely they dropped off or picked up intermediate passengers between Los Angeles and San Francisco.
Notes to Chapters 4–5

59. SFC, transcript, 8514–8515.
60. SFC, transcript, 6802.
61. SFC, transcript, 10901–10905.
62. PFS, transcript, 219–220.
63. SFC, transcript, 8404–8406.
64. SFC, exhibit 421; transcript 8409–8410.
65. SFC, exhibit 340.
66. SFC, transcript, 11174.
67. SFC, exhibits 730, 818.
68. SFC, exhibit 818.
69. Nos. 51–52, the San Joaquin.
70. SFC, exhibit 816.
71. SFC, transcript, 8384–8389.
72. SFC, transcript, 8276–8278; exhibit 396 lists substituted services; exhibit 404.
73. SFC, exhibit 400.
74. SFC, transcript, 8469–8472; exhibit 407.
75. SFC, Santa Fe Brief, 5–14.
76. SFC, transcript, 8469–8472; exhibit 407.
77. SFC, transcript, 8469–8472; exhibits 406, 407, 599 and 600.
79. SFC, exhibits 396, 411.
80. SFC, transcript, 8341, 11264; SFC, exhibit 358, Agreements 8, 9, 10. The pooling agreement did not take effect until the California Railroad Commission approved the train discontinuances and the pooling agreement itself, 39 RCC 880; see also SFC, Southern Pacific Brief, 220.
The agreement did not cover special Pacific Greyhound bus services for which Northwestern Pacific had specifically contracted in 1933 in order to replace trains operating between Fairfax and Point Reyes and similar contracted service established in 1934 to replace a ferry between Tiburon, Belvedere, and Sausalito.
81. SFC, exhibit 601.
82. Meier and Hoschek, Over the Road, 35, 48; SFC, exhibit 334; transcript, 6787–6788. The Great Northern held 45 percent of Northland Greyhound Lines; the New York Central and the Pennsylvania each held 50 percent of Central Greyhound and Pennsylvania Greyhound, respectively; the Richmond, Fredericksburg & Potomac held 49 percent of Richmond Greyhound Lines; and the St. Louis Southwestern and the Southern Pacific each held 16.67 percent of Southwestern Greyhound.

Chapter 5

2. SFC, exhibit 643. The California business index—with industrial production weighted 4, car loadings weighted 3, bank debits weighted 2, and department store sales weighted 1—declined from a high of 126 in 1929 to a low of 56 in 1933.

3. U.S. Office of the Federal Coordinator of Transportation, Passenger Traffic Report (Washington, DC, 1935), 12, 17, 20, 108, 111, 112. Passenger service revenue, including mail and express, declined from $1.234 billion in 1929 to $0.491 billion in 1933, a 60 percent decline. Passenger-only revenue declined from $872 million in 1929 to $329 million in 1933, a 62 percent decline. Rail passenger miles (including commute) declined from 31 billion in 1929 to 16 billion in 1933, a 48 percent decline.


7. TWR: Shasta Route file, memorandum from M. J. Wise to A. D. McDonald, 8 August 1935.

8. U.S. Interstate Commerce Commission, Statistics of Railways in the United States (1929–33). The Southern Pacific slashed its passenger train miles from 20 million in 1929 to 12 million in 1933. SFC, exhibit 112 shows that in 1929 the Santa Fe operated 2.0 million passenger train miles in California with trains that crossed the state line and 1.7 million passenger train miles with trains that did not. By 1933 these two figures both shrank to 1.3 million train miles.


10. HML: Records of the Pennsylvania Railroad, VP Operations, file 521.31, Post-War Passenger Train Problems, 1943, Charles E. Smith to R. V. Fletcher, 1 September 1943. The passenger service operating ratios are from a report that appears to have been prepared by the Association of American Railroads based on ICC figures.

11. SFC, transcript, 2619–2620, 10876–10877.


13. SFC, exhibit 643.


15. Ibid.

16. SFC, exhibit 629.

17. PFS, transcript, 807–813.

18. PFS, transcript, 813–815, 840; SFC, exhibit 81.

19. Ibid.

20. Ibid.


23. Ibid., 38–48, 148; SFC, Santa Fe Brief. The public viewed the cost of
operating a car at 2.8 cents per auto mile. The 1.2 cent figure is based upon an average occupancy of 2.4 passengers.

24. SFC, transcript, 2325–2326, 16980.
25. Ibid. I interpret these figures as the fare reduction increasing gross revenues by 10 percent and later improvements to the economy increasing gross revenues on the San Diego route by another 30 percent.

26. PFS, transcript, 340, 351, Exceptions on Behalf of Lines in Eastern District.

27. SFC, transcript, 2655–2658.


31. SFC, transcript, 901; Santa Fe Brief.

32. SFC, Santa Fe Brief, 5–14. These were Southern Kansas Stage Lines, Cardinal Stage Lines, Rio Grande Stages, and the Central Arizona Transportation Company.

