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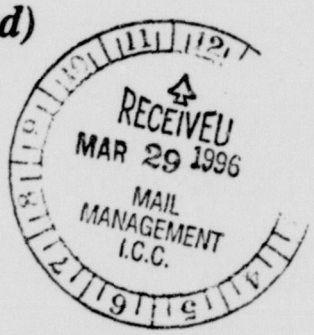

BEFORE THE
SURFACE TRANSPORTATION BOARD

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Finance Docket No. 32760

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UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY
AND MISSOURI PACIFIC RAILROAD COMPANY

— CONTROL AND MERGER —

SOUTHERN PACIFIC RAIL CORPORATION,
SOUTHERN PACIFIC TRANSPORTATION COMPANY, ST. LOUIS
SOUTHWESTERN RAILWAY COMPANY, SPCSL CORP. AND THE
DENVER AND RIO GRANDE WESTERN RAILROAD COMPANY

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**COMMENTS, EVIDENCE AND REQUESTS FOR CONDITIONS**

**submitted on behalf of**

**THE NATIONAL INDUSTRIAL TRANSPORTATION LEAGUE**

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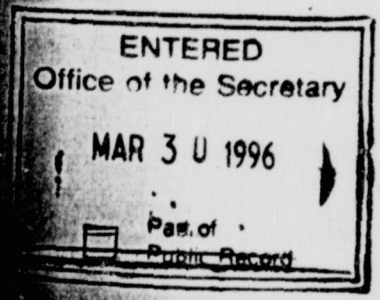


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29, 1996

# BEFORE THE
# SURFACE TRANSPORTATION BOARD

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Finance Docket No. 32760

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UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY
AND MISSOURI PACIFIC RAILROAD COMPANY

— CONTROL AND MERGER —

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SOUTHWESTERN RAILWAY COMPANY, SPCSL CORP. AND THE
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## COMMENTS, EVIDENCE AND REQUESTS FOR CONDITIONS

**submitted on behalf of**

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March 29, 1996

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# BEFORE THE
# SURFACE TRANSPORTATION BOARD

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Finance Docket No. 32760

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UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY AND MISSOURI PACIFIC RAILROAD COMPANY

— CONTROL AND MERGER —

SOUTHERN PACIFIC RAIL CORPORATION, SOUTHERN PACIFIC TRANSPORTATION COMPANY, ST. LOUIS SOUTHWESTERN RAILWAY COMPANY, SPCSL CORP. AND THE DENVER AND RIO GRANDE WESTERN RAILROAD COMPANY

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## COMMENTS, EVIDENCE AND REQUESTS FOR CONDITIONS

**submitted on behalf of**

## THE NATIONAL INDUSTRIAL TRANSPORTATION LEAGUE

---

The National Industrial Transportation League ("League") hereby submits Comments, Evidence, and Requests for Conditions in this proceeding, in which the Union Pacific Corporation, et al. ("UP") and the Southern Pacific Rail Corporation, et al. ("SP") (collectively termed "Applicants") seek from the Surface Transportation Board ("Board" or "STB") authorization under 49 U.S.C. §11343-45 and the Board's Railroad Consolidation Procedures, 49 C.F.R. Part. 1180, for the proposed merger of the SP into the UP and the consolidation of the rail operations of the UP and SP.

## I. INTRODUCTION AND SUMMARY

The scope and nature of the potential anticompetitive effects of the proposed merger of the Union Pacific Railroad Company and the Southern Pacific Transportation Company are unprecedented. Today, the UP and the SP broadly compete across important pathways of American commerce, particularly from southern Texas and Louisiana to key Midwest rail gateways, and along the so-called "Central Corridor," stretching from California to Kansas. Along these pathways, they transport numerous products that are critical to the economic health of the nation, including plastics, chemicals, coal, and others.

Unlike the recent merger of the Burlington Northern Railroad Company and the Atchison, Topeka and Santa Fe Railway Company, in which potential anticompetitive effects, while serious, were nevertheless relatively localized, the proposed merger of the UP and SP would much more broadly eliminate rail-to-rail competition in key corridors and regions of the nation. Unless these broad and severe anticompetitive effects are cured by the imposition of meaningful conditions, approval of the merger as proposed would be inconsistent with the public interest.

In this case, the Applicants have contended that any anticompetitive effects of the proposed transaction in markets where there is currently direct competition between UP and SP will be mitigated because of an agreement that the Applicants have negotiated with the Burlington Northern Santa Fe Railroad Company ("BNSF"). Under that agreement, the Applicants have granted the BNSF trackage rights and other access in order to serve certain points currently served by both of the Applicant carriers. Therefore, the Applicants contend, direct anticompetitive harm from the merger is forestalled.

But this claim is wrong. As set forth in detail in these Comments and in the evidence accompanying them, this access agreement does *not* permit BNSF to

engage in full and effective competition -- "hard competition," in the economic vernacular -- *even* at the points at which competition is directly affected by the proposed transaction. The evidence shows that BNSF will be fatally handicapped as a competitive threat by, among other things: an inability to achieve traffic densities required for competitive operations; a variety of operational barriers; the need for substantial investment in infrastructure that the traffic densities will be unable to justify; and significantly higher costs than the merged UP/SP. Thus, under existing precedent, the Board must impose substantial conditions on the proposed transaction in order to protect competition in affected markets.

Moreover, the anticompetitive effects of the proposed transaction would, absent the imposition of ameliorative conditions, extend well beyond the loss of competition at directly-affected points. Wide geographic regions of the nation will be affected. The proposed transaction will, if approved, create the largest railroad in the United States, whether measured by miles of road, net investment, operating revenue, or net railway operating income. Indeed, in evaluating the effects of the proposed merger, the Board will need to consider the fact that, west of a line drawn from Chicago south to New Orleans along the Mississippi River -- the western two-thirds of the nation -- a merged UP/SP and the BNSF together will own approximately 85 percent of the track, will likely generate over 90 percent of the gross ton-miles, and will earn about 90 percent of the total net railroad operating income of all Class I rail carriers operating in the area.

Finally, in keeping with the unprecedented scope and impact of the proposed merger, the Board must be mindful that its decision on the proposed transaction will create important precedent for the future. The effects of the Board's decision in this matter will reverberate far outside the already-substantial geographic area described in the merger application. Indeed, it will affect the

nature and shape of, and public policies applicable to, the railroad industry as a whole.

Under Section 11344 of the Interstate Commerce Act,[1] as amended by the Staggers Act of 1980, the Board may approve and authorize a transaction only when it finds that it is "consistent with the public interest." 49 U.S.C. §11344(c). It is clear that the broad "public interest" standard affords the agency wide discretion, subject to the requirements of the statute and the Administrative Procedure Act.

In this case, the unprecedented anticompetitive effects of the proposed transaction will require the Board to take a broad view of its responsibilities, and will require the consideration of fundamental legislative policies, to be applied to a merger that would shape transportation and product markets for years to come.

The primary statutory policy that must be considered is the requirement of Section 10101a of the Interstate Commerce Act that the Board "allow, to the maximum extent possible, competition . . . to establish reasonable rates for transportation by rail." 49 U.S.C. §10101(a)(1). The League firmly believes that there are *two* complementary aspects to this statutory command. First, the Board must, where possible, eliminate unnecessary regulation of rail carriers. But the Board must *also*, where possible, ensure that existing competition for transportation by rail is preserved. Failure to preserve existing competition will

---

1 On December 26, 1995, the President signed Public Law 104-88, the ICC Termination Act of 1995. That statute abolished the Interstate Commerce Commission and established the Surface Transportation Board as the statutory successor to the ICC. Though the Termination Act substantially revised the provisions of the Interstate Commerce Act, Section 204(b) of the Termination Act provides that the requirements of that Act should not affect any proceeding or any application pending, as the instant Railroad Merger Application was, before the Interstate Commerce Commission at the time that the Termination Act took effect on January 1, 1996. Section 204 of the Termination Act also states that orders shall be issued in such proceedings "as if [the Termination Act] had not been enacted." Thus, the provisions of the former statute apply. All citations in these Comments, therefore, will be to the Interstate Commerce Act as it applied prior to January 1, 1996.

*increase* the need for regulation, not diminish it. Indeed, failure to preserve existing rail-to-rail competition for rail-dependent commodities will work to undermine the very foundation upon which the Staggers Act rests: namely, that competition for rail-dependent commodities *in fact exists* that can operate to "establish reasonable rates for transportation by rail."

Accordingly, the League opposes the proposed merger of the Union Pacific and the Southern Pacific *unless* conditions to mitigate the anticompetitive harm are granted.

In this connection, however, it is important to note that the League does *not* oppose the merger in its entirety: it believes that the proposed merger will generate efficiencies in various important corridors that will redound to the benefit of shippers in those corridors. However, the League believes that in other corridors and regions -- particularly for transportation between areas of Texas and Louisiana and key Midwest gateways, and along the Central Corridor -- the effects of the merger will cause serious competitive harm. Therefore, the transaction must be conditioned upon the elimination of these serious anticompetitive effects.

The League asks the Board to impose the following primary conditions:

A. Texas Gulf Coast and Related Lines:

(1) New Orleans to Houston: Divestiture of SP's line from New Orleans to Houston including the line between Iowa Jct, LA and Avondale, LA that is scheduled for sale to the BNSF under the UP/SP/BNSF access agreement, and including access in the vicinity of New Orleans to related terminal facilities.

(2) Houston to St. Louis: Divestiture of SP's line from Houston, TX to Memphis, TN; divestiture of SP's line from Brinkley, AR to North Jct., MO; and transfer of existing SP trackage rights from North Jct., MO to East St. Louis, IL to the rail carrier acquiring the Brinkley to North Jct. line.

(3) Houston to Brownsville/Mexican Border: Divestiture of SP's line from Houston to Placedo, TX via Flatonia, TX and transfer of existing SP trackage rights from Placedo to Brownsville to the rail carrier acquiring the Houston to Placedo line; and divestiture of SP's line from Flatonia to Eagle Pass, with BNSF retaining existing haulage rights to Eagle Pass.

B. Central Corridor:

Divestiture of SP's line between Stockton/Oakland, CA and Denver/Pueblo, CO and transfer of SP's existing track or trackage rights to Kansas City via Herrington to the rail carrier acquiring the California to Colorado line.

C. Retention of Trackage Rights

UP/SP should retain overhead trackage rights over all of the lines divested, except that UP/SP should retain full service trackage rights at any point where UP or SP and the acquiring carrier both can serve existing shippers or could serve new shippers locating at those points.

The League understands the serious nature and extent of the conditions that it is requesting. Indeed, this is the first time in its history that the League has requested the kind of conditions that it is seeking in this proceeding. However, as noted above and throughout these Comments, there are significant differences between this proposed merger and earlier mergers, and the League has concluded that the seriousness, extent and scope of the anticompetitive concerns in this transaction fully justify the proposed conditions.