33. Ibid.

34. SFC, Santa Fe Brief, 11–12; 41 RCC 239, 257–260, 286–287.
35. Ibid.

36. SFC, transcript, 10639.

37. SFC, Southern Pacific Brief. The transcript also contains testimony from spokespeople from business and social groups in every community affected by the proposal. Examination and cross examination reveals the heavy lobbying of them conducted by both Southern Pacific and Santa Fe officers.

38. SFC, transcript, 7041–7042, 7069, 7081–7086, 7125.

39. SFC, Santa Fe Brief and Answering Brief.


47. SFC, transcript, 10644–10647.
48. SFC, transcript, vol. 30, 4610–4700. Edwin G. Wilcox, an attorney and manager of the San Francisco Chamber of Commerce transportation department in 1936, described how the department unanimously supported the Santa Fe proposal, how McGinnis as a director of the chamber attempted to influence the board
to repudiate the department’s stand, and how he ultimately lost on a seven to six vote, with eight directors abstaining. My reading of public testimony from SFC, transcript, 3297 to 5641, revealed no organization supporting the Southern Pacific, with the type of struggle revealed above occurring time and again.

49. Kimball, interview with Thompson and Seal, St. Helena, CA, 29 September 1984. Kimball stated that Travis remained as president for some time but effectively turned the reins over to Ackerman. Kimball was an Ackerman protege who eventually rose to become vice president of the Greyhound Corporation and president of Eastern Greyhound Lines.

50. CRHM: Southern Pacific Bulletin (February 1938), 15.
52. CRHM: Southern Pacific Bulletin (March 1940), 4.
53. SFC, transcript, 10645. McDonald testified on 9 February 1937.
56. CRHM: Southern Pacific Bulletin (May 1938), 3; (September 1938), 7–8; (March 1941), 12–13.
57. For San Joaquin strategies, see TWR: Santa Fe file, draft letter to Hale Holden, 22 July 1938. For Sunbeam performance, see CRHM: Southern Pacific Traffic Gram 3 (September 1937), 1; 4 (June 1938), 1, which state that double daily service was then in operation, offering a schedule of 265 miles in 265 minutes; TWR: Sunset file, undated analysis of new streamlined equipment for the Sunset Limited ca. 1948, showing earnings of the Sunbeam, one of the two Dallas–Houston trains, of $1.25 per train mile in 1939, $1.43 in 1940, and $1.63 in 1941; TWR: File on Santa Fe–San Joaquin Valley service, draft letter to Hale Holden dated 22 July 1938, file 081-AT&SF, 5. The letter states that one tactic for counteracting the Santa Fe was to transfer the two Sunbeam trains to the San Joaquin Valley. It comments, “Although results from these trains have not been up to expectations, in absence of Mr. McDonald, hesitate to suggest transfer of the SUNBEAM equipment, as understand he has been in favor of keeping them on the T&NO a while longer.” The T&NO refers to the Texas & New Orleans, the Southern Pacific subsidiary operating most Southern Pacific–controlled trackage east of El Paso during the 1930s.
59. SFC, Santa Fe Brief.
60. SFC, Southern Pacific Brief, 68–74; Coverdale & Colpitts, Report on Streamline, Light-Weight, High-Speed Passenger Trains (30 June 1939 and 30 June 1941).
63. See previous chapter.
65. The federal coordinator of transportation's terminal unification studies document the number of switch engine hours worked by each railroad in several California cities and towns. Based upon a survey of switch engine hours during the week of 21 January 1934, we can determine that the Southern Pacific had a much more dominant presence in territory than the Santa Fe served with its northern California mainline. This is shown in the following table:

<table>
<thead>
<tr>
<th></th>
<th>Southern Pacific</th>
<th>Santa Fe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bakersfield</td>
<td>49</td>
<td>28</td>
</tr>
<tr>
<td>Fresno</td>
<td>87</td>
<td>32</td>
</tr>
<tr>
<td>Stockton</td>
<td>63</td>
<td>21</td>
</tr>
<tr>
<td>Oakland/Richmond</td>
<td>460</td>
<td>68</td>
</tr>
<tr>
<td>Total</td>
<td>659</td>
<td>149</td>
</tr>
</tbody>
</table>

*Switch Engine Hours Worked (weekday average)*

_Sources:_ All figures are from the U.S. Office of the Federal Coordinator of Transportation, Files of the Western Regional Office, Reports of Coordination Projects, Record Group 133, National Archives, Washington, DC.


3"Proposed Unification of Railroad Facilities at Stockton, California, Report of the Local Terminal Committee," 86.