## IDENTIFICATION AND INTEREST OF THE LEAGUE AND DESCRIPTION OF THIS SUBMITTAL

The National Industrial Transportation League is a voluntary organization shippers and groups and associations of shippers conducting industrial and/or mercial enterprises in all States of the Union and internationally. It was ed in 1907, and has approximately 1400 member. These include industrial ommercial enterprises both large and small, as well as commercial, trade ansportation organizations representing shippers. Many members of the

League are substantial users of rail transportation that will be affected by the proposed transaction. The League is the only nationwide organization representing shippers of all sizes and commodities, using all modes of transportation, to move their goods in interstate, intrastate, and international commerce.

This submittal consists of three parts:

A. COMMENTS AND REQUESTS FOR CONDITIONS

The first part consists of Comments and Requests for Conditions, which set forth the legal standards that the League believes should be applied in this case; the overall competitive problems posed by the proposed merger; and the affect of the agreement between the Applicants and the Burlington Northern Santa Fe Railroad Company dated September 25, 1995, as amended and supplemented (which agreement will be termed herein the BNSF "Access Agreement"). These Comments also discuss the fact that the BNSF Access Agreement cannot and does not provide effective competition to replace the competition lost by the merger of the Applicants, and the failure of other forms of competition to check the market power of the Applicants.

Finally, in light of the evidence described in these Comments, the League believes that the remedies outlined in Section I above are appropriate and indeed necessary. In the very last portion of its Comments and Requests for Conditions, the League explains the conditions that it seeks, and the reasons for them.

VERIFIED STATEMENT OF DR. WILLIAM G. SHEPHERD

The second part of this submittal consists of the Verified Statement of Dr. William G. Shepherd. Dr. Shepherd is a Professor of Economics at the University of Massachusetts in Amherst, Massachusetts, and is a nationally known-expert dealing in matters involving transportation and competitive markets. Dr. Shepherd's statement discusses economic criteria that are relevant

to the policy judgments that the Board must make; the mainstream economic literature dealing with effective competition and monopoly impacts; and the relevant markets for considering this proposed merger and the likely increase in market power. He discusses helpful examples in the telecommunications and airlines industries to inform the Board's judgment.

Dr. Shepherd then analyzes the reduction in competition from the proposed merger in a number of markets; the trackage rights under the BNSF Access Agreement; and the barriers that BNSF will face in providing effective competition. Finally, Dr. Shepherd's Verified Statement examines the effect on prices and performance that are likely to occur as a result of the proposed transaction.

C. VERIFIED STATEMENT OF THOMAS D. CROWLEY

The third part of this submittal consists of the Verified Statement of Mr. Thomas D. Crowley, President, L.E. Peabody and Associates, an economic consulting firm. Mr. Crowley, a recognized expert in transportation economics and transportation markets who has testified in railroad matters numerous times before the Interstate Commerce Commission, courts, and other federal agencies, discusses in detail the competition allegedly provided by the Access Agreement in purportedly curing the anticompetitive effects of the proposed transaction.

Mr. Crowley examines the traffic that will actually be available to the merged BNSF after the proposed merger under the Access Agreement, and concludes that the BNSF will simply not have enough traffic in the Central Corridor or in the Houston to Memphis corridor to effectively replace either of the two merging railroads. He shows that the claim that the BNSF will have access to $1.812 billion per year in additional traffic is wildly overstated and that the actual traffic realistically available to BNSF is only a small fraction of that number. After carefully examining BNSF traffic over the lines at issue in the

Access Agreement and other lines, and after applying the Applicants' own assumptions regarding the traffic that BNSF will capture, he shows that BNSF will not have sufficient traffic available to operate trains efficiently over either the Houston to Memphis corridor or the Central Corridor.

Additionally, Mr. Crowley shows in his Verified Statement that BNSF's costs of providing service in the Houston to Memphis corridor and along the Central Corridor under the Access Agreement will significantly exceed the cost incurred by UP or SP to operate in the same corridors. Moreover, BNSF will be faced with significant operating problems and infrastructure costs if it attempts to compete. The lack of traffic density, the unequal playing field with regard to costs, and the substantial infrastructure and operating barriers all mean that the Access Agreement does *not* permit the BNSF to be an effective competitor at the affected points and in the affected corridors and markets.

## III. THE INTERSTATE COMMERCE ACT, AS AMENDED BY THE STAGGERS ACT, REQUIRES THE BOARD TO BROADLY IDENTIFY POTENTIALLY HARMFUL COMPETITIVE EFFECTS OF A PROPOSED MERGER IN SPECIFIC CASES AND TO MITIGATE THOSE EFFECTS WHEREVER POSSIBLE

Under Section 11343 of the Interstate Commerce Act, a consolidation or merger of two carriers may be carried out only with the approval and authorization of the Surface Transportation Board as the successor to the Interstate Commerce Commission. 49 U.S.C. §11343(a). Both the legislative history of the statute and the former ICC's decisions demonstrate that the agency must carefully and broadly consider the potential adverse effects on competition among rail carriers in an affected region. Moreover, where a proposed merger results or may result in harmful competitive effects, the Board *must* impose conditions on the merger to eliminate those effects, as long as the conditions are

operationally feasible and will produce public benefits outweighing any harm to the merger.

## A. THE STATUTORY STANDARD

The Interstate Commerce Act, in 49 U.S.C. §11344(b)(1), requires the Board to consider, in a proceeding involving the merger of two or more Class I railroads, at least the following:

> (A) the effect of the proposed transaction on the adequacy of transportation to the public.
> (B) the effect on the public interest of including, or failing to include, other rail carriers in the area involved in the proposed transaction.
> (C) the total fixed charges that result from the proposed transaction.
> (D) the interest of carrier employees affected by the proposed transaction.
> (E) whether the proposed transaction would have an adverse effect on competition among rail carriers in the affected region.

The statute directs the Board to "approve and authorize a transaction . . . when it finds the transaction consistent with the public interest." 49 U.S.C. §11344(c). The same section also provides that the Board "may impose conditions governing the transaction." *Id.*

Subparagraph (E) of Section 11344(b)(1) was added to the Interstate Commerce Act by the Staggers Rail Act of 1980. Pub. L. 96-448, 94 Stat. 1931 (Oct. 14, 1980). The legislative history of the provision plainly demonstrates that Congress added that section in order to ensure that sufficient marketplace forces would be available after a proposed rail merger to replace the strict regulation previously used to protect shippers from the effects of monopoly power. 126 Cong. Rec. H8604 (daily ed. September 9, 1980)(remarks of Representative

Panetta). The Staggers Act thus reflects an *explicit* directive by Congress to preserve competition when considering a major rail merger.

Moreover, numerous provisions of the new rail transportation policy adopted in the Staggers Act reflected the Congress' directive that the agency should insure that competition be preserved and indeed enhanced in the administration of every aspect of its regulatory responsibilities. See, *e.g.*, 49 U.S.C. 10101a(1), (4), (5), (7), (11), (13). Of particular note was the very first policy, which indicated that it was the policy of the United States Government "to allow, *to the maximum extent possible, competition* and the demand for services *to establish reasonable rates for transportation by rail.*" 49 U.S.C. 10101a(1) [emphasis added]. The national transportation rail policy's emphasis on the role of competition was plainly intended to be implemented in major rail merger cases because of the adoption of the amendment to Section 11344. Indeed, the agency itself has recognized that "the rail transportation policy emphasizes the importance of the relationship between ensuring adequacy of transportation and the retention of competition." *Union Pacific Corporation, Pacific Rail System, Inc. and Union Pacific Railroad Company - Control - Missouri Pacific Corporation and Missouri Pacific Railroad Company*, 366 I.C.C. 462, 484 (1982) [*UP/MP Control*].

In addition to these explicit statutory considerations, the Board is also required by *McLean Trucking Co. v. United States*, 321 U.S. 67 (1944) and the *Northern Lines Merger Cases*, 396 U.S. 491, 510-513 (1970), to weigh the policy of the antitrust laws disfavoring diminution in competition resulting from a proposed merger against the national transportation policy favoring improvements in efficiency from an integrated national transportation system. The agency has noted that, while it does not sit as an antitrust court, the antitrust laws give "understandable content to the broad statutory concept of the public

interest." *UP/MP Control*, 366 I.C.C. at 485, *quoting FMC v. Aktiebolaget Svenska Amerika Linien*, 390 U.S. 338, 244 (1968). Even if a particular transaction would not violate the antitrust laws, the Board has the discretion to disapprove it. *Burlington Northern Inc. and Burlington Northern Railroad Co. -- Control and Merger -- Santa Fe Pacific Corp. and the Atchison , Topeka and Santa Fe Railway Company*, slip op. at 53 (Aug. 23, 1995) [*BN/SF Control*].

## B. THE BOARD'S IMPLEMENTATION OF THE STATUTE INDICATES THAT IT MUST IDENTIFY POTENTIALLY HARMFUL COMPETITIVE EFFECTS AND MITIGATE THOSE EFFECTS WHEREVER POSSIBLE

### 1. The Agency's Policy Statement On Rail Mergers Explicitly Requires It To Consider Any Significant Lessening or Reduction In Competition Caused By a Merger.

As currently codified at 49 C.F.R. §1180.1(c), the Board's policy statement on major rail mergers states that the agency performs a balancing test, weighing the potential benefits to the applicants and the public against the potential harm to the public. In developing the current policy statement, the ICC emphasized that it was "concerned about *any significant 'lessening' or 'reduction' in competition caused by a consolidation.*" *Railroad Consolidation Procedures*, 363 I.C.C. at 786-87 [emphasis added]. The policy statement also details the potential benefits and potential harm that it will balance and the evidence that the agency will consider in a major rail merger proceeding:

> If two carriers serving the same market consolidate, the result would be the elimination of the competition between the two. Even if the consolidating carriers do not serve the same market, there may be a lessening of potential competition in other markets. . . . In some markets the Commission's focus will be on the preservation of effective intermodal competition, *while in other markets (such as long-haul movements of bulk commodities) effective intramodal competition may also be important.*

49 C.F.R. §1180.1(c) [emphasis added]. Thus, the Board's current policy statement *explicitly* recognizes that the preservation of effective rail-to rail competition is frequently necessary when considering the effects of a rail merger on long haul movements of bulk commodities.

Since the passage of the Staggers Act, the agency has consistently emphasized the need to protect the public from any harmful effects on competition resulting from a proposed rail merger. In its decision in *UP/MP Control*, the agency noted that:

> [o]ur analysis of the potential harm from a proposed consolidation focuses on two impacts highlighted by the statutes and policies discussed above: *any reduction in either intra- or intermodal competition which would likely result from the consolidation*; and any harm to essential services provided by competing carriers . . .

366 I.C.C. at 486. In *Santa Fe Southern Pacific Corporation-Control-Southern Pacific Transportation Company*, 2 I.C.C.2d 709, 726 (1986) [*SF/SP Control*], the agency emphasized that "the effect of a transaction on competition is a *critical factor* in our consideration of the public interest. . . ." [Emphasis added]. See also, *BN/SF Control*, slip op. at 55.

Thus, the policy statement and case law is clear that, in examining a proposed transaction, the Commission must look at *specific* instances where a lessening or reduction in competition is alleged to take place, and that the Commission must *broadly* consider all types of restrictions on competition.

Indeed, in the broadest sense, the agency has noted that the changes wrought by the Staggers Act:

> actually *increased the need to identify carefully any anticompetitive effects and to balance those effects against the benefits of a transaction*. . . .The new policy favoring increased reliance on competition to regulate activities will govern the environment in which the new system will operate.

> The ability of the railroads to take various actions free of regulatory restraints will make it easier to exert or abuse market power gained as a result of consolidation. *For these reasons we must take even greater care to identify harmful competitive effects and to mitigate those effects where possible.*

*UP/MP Control*, 366 I.C.C. at 502. *See also, SF/SP Control*, 2 I.C.C.2d at 727.[2]

2. The Board's Power To Condition a Proposed Consolidation In Order To Eliminate Anticompetitive Effects Is Broad

The Board's power to attach conditions to its approval of a major rail merger is, under the statute, unqualified, and the agency itself has characterized its authority as "broad." 49 U.S.C. §11344(c); *BN/SF Control*, slip op. at 55; *UP/MP Control*, 366 I.C.C. at 562. The agency has observed that conditions generally will be imposed where certain criteria are met. *See, e.g., Union Pacific Corp, et al. — Control — Chicago and North Western*, Finance Docket No. 32133, served March 7, 1995, mimeo at 56 [*UP/CNW Control*]. The agency has determined that if a transaction threatens harm to the public interest, conditions *should* be imposed if they are operationally feasible, ameliorate or eliminate the harm threatened by the transaction, and they are of greater benefit to the public than they are detrimental to the transaction. *UP/MP Control*, 366 I.C.C. at 564.

3. The Agency Has Recognized That It Must Carefully Examine Reductions in Competition In a Variety of Situations

Finally, the agency has recognized that it must exercise its obligation to protect competition in a variety of situations, and not just at points directly served by just the two merging carriers. For example, the ICC has noted that a

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[2] As a consequence, the Board must assess the impact of the proposed transaction on competition of all commodities transported in the markets affected, whether or not the transportation is still subject to regulation.

reduction in rail carriers from three to two does in some cases entail "a substantial lessening of competition." *UP/MP Control*, 366 I.C.C. at 531. In *Guilford Transp. Industries, Inc. - Control - Boston and Maine Corp.*, 5 I.C.C.2d 202, 213 (1988), the ICC stated that a reduction from three rail carriers to two might be a significant lessening of competition where traffic is not considered highly truck competitive. Similarly, in *SF/SP Control.*, 2 I.C.C.2d at 791, n.72 (1986), DOJ and DRGW argued, and the agency recognized, "that a reduction of competitors from 3 to 2 can result in significant anticompetitive behavior, such as collusion and mutual forbearance." The agency went on to state that:

> Reduction in the number of competitors from two to one, where the merging carriers have been the only competitors, creates the obvious problem of a monopoly. However, the mere reduction rather than elimination of competitors, e.g., from three to two, may create serious anticompetitive problems as well.

*Id.* at 792; see also *BN/SF Control*, slip op. at 55 (1995). *See also, Norfolk Southern Corp. -- Control -- Norfolk & W. Ry. and Southern Ry.*, 366 I.C.C. 173, 193 (1982).

## IV. THE BOARD MUST APPLY ECONOMIC PRINCIPLES APPLICABLE TO ALL OTHER INDUSTRIES IN ANALYZING THE PROPOSED TRANSACTION

The consolidation that has occurred in the last twenty years in the U.S. railroad industry has lead to a significant concentration of economic power in the hands of a few carriers. Particularly in light of that circumstance, the Board must consider and apply the correct economic principles in considering the merger of two of the three remaining major rail carriers in the Western United States.

To assist the Board in this important task, the League has engaged a leading expert in the economic specialty of industrial organization. In the Verified

Statement submitted with these Comments, Dr. William G. Shepherd has presented the mainstream economic principles that must be applied by the Board in considering this merger, and has himself applied those principles to an analysis of this merger. This analysis demonstrates the need for the Board to be very certain that if it approves this merger, it must use its established power to condition it to ensure, to the greatest extent possible, the salutary benefits of competition.

The concentrated structure of the railroad industry that already exists in the United States can be readily seen by reference to a few significant statistics. At the present time, there are only six major Class I railroads operating in the entire nation.[3] Thus, on a national basis the rail industry is already highly concentrated. Based on 1994 statistics,[4] a combined BN/SF system would have operated 24.8% miles of all road operated, and would have handled 30.0% of all revenue ton-miles. A combined UP/CNW system would have operated 18.4% miles of all road operated, and would have transported 22.7% of all revenue ton-miles.

Within the Western United States, the degree of concentration is even greater. Again based on 1994 statistics, a combined BN/SF would have operated 40.7% of all of the miles of railroad in that region, and would have transported 48.7% of all the carloads originated, 50.0% of all of the tons originated and 44.9% of all of the ton-miles. A combined UP/CNW would have operated 30.3% of the miles of road operated, and would have transported 31.1% of all of the carloads originated, 28.8% of all of the tons originated and 34.0% of all of the

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At the time of the approval of the Staggers Act, there were 35 Class I rail carriers.

The statistics in this section are derived from the *Railroad Facts, 1995 Edition*, published the Association of American Railroads. A table summarizing the information presented in that blication is attached to these Comments as Attachment 1.

ton-miles. If the UP/CNW system had been combined with the Southern Pacific system in 1994, that combination would have operated 48.6% of the miles of road operated, and would have originated 44.5% of the carloads and 43.0% of the tons in that region, and handled 50.6% of the ton-miles. If the BN/SF and the UP/CNW/SP combinations had been in place in 1994, together they would have accounted for 89.3% of all the Class I rail miles operated in the western United States; more significantly, those two systems would have originated 93.0% of all of the carloads and 93.1% of the tons in that region and would have transported 95.5% of all of the ton-miles. An unconditioned merger of the UP and SP would clearly leave the market for rail transportation in the western United States dominated by two large rail systems.

With these facts as a starting point, it should be immediately clear that the Board needs to give the proposed transaction a hard look. The degree of concentration that this transaction will create, nationally and regionally, requires careful and thorough consideration.[5] In addition, the Board must take all necessary steps to ensure that there will continue to be effective competition between rail carriers in the affected regions. As Dr. Shepherd states:

> [T]his merger presents the Board for the first time with the creation of a 2-railroad dominance in the whole western two-thirds of the U.S. The Board needs to take a fresh look at this distinctive situation. It is different from other recent mergers.

epherd V.S. at 9.

Dr. Shepherd goes on to say that this fresh look requires the application to railroad industry of the mainstream economic criteria that are relevant to all kets. *Id.* The appropriate principles for the analysis of the impact on

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Dr. Robert D. Willig, an economist appearing as a witness for the Applicants, recognized important for the Board to proceed with a careful analysis when the merger would have "a trating effect." Willig Dep. Tr. 359-360.

competition of this merger are fully set out in Dr. Shepherd's Verified Statement. The relevant economic goals are efficiency, innovation, fairness and freedom of choice.

In order to determine if this merger will allow competition to prevail to the maximum extent possible, the Board must conduct an appropriate economic analysis of its effect on competition in the relevant markets. First, as Dr. Shepherd describes, the relevant markets must be defined so as to include product and geographic markets that only include fully-substitutable services. Shepherd V.S. at 12-13. Next, the Board must consider whether or not there is effective competition. *Id.*, at 14. The central part of this analysis requires a consideration of three elements in each relevant market: (1) the number of competitors; (2) the existence of competitive parity; i.e. no unilateral dominance; and (3) the availability of entry. *Id.* at 15-21. Beyond that, there are a number of considerations that are specific to the circumstances of this proposal that, combined with the basic inquiry, highlight the reduction in effective competition in numerous markets that could occur. These would involve, in Dr. Shepherd's view, the very small number of competitors, with opportunities for coordinated behavior; the special circumstances of a network-based industry; and the opportunities for dominant firms to engage in price discrimination. *Id.* at 22-33.

The consequences of an unconditioned merger in an already-concentrated rail transportation industry are not trivial. Unless mitigating conditions are imposed to insure that competition prevails, as Dr. Shepherd notes, higher prices for rail transportation services will result throughout the region served by the remaining two carriers. Moreover, those consequences will be felt far beyond the very narrow focus of the ICC in recent years on the effect of rail mergers in 2-to-1 markets. Shepherd V.S. at 9 and 15-18. The consequences of an unconditioned merger are also succinctly summarized in the Horizontal Merger

Guidelines issued by the U.S. Department of Justice and the Federal Trade Commission as follows:

> The unifying theme ... is that mergers should not be permitted to create or enhance market power or to facilitate its exercise. Market power to a seller is the ability profitably to maintain prices above competitive levels for a significant period of time.[6] ... [I]n some circumstances, where only a few firms account for most of the sales of a product, those firms can exercise market power, perhaps even approximating the performance of a monopolist, by either explicitly or implicitly coordinating their actions. Circumstances also may permit a single firm, not a monopolist, to exercise market power through unilateral or non-coordinated conduct -- conduct the success of which does not rely on the concurrence of other firms in the market or on coordinated responses by those firms. In any case, the result of the exercise of market power is a transfer of wealth from buyers to sellers or a misallocation of resources.
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> [6] Sellers with market power also may lessen competition on dimensions other than price, such as product quality, service, or innovation.

1992 Horizontal Merger Guidelines, 1992 FTC LEXIS 176, *9-*10. [footnote in original].

Thus, in fulfilling its charge of considering the public interest, the Board must thus look beyond a narrow focus on the operational efficiencies that might be gained, and pay heightened attention to the significant loss of *economic* efficiency that could occur. In doing so, the Board must thus give full play to the fundamental pro-competitive policies of the Staggers Act and, as the railroad industry evolves toward greater and greater reliance on market forces rather than regulation, to the bedrock dictates of antitrust policy that are applicable to all other industries.

## V. THE ANTICOMPETITIVE EFFECTS OF THE PROPOSED MERGER WILL EXIST AT NUMEROUS POINTS AFFECTING SUBSTANTIAL COMMERCE, AS WELL AS IN IMPORTANT CORRIDORS AND REGIONS

In its decision in *BN/SF Control*, the Interstate Commerce Commission closely examined the potential anticompetitive effects of the merger at selected points. In considering competition at those points, the agency examined several criteria in assessing whether markets served by the merging parties would suffer competitive harm. *Id.* at 55. The agency indicated that:

> The commodity in question and length of haul provide an indication of the effectiveness of truck competition. The reduction in independent rail routings or the increase in concentration or shares of relevant traffic flows indicate to some extent the likelihood of adverse change in post-merger market power.