68. Coverdale & Colpitts, _Report on Streamline, Light-Weight, High-Speed Passenger Trains._


70. Kimball, interview with Thompson, St. Helena, CA, 19 May 1985; _Moody's Manual of Investments, American and Foreign, Railroad Securities_ (New York: Moody's Investor Services, 1940, 1941). In 1940 the Santa Fe Transportation Company lost $116,000, and it lost $103,000 in 1941. This was the subsidiary that operated Santa Fe's intra-California bus service. The interstate bus subsidiary, the Santa Fe Trail Transportation Company, lost $165,000 in 1940 but made $319,000 in 1941. TWR: Santa Fe file, A. D. McDonald to Hale Holden, 13 July 1938; F. S. McGinnis to A. T. Mercier, 13 July 1938, reporting on a meeting McGinnis had just completed with Buck Travis, president of Pacific Greyhound Lines. VS: Golden Gate file, W. E. Travis to W. A. Worthington, 18 July 1938. Keith L. Bryant, Jr., _History of the Atchison, Topeka and Santa Fe Railway_ (New York: Macmillan, 1974), 269–270, 338.


**Chapter 6**

1. For an example of the argument that the ICC formula offered a false indicator of passenger losses, see Stanley Berge, “Why Kill the Passenger Train?” *Journal of Marketing* 28 (January 1964), 1–6.


6. 129 ICC 15–16.

7. 129 ICC 17; 165 ICC 373–379.


11. SFC, transcript, 11687, 11703, 11718–11720.

12. Ibid.


18. Ibid.

20. Meyer's original work on this subject was conducted for the Aeronautical Research Foundation, which the Association of American Railroads retained to study the railroad passenger deficit in 1956 and 1957. This work was later incorporated into a more general study on transportation competition. See John R. Meyer, Merton J. Peck, John Stenason, Charles Zwick, *The Economics of Competition in the Transportation Industries* (Cambridge, MA: Harvard University Press, 1960).


23. These are Southern Pacific's fully allocated passenger costs per train mile and car miles, respectively, as calculated from the Southern Pacific Company, *Annual Report to the Interstate Commerce Commission* (1937).

24. Ibid.

25. SFC, transcript, 11282–11283.

26. SFC, transcript, 11283–11284.


28. For the Santa Fe probably not having cost analyses of the proposed trains, see SFC, transcript, 1700–1703. For Weidel's work presented a month later, see SFC, exhibit 140: Coverdale & Colpitts, *Report on High-Speed Trains, Chicago–Twin Cities* (New York: Coverdale & Colpitts, June and July 1935); see also SFC exhibits 142 and 143, in which Weidel estimated that the direct costs of a five-car streamliner similar to the Twin Cities *Zephyr* would be $0.71 per train mile, while those for a seven-car streamliner would be $0.97 per mile. For full discussion, see transcript, 2820–2845.

29. SFC, transcript, 11714–11715, 11754–11758.

30. SFC, transcript, 11651–11663, 11678–11682.

31. TWR: accounting department report for *Daylight*, July 1938, in postwar *Noon Daylight* file. The Tower Collection contains monthly statements for the *City of San Francisco*, the *Forty-Niner*, the *Daylight*, and the *Lark*, all after the trains were equipped with streamlined equipment or, in the case of the *Forty-Niner*, a mixture of new and upgraded equipment. The earliest of these statements is for 1937.

32. For a description of Pullman statistics, see PPS, transcript, 1331, 2125, and passim. Pullman statistics also are contained in Pullman Company annual reports, which are summarized in U.S. Interstate Commerce Commission, *Statistics of Railways in the United States*, after the mid-1920s.

33. SFC, transcript, 10772, 10795, 11662, 11688–11690, 11724–11726, 11747; SFC, exhibits 637, 638.

34. SFC, transcript, 10772, 10795, 11662, 11688–11690, 11724–11726, 11747. Two special studies of coach load factors were referred to. One was conducted for the U.S. Office of the Federal Coordinator of Transportation and is reported in the *Passenger Traffic Report* (Washington, DC: 1935), appendix 2. For statistics pertaining to Southern Pacific (which were collected by the Bureau of
Transportation Research on behalf of the Federal Coordinator’s Office), see appendix 2, 344–345. The Daylight averaged 25 passenger miles per coach mile; the San Joaquin averaged 16.6. In the other study, consultants were employed to study the Burlington’s pioneering efforts with lightweight diesel streamliners. The consultants documented load factors on these trains. Their study showed that the average occupancy of the Twin Cities Zephyr was about 65 percent, while that of the Milwaukee Road’s Hiawatha was 45 percent and that of the Chicago & Northwestern’s 400 was 30 percent. All three of these high-speed day train services competed for through Chicago–Twin Cities business and were commonly reported as being sold out. See SFC, exhibit 140, which is Coverdale & Colpitts, Report on High-Speed Trains, Chicago–Twin Cities, made to Ladenburg, Thalmann & Company of New York, page 17. It is possible that the operation of three duplicate high-speed rail services produced more seats than demand justified.