*Id.* The ICC noted that "[t]he determination of competitive harm is more evident where possible routing options on a rail-bound commodity drop from two originating or terminating railroads to one." *Id.* In those particular instances, anticompetitive horizontal effects occur where there is "loss of direct, head-to-head competition between two railroad serving the same origin-destination pair...." *Id.*

In its *BN/SF Control* decision, the ICC approved the merger in large part upon its finding that "*transportation* competition will be as robust and effective following the merger as it is presently . . ." *id.* at 59 [emphasis added], a conclusion that rested "primarily upon *continued intramodal competition.*" *Id.* [emphasis added] Thus, in that transaction, the agency found that continued intramodal competition -- *i.e.*, rail-to-rail competition -- was *crucial* in finding that the merger was consistent with the public interest.

However, the agency found that it was required to impose ameliorative conditions "to eliminate what would otherwise be transaction-caused diminutions

of competition" at a number of specific points, including Superior, NE, in the Pueblo-Fort Worth Corridor, at Amarillo, Plainview, Lubbock, TX, and several other specifically-identified points. *Id.* These, the agency said, were "problem areas." *Id.* at 63. The hallmark of these "problems areas" was that the applicants in that case *both* served these points, called "2-to-1" points, and that after the merger these points would be served by a single carrier.

In the *BN/SF Control* proceeding, The National Industrial Transportation League participated actively, filing evidence that specifically focused on the 2-to-1 point "problem areas" identified in the agency's decision. In its decision, the ICC credited the League's study, along with a similar study offered by the Department of Justice. The agency noted, for example, that the importance of competitive rail service at several of the "problem area" points "is well documented by the DOJ and NITL analyses." *Id.* at 64. The agency imposed pro-competitive conditions on the merger at these problem areas "because we think that such conditions are required to ameliorate the anticompetitive consequences that would otherwise flow from an unconditioned merger." *Id.* at 84.

With respect to the proposed transaction now before the Board, the League believes that the analytical process in evaluating the potential anticompetitive effects should be a three-step one. *First*, the agency should evaluate whether the proposed transaction, *without* consideration of the BNSF Access Agreement, would have an adverse effect on competition among rail carriers in the affected region. *Second*, if the answer to that question is in the affirmative, then the Board should determine whether the BNSF Access Agreement eliminates the adverse effect on competition. *Third*, if the Board finds that the Access Agreement does not completely eliminate the adverse effect on competition, then the agency should determine whether there are any other forms of competition --

intermodal, product, or geographic -- that would completely eliminate the adverse effect. If the answer to this final question is in the negative, then the Board should determine the conditions that must be imposed in order to cure the anticompetitive effects.

In this Section, the League sets forth its view of the evidence that it believes clearly shows that, without consideration of the BNSF Access Agreement, the proposed merger will have serious anticompetitive effects not only at particular points (as was the case in the *BN/SF Control* proceeding, although the points affected here are far more numerous and involve far larger amounts of traffic), but also that there are serious anticompetitive effects in larger areas such as states, regions, and corridors. The Board must specifically consider each of these. As noted in the accompanying Verified Statement of Dr. Shepherd,

> [t]he merger's anticompetitive effects occur in specific markets, areas and regions, and the cures for those effects are matters of specific detail. An assessment only of the merger's total effects will not clarify those individual effects.

Shepherd V.S., p. 4. Dr. Shepherd notes that the relevant markets include not only individual shipping points (and in some cases, individual traffic flows at a shipping point), but also corridors and region-wide areas. Shepherd V.S., pp. 34-39.

In Section VI below, the League shows that the BNSF Access Agreement does *not* cure the anticompetitive effects of the proposed transaction. In Section VII, the League submits its view of the evidence that indicates that other forms of competition do not and cannot provide a remedy to the anticompetitive conditions that would otherwise result from this transaction, even after considering the effect of the BNSF Access Agreement. Finally, in Section VIII below, the League sets forth its proposed remedies and the reasons why those remedies should be imposed by the Board.

In this connection, the League would note that there are many other trade organizations and groups representing persons engaged in the shipment and receipt of goods who will be submitting comments and evidence in this proceeding, as well as many other individual shippers and other parties. The League urges the Board to carefully review those comments and that evidence, since the Board's decision must be based on the totality of the evidence in the case. The League believes that the totality of the evidence clearly will reveal that there are serious anticompetitive concerns arising as a result of this proposed merger, and that significant conditions must be imposed to alleviate those anticompetitive effects.

## A. THERE ARE NUMEROUS AND SIGNIFICANT REDUCTIONS IN COMPETITION AT TWO-TO-ONE POINTS AS A RESULT OF THE PROPOSED TRANSACTION

As noted by Dr. Shepherd, it is clearly appropriate in this case to identify the anticompetitive effects of the proposed merger at specific shipping-points and between specific origin-destination markets. Shepherd V.S., pp. 39-40. The League has done so. Specifically, in this case, the League has submitted a traffic study identical to the one credited by the ICC in the *BN/SF Control* decision, by the same economic consulting firm that submitted a statement in that case, using the same methodology. That study, which is submitted as part of the Verified Statement of Thomas D. Crowley ("Crowley V.S.") shows significant reductions in competition in an area far more extensive than the study in the *BN/SF Control* case. Thus, for the same reasons as the agency found in that case, the Board should find here that the proposed transaction, if unconditioned, will have an adverse effect on competition at a variety of points.

As noted in the statement of Mr. Crowley, the UP and SP rail lines overlap at numerous points located in a number of states west of Mississippi River, including points in the states of Utah, Kansas, California, Texas, Arkansas,

Louisiana, Nevada, and Missouri. Crowley V.S., Exhibit TDC-1A. Within these states, the UP and SP alone serve a total of 154 common points, represented by the 6-digit Standard Point Location Codes as determined from the AAR's 1995 Centralized Station Master database. That is, the same SPLC number appears in the data as both a UP station and an SP station. Crowley V.S., p. 9 and Exhibit TDC-1A. It should be noted that SPLCs are the *narrowest* definition of commonly-served points, and do not have even the arguable defects that might flow from data that would imply a wider definition of commonly-served points.[6] A total of 83.4 million tons of traffic originate or terminate at these points, producing revenue for the UP and SP of almost $2.6 billion. Exhibit TDC-1B and 1C. Clearly, a massive amount of traffic is impacted by the proposed merger at commonly-served points.

Even when the data is examined on a route-specific basis, the direct anticompetitive impacts of the proposed transaction are extremely large. For this analysis, Mr. Crowley examined all traffic originating at a common UP/SP location that also moved along a route to a destination/interchange at which the UP and SP could also compete. Crowley V.S., pp. 9-10. One hundred and seventy-nine (179) separate routes were identified as "impacted" routes. Crowley V.S., p. 12. Almost 9.0 million tons of traffic moved over these routes, which traffic generated revenue for the carriers of $321,596,000. *Id.*, and Exhibit TDC-2. These include, for example, over of traffic from Salt Lake City, UT; of traffic from Orange, TX, in traffic from Baytown, TX, in traffic from Brownsville, TX; and in traffic from Pine Bluff, AR.

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6 For example, it might be argued that BEAs should not describe commonly-served points, since BEAs may be significantly larger geographic areas, and two rail lines within a BEA may be geographically quite separate. SPLCs do not have this problem.

Under the standards set forth in the *BN/SF Control* decision, there is clearly potential competitive harm, even when the most narrow market definition is proposed. A substantial number of points served by both carriers will become single-rail served origins or destinations, and numerous independent and independent competitive rail routings will be eliminated. In the *BNSF Control* case, the agency identified only a few "problem areas." Here in contrast, there are many more "problem areas." *Cf. BN/SF Control*, slip op. at 55, 63-64.[7]

Moreover, the "problem areas" involve a number of commodities that are clearly rail-dependent. Specifically, in Exhibit TDC-1B, Mr. Crowley has listed all of the commodities originated or terminated at the "2-to-1" points. These include such commodities as: bituminous coal (STCC 11212, 27.0 million tons shipped, producing rail revenues of $413.0 million); plastic resins (STCC 28211, 3.48 million tons shipped, producing rail revenues of $132.9 million); lumber (STCC 24211, 1.286 million tons shipped, producing revenues of $62.3 million); crushed stone (STCC 14219, 5.7 million tons shipped, producing rail revenues of $47.2 million); and iron concentrates (STCC 10113, 2.1 million tons shipped, producing rail revenues of $45.8 million). See Crowley V.S., Exhibit TDC-1B. In the agency's decision in *BN/SF Control*, the ICC specifically found that for certain traffic originating or terminating at a point, "truck competition is not a significant factor" because such traffic was predominantly bulk freight. *Id.* at 63. The evidence in this case clearly shows that there are substantial amounts of rail-dependent commodities moving to or from 2-to-1 points.[8]

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In broad terms, there is no real dispute by the Applicants that the proposed merger, ding alone, would have significant anti-competitive effects. Rebensdorf Dep. Tr. 539, 579, 637.

Indeed, in their Application, the Applicants indicate that numerous commodities that are ally thought of as rail-dependent, such as plastics, bulk chemicals, and others, move over the ted corridors, including the affected 2-to-1 points. The Applicants seek to escape from

Similarly, in its decision in *BN/SF Control*, the agency found that truck transportation for grain moving from Superior, NE to Chicago, Illinois, Kansas City, and the Gulf Coast was not a competitive factor because "the distances are too great." Slip op. at 63. An examination of the detailed backup to Mr. Crowley's routing analysis, see Crowley V.S., Exhibit TDC-2, pp. 2-8, also shows traffic at 2-to-1 points moving long distances. For example, over of traffic move from Salt Lake City, UT to and beyond Kansas City, MO; of traffic move from City of Industry, CA to and beyond East St. Louis, IL; nearly . of traffic move from Orange, TX to and beyond East St. Louis, IL; and nearly of traffic move from Pine Bluff, AR to and beyond Chicago, IL. *Id.*

Thus, in the case, as in the *BN/SF Control* proceeding, even when the very narrowest definition of markets is considered, there are clearly severe anticompetitive impacts: (a) significant numbers of points served directly by the Applicant carriers would become single-served points; (b) elimination of numerous competitive routings; and (c) significant amounts of rail-dependent commodities; and, (d) numerous commodities moving substantial distances. Thus, the Board should similarly find that shippers at these points would "sustain merger-caused competitive harm." *BN/SF Control,* slip op. at 63.

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clusion that the proposed merger will cause significant anticompetitive harm by citing the SF Access Agreement, and by making highly generalized assertions regarding product and graphic competition on the basis of anecdotal evidence. But as shown in Section VI below, the ess Agreement does not permit BNSF to serve as an effective competitor, and the assertions of Applicants regarding product and geographic competition are not sufficient to support the lusion that there are significant numbers of movements from 2-to-1 points for which there will fective competition.

## B. THERE ARE SIGNIFICANT ANTICOMPETITIVE EFFECTS ALONG CERTAIN CORRIDORS

Dr. Shepherd also notes that it is necessary for the Board to consider regional markets in evaluating potential anticompetitive effects of the proposed transaction. Shepherd V.S., pp. 42-43. Potential anticompetitive effects in such markets have their own specific dangers. Where, as in this case, the number of potential competitors has been reduced to just two in the entire western two-thirds of the United States, each with their own "home area" and "spheres of influence," there arises, says Dr. Shepherd,

> strong incentives to avoid trying to mount hard competition in each others' home areas, corridors and markets. Each railroad can respond against a challenger by retaliating against it in many other specific markets throughout the west. The net gains to BN/SF or UP/SP from invading the other's home markets will therefore usually be low or negative.

Shepherd V.S., p. 42. Thus, the Board needs to take *particular* care to insure that such effects do not occur where the total market in the west would effectively shrink to only two major competitors.

In past decisions considering whether a particular merger application was "consistent with the public interest," the Interstate Commerce Commission did not concern itself simply with the potential foreclosure of competition at particular points. Rather, the agency also looked more broadly at competitive harm, and examined potential competitive effects upon transportation corridors. Specifically, in *SF/SP Control*, 2 I.C.C.2d 709, 726 (1986), the agency concluded that the relevant freight market in that case was "rail freight transportation over certain corridors in the Western United States." See also, *id.* at 758-59.

Setting aside for the moment the effects of the BNSF Access Agreement on the competitive situation, it appears to be very clear that for the proposed transaction, there is likely to be significant anticompetitive effects on competition

in several key transportation corridors. The entire Central Corridor is currently served by only two rail carriers: the UP and the SP, over largely parallel tracks extending for over 1,500 miles. The Applicants' own evidence shows that in the Northern California to Midwest (Kansas City, Chicago) corridor, UP and SP carry of all rail traffic moving between those two points. Peterson V.S., Appendix A, p. 303. The states of Nevada, Utah, and most of Colorado are currently served by *only* these two rail carriers, and the route is an important one for a variety of commodities. After the merger, these states will become single-railroad jurisdictions, unless the BNSF Access Agreement can fully replicate the competition presently being provided by the Applicant carriers.

Similarly, there are important potential anticompetitive effects from the Texas Gulf Coast to key Midwest gateways. This area originates massive amounts of chemicals and plastics traffic destined to points across the United States. Again, the Applicants' own evidence shows that in the Memphis to Houston corridor, UP and SP carry of all rail traffic moving between those two points. Peterson V.S., Appendix A, p. 307.[9]

In short, there are likely to be significant anticompetitive effects of the proposed merger in certain key transportation corridors.

### C. THERE IS LIKELY TO BE A REDUCTION IN COMPETITION IN THE TRANSPORTATION OF IMPORTANT COMMODITIES NATIONWIDE

As noted in subsection II.A. above, there are numerous rail-dependent commodities that will be affected by the proposed transaction at various points

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and within various states. The League is aware that shippers of these commodities will be presenting evidence as to the effect of the merger on their transportation. While the League cannot address these matters in detail, the League would urge the Board to closely examine the filings by these shippers in its assessment of the effect of the proposed transaction.

Moreover, the Board should also recognize that there are certain commodities, such as plastics, chemicals and perhaps others, in which the Applicants carry a substantial percent of the total amounts of the product produced not just within the specific geographic market, but also nationwide. Again, important evidence will be presented by the shippers most closely affected. For these commodities, the League urges the Board to take particular care to insure that all existing competition is carefully preserved, since the ramifications of broad anticompetitive effects in such key industries pose an extremely disturbing state of affairs.

## VI. THE BNSF ACCESS AGREEMENT DOES NOT AND CANNOT PROVIDE EFFECTIVE COMPETITION AT AFFECTED POINTS AND IN AFFECTED AREAS

Throughout their Application, the Applicants have stated that, if there are competitive problems posed by this transaction, these problems will be cured because the Applicants' agreement with the BNSF will permit that carrier to provide effective competition at affected "2-to-1" points. The testimony of various witnesses, claim the Applicants, demonstrates that the BNSF Access Agreement's "compensation and service terms will ensure strong competition." Application, p. 20. Thus, the BNSF Access Agreement is portrayed as *at least* the partial cure for anticompetitive problems at 2-to-1 points and within transportation corridors.

However, if the Access Agreement does *not* provide effective competition, and if there are no other forms of effective competition (a matter discussed in Section VII below), then under long-standing precedent the proposed transaction *cannot* be approved by the Board without the imposition of substantial conditions to cure the potential anticompetitive effects. Indeed, in *BN/SF Control*, the agency recognized that it was required to impose conditions to cure the anticompetitive effect of that merger *even* as to the relatively limited number of geographic points affected. As set forth in Section V. above, the anticompetitive effects at 2-to-1 points are *much* more extensive in this transaction when compared to the number and importance of the 2-to-1 locations considered by the agency in *BN/SF Control*. Concomitantly, the obligation of the Board to impose ameliorative conditions (and the extent of those conditions) is even greater than was the case in *BN/SF Control*, if the BNSF Access Agreement does not in fact preserve the full measure of existing competition.

The question, essentially, is whether, as a result of the Access Agreement, the BNSF will be truly "in the market," and will truly be able to provide "hard competition." The economic context of this matter is put clearly by Dr. Shepherd:

> If a carrier merely has physical operations at a point or in an area, that alone does not establish that the carrier is genuinely substitutable for other carriers' services in the market. Each carrier must also be fully able to provide comparable services (outgoing and incoming) linked to other areas and points, and at comparable prices.
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> The carrier must also have the abilities and incentives to seek shippers' business actively, in competition with others. And it must have a substantially equal chance to get it. If instead a carrier is physically present but is inactive, or is impeded, or is burdened with higher costs, then that carrier's services are not genuine substitutes in the market.

In this connection, the League believes that the claims of the Applicants regarding the pro-competitive effects of the BNSF Access Agreement must be *very* carefully tested by the Board. Speculation simply will not do. Given the breadth of the potential anticompetitive effect; the seriousness of the anticompetitive consequences; and the extreme difficulty of undoing the competitive harm if problems arise in the future, the League *strongly* believes that *doubts must be resolved in favor of the imposition of pro-competitive conditions*. In all candor, it will be too late to impose conditions if the sunny assurances of the Applicants do not in fact come to pass in the months and years after an unconditioned merger is approved.

The matter, then, rests upon a demonstrated showing by the Applicants that the BNSF Access Agreement will in fact provide full and effective competition. It is to that matter that we now turn.

## A. THE ACCESS AGREEMENT DOES NOT PROVIDE BNSF WITH THE TRAFFIC BASE REQUIRED TO ENABLE THAT CARRIER TO COMPETE EFFECTIVELY WITH UP/SP IN KEY CORRIDORS

In their Application, the UP and SP boldly state that "[e]very 2-to-1 shipper will be served by BN/Santa Fe, and additional competition will be introduced at numerous points. *BN/Santa Fe will gain competitive access to well over $1 billion in traffic.*" Application, p. 20 [emphasis added].[10] Even more boldly, in

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10 However, the access agreement is very narrowly drawn so as to allow BNSF to serve only specific *customers* who are presently served by both UP and SP. Rebensdorf V.S. 292, 297, and Dep. Tr. 395-418. Thus, even though a particular point, such as San Antonio, might be a point where the merger would reduce the number of rail carriers from two to one, BNSF will only be able to provide service to those specific customers at each 2-1 point presently receiving service from both UP and SP and no other rail carrier. This severe limitation on BNSF's access to traffic will greatly limit its ability to compete. Moreover, even though the access agreement appears to allow BNSF access to new customers locating at a 2-1 point, there is already significant disagreement between BNSF and the applicants on the record about BNSF's access under the

the BNSF's "Comments on the Primary Application," filed December 29, 1995, witness Larry M. Lawrence submitted a verified statement that analyzes the BNSF Access Agreement. Mr. Lawrence concludes that the Access Agreement "is a complete and sufficient remedy for the loss of competition" for locations where the merger eliminates access to the UP and SP; that BNSF "will gain access to offer a sizable market opportunity and attractive traffic density"; and that BNSF "should be motivated to compete aggressively for this traffic." Lawrence V.S., p. 3. Mr. Lawrence claims that BNSF will gain "new market access" to UP and SP traffic in the amount of $1.812 *billion* of traffic, and at the 2-to-1 points *alone*, Mr. Lawrence claims that BN will be able to compete for $1.062 billion worth of new traffic. Lawrence V.S., Table 6, p. 3-5.

This traffic claim is *crucial* in determining whether BNSF will indeed be an effective competitor over the lines to which BNSF has been granted access. This is because of the essential role that traffic *density* plays in the economics of railroading, and the concomitant competitiveness of a particular railroad service. Indeed, in *SP/SF Control*, the Interstate Commerce Commission rejected certain proposed conditions because the "resulting lower traffic density" would make the operations being considered less economic. *SP/SF Control*, 2 I.C.C.2d at 825.[11] The same considerations apply here.

First of all, there appears to be little doubt that the railroad industry exhibits economies of density across a wide band of railroad output. See, *e.g.*,

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greement to new customers and new facilities. Compare Rebensdorf Dep. Tr. at 187-188, 796-04 with Ice Dep. Tr. at 410-414.

[11] At his deposition, Mr. Richard Davidson noted that traffic density is a key ingredient in the ccessful use of run-through agreements, a type of trackage access: "The key to it is a certain lume going to a certain destination. I mean it really makes no difference whether it's intermodal whatever type of freight, it's the volume and the origin and destination points that are the portant thing." Deposition of Richard Davidson, transcript at p. 117.

*Coal Rate Guidelines - Nationwide*, 1 I.C.C.2d 520, 529-32 (1985).[12] The Railroad Accounting Principles Board noted that the influences on cost that result from economies of density are substantial. *Railroad Accounting Principles, Final Report*, Volume 2, p. 107 (1987).

Density is important for a number of reasons related to the cost, and therefore to the overall competitiveness, of a particular railroad's operations. First of all, all other things being equal, variable unit cost declines as density increases, since few railroad costs -- even operational costs -- are 100 percent variable.[13] Thus, as traffic density increases, unit costs decline as costs are spread out over more units. Competitiveness therefore increases. Secondly, railroad costs exhibit a step function: where operations are undertaken into an extensive new territory (even where tracks are already in place, such as in a trackage rights situation), a minimum level of investment -- fueling stations, repair facilities, crew facilities, and the like -- must be in place before the first pound of traffic is transported. In order to pay for the minimum level of investment, a minimum level of traffic -- in other words, a minimum level of density -- will need to be available. Dr. Shepherd summarizes the general point succinctly:

> BN/SF's entry and survival will depend on its obtaining enough **traffic density**. That is the standard determinant of success in network-based industries such as railroads. Only by gaining quickly as much traffic flow as UP/SP already has might BN/SF acquire an equal economic footing with UP/SP as a competitor . . . .