35. PFS, transcript, 1389–1397.


37. Coverdale & Colpitts, Report on Streamline, Light-Weight, High-Speed Passenger Trains (New York: Coverdale & Colpitts, 30 June 1939); Railway Age 96 (3 February 1934), 184–196; 98 (16 March 1935), 387; 98 (20 April 1935), 600; 98 (27 April 1935), 632; Gregory L. Thompson, “The Passenger Train in the Motor Age,” appendix 5 (unpublished Ph.D. dissertation, University of California, Irvine, 1977); John H. White, Jr., The American Railroad Passenger Car (Baltimore: Johns Hopkins University Press, 1978), 144, 175–177, 185–186, 282. White presents detailed weight, capacity, and purchase cost information for various types of cars that operated on U.S. railroads during different eras, which I used in part for this analysis. However, White follows the traditional railroad view that tare weights were unimportant in the economics of passenger trains.

38. TWR: Sunset file, undated analysis of new streamlined equipment for the Sunset Limited ca. 1948, showing earnings of the Sunbeam, one of the two Dallas–Houston trains, of $1.23 per train mile in 1939, $1.43 in 1940, and $1.63 in 1941.

39. U.S. Federal Coordinator of Transportation, Passenger Traffic Report; for 1933 air traffic, see appendix 2, table 2. See also SFC, transcript, 10782, 11595.

40. TWR: Sunset file, analysis of new equipment for Sunset Limited. This analysis presents histories of the gross train mile earnings for Southern Pacific trains that the company streamlined prior to World War II. Gross train mile revenues for the Lark were $3.31 for 1934, $3.51 for 1935, $3.52 for 1936, $3.27 for 1937, $3.52 for 1938, $3.76 for 1939, $3.22 for 1940, $3.44 for 1941, $5.31 for 1942. The Southern Pacific passenger department credited the lightweight equipment for causing the large increase in revenue for 1942 and offered this as a reason for buying streamlined equipment for the Sunset Limited in 1948. However, the first streamlined cars entered Lark service on 2 March 1941, and the entire two trains were streamlined on 10 July 1941. The 1941 revenue increase of $0.22 over that for 1940 is insignificant. What caused the huge revenue increase in 1942 was the fact that the Sunset Limited, a companion overnight train on the same run as the Lark and also with revenues of about $3.00 per mile, was discontinued in January 1942, and its passengers were put onto the Lark.


appendix 1, 1933 traffic survey. Coverdale & Colpitts, Report on Streamline, Light-Weight, High-Speed Passenger Trains (New York: Coverdale & Colpitts, 30 June 1941), shows only traffic for diesel trains on route, carrying 32.2 million passenger miles per year. This is equivalent to about 320,000 passengers. Analysis of changes in intra-California revenues suggests that steam trains on the route carried at least 180,000 additional passengers—probably considerably more.

43. U.S. Federal Coordinator of Transportation, Passenger Traffic Report, appendix 1, 1933 traffic survey, shows about 220,000 annual Southern Pacific passengers in 1933. I estimate that the Sacramento Northern, a competing electric interurban, carried another 100,000 passengers. By 1939 the interurban traffic declined to about 15,000 passengers (not including commuters or passengers riding to points north of Sacramento), according to a special study conducted by Pacific Greyhound Lines and another study that the railroad commission conducted a year later. Analysis of 1938 Southern Pacific train earnings found in TWR: Coast Line file, shows that Southern Pacific trains still carried about 200,000 passengers per year. Pacific Greyhound Lines remained a minor player in this service.

44. CALTRANS: California Highways and Public Works 17 (July 1939), 1–3, 23. The new line had 2,028 degrees of curvature, compared to 7,129 degrees for the old; its maximum curvature was 4 degrees compared to 11 degrees for the old. The comparison of schedules of the Cascade before and after the line opened are in CRHM: Southern Pacific Company, Shasta Division Employees Timetables nos. 49 and 50, 28 September 1941 and 7 June 1942.

45. Such improvements would have increased rail passenger traffic by 35 percent over the level achieved by the Daylight and would have earned a social return on investment. See Gregory L. Thompson, “Inferring Regional Structure from Partial Transportation Flow Data,” Papers of the Regional Science Association 67 (1987), 137–155.

Conclusion

1. This number is based on fifty seat coaches at 50 percent occupancy, which was typical of the streamlined Daylight before the fare decrease of July 1938. After the fare decrease, the Daylight ran with 90 percent or better occupancy during the summer months, but its year-round occupancy was much lower.


5. Ibid., 2, 3. See also page 6.