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12 Indeed, in that proceeding the railroad industry claimed that such economies are present *even* in the case of already high-capacity lines. See *id.* at 531.

13 See *Adoption of the Uniform Railroad Costing System As A General Purpose Costing System For All Regulatory Costing Purposes*, 5 I.C.C.2d 894, 924-933 (1989).

Shepherd V.S., p. 46 [emphasis in original].[14]

The evidence developed by the League and summarized below shows that in both the Houston to Memphis corridor and in the Central Corridor *traffic volumes are substantially below volumes required to justify infrastructure investment and operational expenses to be incurred.* In other words, under the inexorable logic of railroad economics, the traffic that is available to BNSF for transport over the line simply is not great enough to make it worth BNSF's while to compete vigorously, or perhaps to even compete at all. Therefore, the BNSF Access Agreement *is not and cannot be* the solution for the patently anticompetitive effects of the proposed transaction.

1. <u>The Applicants Have Substantially Overstated the Total Traffic Available to BNSF</u>

The bold claims by the Applicants and Mr. Lawrence concerning available traffic to the BNSF are simply wrong. As shown in the Verified Statement of Mr. Crowley, Mr. Lawrence' claims are vastly overstated, and present a false picture of the actual traffic that is likely to be captured by the BNSF.

As shown by Mr. Crowley, Mr. Lawrence's study suffers from a number of flaws. First of all, Mr. Lawrence's figures include numerous movements in which, though BNSF will have formal "access" to the traffic at *either* the origin or the destination, UP and SP serve *both* the origin *and* the destination. But this UP/SP "local" traffic after the merger will *not* be truly available to the BNSF, as Mr. Lawrence claims, since the merged UP/SP will be able to take a number of actions that will preclude BNSF from ever being able to carry this traffic. In

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Dr. Willig also recognized the need for sufficient traffic to enable BNSF to achieve sufficient economies of density, scope and scale to compete effectively with a merged UP/SP in the affected areas. Willig Dep. Tr. at 435.

other words, the UP/SP will control the movement.[15] Indeed, *the Applicants' own witness Peterson in another context more realistically assumes that 90% of all such local traffic will be retained by the carrier controlling the movement,* in this case, the merged UP/SP. See Crowley V.S., p. 24; Verified Statement of Witness Peterson, p. 292.

Additionally, Mr. Lawrence's $1.812 billion figure assumes that BNSF can capture all of the non-local UP/SP traffic: a patently unrealistic assumption, particularly given the handicaps that will be discussed in succeeding sections of these Comments. Again, *Applicants' witness Peterson assumes in another context that the BNSF will capture only half of the theoretically "available" traffic.* Crowley V.S., p. 24; Verified Statement of Witness Peterson, p. 292.

When these and other errors are corrected, the likely revenues to which BNSF will have access are only $258 million, and not the $1.812 billion advanced by witness Lawrence. Crowley V.S., p. 25.

On the basis of his inflated $1.812 billion figure, Mr. Lawrence claims that each line to which BNSF gets access will present sufficient density such that BNSF could be expected to compete aggressively. He "proves" this point by comparing two cases in which BNSF will own the line to the BNSF system average revenues per mile of track. He concludes that, on those lines, that the potentially available revenues per mile of track to BNSF will substantially exceed the BNSF system average revenues, providing, he claims, a strong incentive to BNSF to compete. Lawrence V.S., p. 3-5 to 3-6.

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15 Indeed, the agency itself has recognized this fact numerous times in merger proceedings, under the rubric of its discussion of the so-called "one-lump" theory. Specifically, the agency has ruled that a carrier with a destination monopoly will be able to "push the through rate as high as possible and keep the monopoly profits to itself. . . ." *UP/MP Control*, 366 I.C.C. at 538. Where the destination monopoly is the same carrier as one of the carriers that serve the origin, this is simply another way of saying that the destination monopoly can push the through rate to the point where the shipper will take the simple-line rate.

However, when Mr. Lawrence's overstatements are corrected, it turns out that the revenue per mile over each of the segments over which access has been given is substantially *less* than BNSF system average revenue. For example, Mr. Lawrence calculates that over the Houston to New Orleans segment, the potentially available revenues available to BN under the Access Agreement are over $654,000 per mile, compared to system average revenues per mile of $246,000: apparently an attractive opportunity to BNSF. *Id.* However, when the correct values are used, the Houston to New Orleans segment will generate no more than about $151,000 per mile, compared to BNSF's system average revenues of $246,000 per mile. Indeed, this $151,000 per mile figure is *less than* BNSF system average *cost* per mile of about $210,000. Crowley V.S., p. 26. Overall, the situation is even worse: the revenue per mile for all the trackage rights segments is only $68,000 per mile, compared to BNSF's system average revenue per mile of $246,000, and system average cost per mile of $210,000.

The conclusion is inescapable that the traffic that is in fact available to BNSF -- even if other significant handicaps are not considered -- is substantially less than that claimed by the Applicants, and substantially less than that which is necessary to permit BNSF to engage in "hard" competition.

2. <u>The Traffic That Will Be Routed Over Key Corridors Under the BNSF Access Agreement Will Be Substantially Below Volumes Required to Justify The Needed Investment</u>

Mr. Crowley's analysis did not stop at simply a review of the traffic available at the 2-to-1 points in order to determine whether the BNSF would be able to utilize the trackage rights granted in the BNSF Access Agreement. In addition, Mr. Crowley also examined the eligibility of *other* traffic for BNSF transport over the Houston to Memphis corridor, as well as over the Central Corridor. Crowley V.S., pp. 40-46, 59-63. In other words, he examined

whether the small amount of traffic from the 2-to-1 points, *plus* BNSF traffic from other locations that might use the new trackage rights, might still permit viable and economic operations. He has concluded that in both cases, *divertable traffic volumes over key trackage rights lines are substantially below volumes required to justify infrastructure investment and operational expenses.*

In making this analysis, Mr. Crowley examined *each movement* of traffic originating or terminating in the respective areas and/or traffic that could qualify for use of the line originating on points outside of the line. Traffic was placed in three categories: (a) traffic available from 2-to-1 locations along the two corridors; (b) traffic originating or terminating off the corridor, but which could be rerouted to use the trackage rights over the corridor; and, (c) traffic newly available to BNSF from non-Class I railroads with which BNSF will be permitted to interchange. In making the analysis, Mr. Crowley utilized the *same* assumptions as the Applicants' witness Peterson regarding the traffic from 2-to-1 locations that BNSF could expect to obtain.

The results are striking. At the 2-to-1 locations in the Houston to Memphis corridor -- a key pathway for important plastics and chemical traffic originating on the Gulf Coast -- total traffic was over 5.0 million tons. Crowley V.S., p. 44. However, of this traffic originated and terminated on the UP or SP, making it virtually impossible for BN to capture. "Probable" BN traffic -- assuming that BNSF even desired to compete vigorously despite the severe handicaps -- was only about When reroutes of traffic from origins or destinations off the line and interchanges from non-Class I railroads were counted, and conservative assumptions made regarding the average lading in a train, *only .57 loaded trains per day -- a loaded train every other day -- will be carried over the Houston to Memphis corridor, even assuming that BNSF would be able to surmount all other financial and operational handicaps. Id.* at p. 46.

The situation is similar on the Central Corridor. Though there are theoretically over 24 million tons of traffic "available" at the 2-to-1 points, UP or SP control fully , since the traffic moves from these 2-to-1 points to a UP or SP terminal. Again, BNSF will -- using the same assumptions that the Applicants' witness Peterson has made -- have scant chance to capture this traffic. Again, even when traffic reroutes and non-Class I interchanges are considered, *BNSF will be able to transport, even assuming all other handicaps are overcome, only one loaded train a day over the entire Central Corridor over which it has been given trackage rights under the Access Agreement. Id.* at page 62.

As Dr. Shepherd notes when considering the data presented by Mr. Crowley,

> BN/SF appears to be barred at the outset from a clear majority of the markets into which the trackage rights are theoretically supposed to give it access. [footnote omitted] . . . That will automatically prevent BN/SF from gaining traffic density enough to lower its operating costs toward a reasonable ability to compete with UP/SP. Looked at objectively, a barrier this severe would be quite sufficient, in many or most other markets in the U.S. economy, to deter a rational entrant even from trying to enter.

Shepherd V.S., p. 49.

It should be noted that these traffic calculations are extremely conservative, because, as Mr. Crowley noted, they do *not* take into account the fact that much traffic at the 2-to-1 locations is *already* under contract to the UP or SP, who have of course been operating over these lines for many years. As Dr. Shepherd notes:

> Many large shippers are locked into long term contracts, up to 10 years in duration. If a substantial number (say, half) of shippers are locked into contracts in any year, then there is no substantial window of contract renewals which gives BN/SF a

> chance at a large volume of traffic, enough to justify the volume of investment and railroad costs necessary to enter the market in appropriate scale.

Shepherd V.S., p. 48.

Thus, when these existing UP and SP contracts for traffic at the 2-to-1 locations are considered, there is even *less* traffic available to BNSF at any particular time to support viable, economic, and competitive operations.

Finally, it is *crucial* to note that the above traffic estimates assume that there are no *other* barriers to effective competition by the BNSF. But that, in fact, is not true. Operations under the BNSF Access Agreement face numerous other obstacles: operational barriers; infrastructure barriers; and cost barriers. It is to these subjects that we now turn.

## B. THE BNSF ACCESS AGREEMENT WILL NOT PROVIDE EFFECTIVE COMPETITION BECAUSE BNSF WILL BE HANDICAPPED BY A VARIETY OF SIGNIFICANT OPERATIONAL PROBLEMS

There are a variety of operational problems that will severely handicap BNSF in providing effective competition to the merged UP/SP in both the Houston to Memphis corridor and in the Central Corridor.

As an overall matter, it should be noted that the Operating Plan presented by the UP/SP in the merger Application sets forth detailed descriptions of how the Applicants intend to arrange *their* operations. But despite the fact that the BNSF Access Agreement was signed more than two months *before* the Applicants submitted their Application, and despite the fact that the Applicants touted the Access Agreement as a key "solution" to the anticompetitive effects of the merger, "notably lacking in the UP/SP Operating Plan is any semblance of a detailed description and rationale of projected BNSF operations over the 3,800-mile trackage rights complex which BNSF will theoretically provide competitive service." Crowley V.S., pp. 30-31.

Specifically, the evidence provided by Mr. Crowley dramatically contrasts the detail and specificity presented in the UP/SP Operating Plan with the vague and general description of BNSF's service offered by witness Owen, who submitted a verified statement in BNSF's "Comments on the Primary Application" filed December 29, 1995. Crowley V.S., pp. 31-39.

Indeed, in his deposition, BNSF witness Owen admitted the inadequacies of his "plan," conceding that his verified statement was "not designed to be from its outset an operating plan per se in the context of ICC regulations"; that it does not obligate BNSF to provide any level of service; and that even inasmuch as it reveals BN's mere "intentions," these were the "intentions" as Mr. Owen could divine them only at the time that his statement was prepared and could "change dramatically." Deposition of Neal Owen, transcript at pp. 24, 27-28. Mr. Owen did not talk to a single "2-to-1" shipper in developing his description of the intended service; had no specific knowledge about how much SP traffic is open to BNSF competition; made no evaluation of the cost to BNSF of providing service; and made no estimate of the length of time that it would take for BNSF to achieve the service levels outlined in his statement. *Id.* at pages 15-16, 36-38, 47-53, 300-301. Indeed, Mr. Owen indicated that he had not even reviewed the UP/SP traffic study in developing his own comments as to BNSF's "intentions." *Id.* at 55-56. Clearly, the Board cannot rely on either the evidence presented by the Applicants nor the evidence presented by Mr. Owen[16] in evaluating the feasibility of BNSF's "intended" operations under the Access Agreement.

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[16] It is altogether curious that, despite the fact that BNSF has many, many persons fully qualified to discuss BNSF's operations under the Access Agreement, BNSF relied not on its own expert personnel, but on an outside consultant. BNSF witness Ice, who also presented a short Verified Statement in BNSF's "Comments on the Primary Application," simply "blesses" Mr. Owen's general analysis, without adding any other authoritative detail. The Board is entitled to draw adverse inferences from BNSF's unwillingness or inability to present its own corporate

It is not enough for the Applicants to say that it is not necessary for BNSF to have such a detailed operating plan, or that it is customary for operating plans for trackage rights to be developed later. For it is the *Applicants* who chose to enter into the BNSF Access Agreement long before the Application was filed; it is the *Applicants* who have made the Access Agreement -- and therefore the feasibility of operations under that Agreement -- the centerpiece of their case; and it is the *Applicants* who must show that the Access Agreement can in fact cure the patent anticompetitive effects of the proposed transaction.

1. Potential Operational Problems in the Houston to Memphis Corridor

In the key Houston to Memphis Corridor, the UP/SP Operational Plan specifies that *northbound* UP/SP traffic will, after the merger, use the former UP line between Houston and Memphis, and *southbound* UP/SP traffic will use the former SP line between those same two points. Crowley V.S., pp. 47-48. The trackage rights granted to the BNSF under the Access Agreement, however, provide BNSF access *only* to the *former SP track* for *all* BNSF traffic (*i.e.*, northbound *and* southbound BNSF traffic), *i.e.*, the track over which *southbound* UP/SP traffic will flow. Thus, even assuming that BNSF successfully competes for hazardous chemicals traffic originating on the Gulf Coast destined for Midwest gateways, it will have to "swim upstream" against the constant UP/SP southbound flow. *Id.* Compounding the problem is the fact that the former SP line is "dark," that is, unsignalled, a cause for particular concern since it would be supposedly carrying hazardous chemicals traffic that BNSF would allegedly "capture" from the UP/SP. *Id.*[17]

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[16] ...ts to discuss BNSF's own corporate operations over the trackage that is the subject of the ...s Agreement.

[17] It should be noted that witness Owen did not even become aware of the "directional flow" ...m until after he made site visits to the Houston to Memphis corridor in preparation for his

Several other operational problems will handicap BNSF. Among the most important for plastics traffic is the lack of BNSF storage facilities. Witnesses for the Applicants have conceded that storage capacity is a critical factor in the transportation of plastics and that storage capacity is a key element in the negotiation of contracts.[18]

Moreover, the very nature of the operation of trackage rights over such an extended length of track tends to mitigate against effective competition. The merged UP/SP will, by virtue of their operational control of the track, be able to monitor *precisely* the traffic volumes carried by BNSF: a significant competitive advantage. Because BNSF will not be able to control its operations, it will not be able to offer better service than UP/SP, even assuming that UP/SP punctiliously observes the vague "no discrimination" requirement set forth in the Access Agreement.[19] Crowley V.S., p. 88.

2. Operational Problems in the Central Corridor

Similar operational concerns face BNSF on the Central Corridor. Under the Access Agreement, BNSF is granted trackage rights over the *current SP route*

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presentation; did not know why the BNSF took trackage rights over the SP's line as opposed to the UP's line; and conceded that the SP line had a lower capacity than other lines between Houston to Memphis, lacks CTC, has less frequent sidings, and undulates. Deposition of Neal Owen, transcript at pp. 128-29, 136-40.

[18] Deposition of Neal Owen, transcript at pp. 189-202; deposition of Richard Spero, transcript at pp. 68-71, 117.

[19] There would appear to be on this record severe questions as to whether the "non-discrimination" clause is at all sufficient to prevent interference by UP/SP with BNSF's operations over the trackage rights. Mr. Crowley's Verified Statement cites to recent problems between BN and the UP's former subsidiary, the Chicago and North Western Transportation Company ("CNW") in operations over the joint line controlled by BN in the Powder River Basin. Crowley V.S., pp. 29-30. UP's witness Davidson noted that a run-through agreement with the SP in El Paso "failed miserably because they had a competing train that originated at points in the East and they always ensured that their train went first." Deposition of Richard Davidson, transcript at p. 71.

between Denver, Colorado and Ogden, Utah. In selecting *their own* single line route between Denver and Ogden, the Applicants have elected to use the *current UP route*. Crowley V.S., p. 63. The reason for this choice is set forth in the UP/SP Operating Plan: "UP has the superior route between Chicago and Ogden by any measure . . ." and "[t]he SP route [to Ogden] via Kansas City and Pueblo is slow and circuitous. . . ." Application, Volume 3, p. 116.

Other operational problems involve the very long distances that BNSF will have to traverse in order to reach its own lines where there are facilities. For example, Mr. Crowley points out that BNSF's witness Owen projects that each one-way transit of the Central Corridor will require six crews, but no explanation is given as to the source or the management of this manpower requirement over the huge distances involved. Crowley V.S., p. 64. Again, the deposition of Mr. Owen on this point dramatically illustrates how woefully inadequate the description of BNSF operations are, and how unrealistic it is to assume that BNSF will be able to provide effective competition over a route over which it has no control, no facilities, and no investment.[20]

### C. THE BNSF ACCESS AGREEMENT WILL NOT PROVIDE EFFECTIVE COMPETITION BECAUSE BNSF WILL BE HANDICAPPED BY A VARIETY OF SIGNIFICANT INFRASTRUCTURE PROBLEMS

As noted above, the traffic volume capturable by BNSF to and from the Gulf Coast and transported over the Houston to Memphis Corridor amounts to only .57 loaded trains per day. Crowley V.S., p. 46. This traffic would be transported over approximately 675 miles of track between the two points. *Id.* at 0. Over the nearly 1500-mile Central Corridor, traffic volume capturable by BNSF will amount to about one loaded trains per day. *Id.* at 62. In order to

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[20] Owen Deposition, pp. 238-44, 251, 257-58.

operate even this level of traffic, BNSF would have to make substantial investments. In his Verified Statement, Mr. Crowley has examined the amount of investment and the cost of that investment, in order to determine whether the traffic levels are sufficient to justify the amount of investment required.

The evidence clearly shows that they are not. In the Houston to Memphis Corridor, Mr. Crowley has estimated that a $97,500,000 total investment will be required in order to operate over the route. This includes: new locomotives ($12 million); locomotive maintenance facilities ($5.2 million); car shops ($14.7 million); fuel servicing facilities ($4.8 million); connections ($9.2 million); terminal expansions ($43.4 million) and the like, for a total annual cost of $18.9 million. Crowley V.S., p. 56.

The cost in the Central Corridor is similar. Required investments would similarly include locomotives, locomotive maintenance facilities, car shops, fuel servicing facilities, connections, and terminal expansions. Because the distances are so much greater, the total investment required is also greater: $183,000,000, for an annual cost of $36.1 million per year.

BNSF is presented with a classic dilemma in deciding whether to make the required investments. As Dr. Shepherd notes,

> To enter significantly in any markets at all, BN/SF will need to enter at a large scale over broad areas and corridors, in order to have a substantial and flexible full-service system to offer shippers.
>
> That will require BN/SF to make a large volume of new investments, which bear high degrees of risk since they depend on BN/SF's gaining large shares of the traffic (which is highly unlikely, as I have noted). . . . .The risk is all the greater because it is a gamble on getting large future volumes of traffic. BN/SF will have to make those investments in advance of obtaining actual customers.

> The investments will be in the nature of sunk costs, which BN/SF will not be able to recover if it is forced to exit the market. Such costs are particularly strong deterrents to entry.

Shepherd V.S., pp. 51-52.

## D. THE BNSF ACCESS AGREEMENT WILL NOT PROVIDE EFFECTIVE COMPETITION BECAUSE BNSF IS AT A SIGNIFICANT COST DISADVANTAGE AS COMPARED TO UP/SP

Added to all of the other handicaps that BNSF will face in attempting to provide effective competition is the cost disadvantage that it will have in operating over the trackage rights from Houston through Memphis to St. Louis and the Central Corridor.

Along the Houston through Memphis route, Mr. Crowley calculated the costs for the UP/SP to operate over the route, utilizing the methodology utilized by UP's witness Rebensdorf. Crowley V.S., pp. 57-58 and Exhibit TDC-5 to TDC-11. BNSF costs were calculated based on the trackage rights fee set forth in the Access Agreement, plus variable "above the track" costs. *Id.* Mr. Crowley calculates that the UP cost of service is $11.57 per ton, whereas BN's cost over the trackage rights will be $13.69 per ton, or almost 20 percent higher than the cost to UP. Indeed, it would cost BNSF less to traverse its *own* line ($12.53 per ton) than over the trackage rights ($13.69 per ton).

BNSF faces a similar cost handicap in the Central Corridor. There, the cost per ton to BNSF is $23.62, versus a cost to UP of $20.09, or nearly 18 percent higher than the UP's cost.[21]

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[21] Finally, the cost handicaps under which BNSF will labor will only be exacerbated in the future. This is because the adjustment procedures utilized in the Access Agreement are based on 0% of the Rail Cost Adjustment Factor unadjusted for productivity. But that formula fails to track e gains in productivity that are being experienced and will be experienced by the UP and SP. As esult, BNSF's cost -- its trackage rights payment -- will increase, while the merged carrier's sts will not. See Crowley V.S., pp. 76-79.

As Dr. Shepherd notes, cost barriers as large as these "would probably deter rational potential entrants from most markets elsewhere in the economy, and there is no reason that BN/SF could ignore this extra cost burden in this situation." Shepherd V.S., pp. 50-51.

This analysis demonstrates that, in spite of the UP's assertion that it intends to provide a level playing field for BNSF by establishing a "reasonably comparable cost structure",[22] it has significantly handicapped BNSF's ability to provide competitive service over the nearly 4,000 miles of trackage rights granted to BNSF by the Applicants in the Access Agreement.[23] The applicants are only creating the appearance of competition over these lines.

Compensation for competitive access in merger cases must provide a "realistic opportunity" for the incoming carrier to provide the competitive options lost because of the merger. For example, in *St. Louis Southwestern Ry. Co. Compensation — Trackage Rights*, 8 I.C.C. 2d 80, 81, n.3 (1991) (*"SSW Compensation"*), the ICC said:

> (1) "In order to provide a realistic opportunity to compete, the trackage rights tenant should operate over the involved lines under economic conditions comparable to the landlord's."(2) "[T]hese trackage rights are granted for the purpose of maintaining competitive balance * * *. Therefore, any terms so onerous to the tenant as to defeat the purpose of the trackage rights cannot be considered just and reasonable."

(citation omitted; quoting from *UP/MP Control*, 366 I.C.C. at 590).[24] In this case, the negotiators of the access agreement made no effort to ensure the

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22 Rebensdorf Dep. Tr. 373, 376-77.

23 Rebensdorf Dep. Ex. 4, p. N04-70002.

In testimony submitted in one phase of the *SSW* proceeding, applicants' witness Dr. Willig cognized the need to apply what he called the "parity principle" to ensure optimal allocation of sources. To quote Dr. Willig (joined by his colleague Dr. William J. Baumol in testimony for

trackage rights fees established by the agreement bore any relation to the costs of the UP or the SP incurred in operating the same lines. Rebensdorf Dep. Tr. at 210-211, 357, 363.

## E. THERE ARE OTHER ANTICOMPETITIVE EFFECTS THAT MAY OCCUR THAT ARE NOT CURED BY THE ACCESS AGREEMENT

The Verified Statements of Dr. Shepherd and Mr. Crowley identify a number of other problems with the proposed transaction, two of which should be mentioned specifically here.

First, Mr. Crowley notes that, despite the fact that the Access Agreement was intended to preserve two-railroad competition for all "2-to-1" customers, there are 25 stations listed in the SPLC data that were not specifically addressed in the Access Agreement. Though the Access Agreement contains a clause that indicates that the parties will provide for customers located at 2-to-1 points that are not specifically referred to, carriers should be required to be specifically address the matter now. Crowley V.S., p. 13 and Exhibit TDC-3. Similarly, the Access Agreement identifies 23 rail stations which are 2-to-1 locations for which BNSF is not provided trackage rights; instead some unspecified type of "alternative arrangements" will allegedly be provided. Again, this matter should be addressed specifically, and the opportunity and means to compete effectively should be specifically granted. Crowley V.S., p. 14 and Exhibit TDC-4.

Finally, there are a number of non-Class I carriers, some of which are terminal rail carriers connecting to the UP and/or SP and other carriers, in which the UP and SP have currently either an equal and/or a minority ownership. As a result of the proposed merger, the merged carrier will control either 100 percent

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SP): "A central competitive principle in the pricing of trackage rights imposed for competitive reasons in a merger context ... requires the tenant to pay the same price for use of the joint facilities the landlord implicitly charges its own shippers for identical use of the same facilities." Willig Dep. Tr. at 427-429, and Willig Dep. Ex. 1 at 3.

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or at least a majority of the interest in these carriers. Crowley V.S., pp. 15-16. The Board should insure that there are no adverse effects on shippers and/or other carriers as a result of this increase in control.

## F. SUMMARY

There is simply no question that a candid review of the BNSF Access Agreement leads directly to the conclusion that the agreement does not and cannot provide an effective substitute for the direct rail-to-rail competition -- hard competition -- that currently exists in the Texas Gulf Coast and Central Corridor markets between UP and SP. The current competition is effective because both the UP and the SP have access to large amounts of traffic upon which they can draw in order to make the inexorable economics of railroad density work in the favor. The current competition is effective because both railroads control their own destinies: they own their own lines, and therefore can arrange railroad operations efficiently, without having to seek permission from a landlord carrier. The current competition is effective because both carriers can take steps to control their own cost structure and reduce their own costs to competitive levels to the best of their ability. The current competition is effective because both carriers own sufficient facilities within the area to support broad, flexible and efficient service to the shippers within their service territory. And the current competition is effective because neither carrier's costs and operations are transparent to its competitor, and because productivity improvements can quickly accrue to the carrier that develops them.

None of this is true with respect to the BNSF Access Agreement. Under the Access Agreement, BNSF will be severely restricted in the amount of traffic realistically available to it. It will need to coordinate operations with its competitor, and will be unable to quickly and flexibly offer service

enhancements. BNSF will need to make substantial, risky investments in facilities located on a line that it does not own. BNSF will suffer from a permanent cost disadvantage, whose magnitude is only likely to increase over time. And BNSF's every move will be made under the watchful eye of its competitor, who will control access to and operations over the very track over which BNSF is to compete. If BNSF suffers interference caused by its competitor, such interference can be checked only by resort to long-delayed, uncertain, and thus very imperfect remedies in the courts, after a legal challenge based on the vaguest of promises that the merged UP/SP will not "discriminate."

Clearly, the Access Agreement cannot form the basis of a judicially-sustainable decision that competition in the affected area will be preserved.

## VII. OTHER FORMS OF COMPETITION CANNOT REPLACE EFFECTIVE RAIL-TO-RAIL COMPETITION IN KEY CORRIDORS FOR RAIL-DEPENDENT COMMODITIES

If the Access Agreement cannot permit the BNSF to provide effective competition to the loss of competition posed by the proposed transaction, and if there are no other rail carriers at the affected points and in the affected region to provide the required competitive counterweight to the merged UP/SP, then the question is whether there are other forms of competition -- intermodal, product, or geographic competition -- that can effectively constrain the potential anticompetitive effects. The evidence in this record is clear that they cannot.

First of all, as noted in Section V.A., the proposed transaction involves a wide variety of commodities, over an area that covers transportation within the western two-thirds of the nation, and where anticompetitive effects may be felt in long-distance transportation corridors from the Pacific Coast to the Midwest, and from the Gulf of Mexico to St. Louis. A number of these products consist of heavy-loading, bulk goods transported long distances to markets. Others involve

hazardous materials for which rail is the safest and thus the preferred mode of transportation. Other goods, such as plastics, are transported almost exclusively by rail, because of the peculiar circumstances of their manufacture and distribution.

Given the variety, type and amount of goods involved, and the distances over which such products travel, there is simply no credible evidence on this record that intermodal competition, such as competition from trucks or barges, can effectively replace rail-to-rail competition at affected points and in affected markets.

In past merger decisions, the agency has frequently found that long-distance, heavy-loading commodities must be transported by rail. For example, in *UP/CNW Control*, the agency noted:

> We have often noted the competitive constraints that trucks can place upon railroads. . . . We have also noted, however, that, as regards certain traffic flows (e.g., long-haul movements of heavy bulk commodities), trucks are not adequately competitive with rail so as to act as a significant restraint on rail prices. . . . The effectiveness of truck competition largely depends on the nature of the particular traffic flow. *As the haul gets longer and/or the commodity gets heavier, truck competition becomes less and less effective.*

*Id.* at *156 [emphasis added]. In *BN/SF Control*, the agency found that truck transportation of grain from Superior, Nebraska to Chicago, Kansas City, and the Gulf Coast was not a competitive factor, because "the distances are too great." *Id.*, slip op. at 63.[25] Those distances are well within the distances for

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[25] See also, *Union Pacific Corporation , et. at. - Control - Missouri-Kansas-Texas Railroad Company, et. al.*, 4 I.C.C.2d 409, 442 (1988), where the agency found that trucks could be effective competitors for grain only at distances of 250 miles or less. See also 4 I.C.C.2d at 449 ("key rail commodities . . . may not be truck competitive on the long haul.") and 464 (for high-bulk, heavy-loading commodities such as crushed stone, motor carriers are effective only for distances of less than 75 to 100 miles).

transportation of many of the heavier-loading commodities at issue in this proceeding. See Crowley V.S., Exhibit TDC-2.

Indeed, in *SP/SF Control*, 2 I.C.C.2d at 743-44, 756, 764, the ICC found that trucks did not provide effective competition to rail in long-distance markets (1,000 miles or more) across virtually all commodity groups, whether or not they were strictly "heavy-loading" or not. Again, the distances in this proceeding, particularly along the Central Corridor, equal or exceed that limit. Crowley V.S., Exhibit TDC-2. Similarly, in that decision the agency found that "truck service is not a realistic alternative to rail service between the West Coast and Gulf ports." *SP/SF Control*, 2 I.C.C.2d at 745.[26]

Barge competition is similarly a weak substitute in many of the corridors and for a number of the commodities at issue here. Though Applicant's witness Spero made broad claims in his verified statement regarding the substitutability of barge transportation (frequently generalizing from anecdotal evidence), he was forced to heavily qualify his contentions at deposition. For example, he admitted that: plastics tend not to be barged because it tends to destroy the purity of the shipment (Spero deposition, p. 106); that

(*id.* at 73); that the effectiveness of barging depends upon how close to the water the shipper's facility is (*id.* at 306); that hazardous chemicals are unlikely to be shipped via water (*id.* at 306); that barging is slower than rail,

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[26] The Applicants' witness Spero interviewed several of the Applicants' employees regarding the range of truck competition, and Mr. Spero's notes reflect their views that for certain commodities at least, truck transportation is effective competition for rail at distances of 100 miles in the case of one commodity, and . (Spero deposition, pp. 72, 148-149). With respect to chemicals, though Mr. Spero broadly noted that nearly one-half of all chemicals and allied products were carried by truck, he made no study or had no information regarding the prevalence of trucking by mileage group. Spero deposition, p. 23-24. As a matter of fact, he admitted that data published by the Chemical Manufactures Association, upon which he otherwise relied, indicated that one-half of the tonnage of chemicals and allied products is transported less than 200 miles. (Spero deposition, p. 150)

and is not suitable for time-sensitive shipments (*id.* at 307); and, most importantly, that he made absolutely no study of the proportion of chemical facilities in the United States that even had the option to ship by barge (*id.* at 184).

The Applicants' reliance on product and geographic competition is similarly flawed. As noted by Dr. Shepherd, "these elements would offer no significant protection against the strong monopoly effects" of the proposed merger, and "have only an indirect influence on transportation prices." Shepherd V.S., p. 55. He concludes that while some element of them may be present in some situations, "extreme care must be used in evaluating such claims . . ." *Id.* Dr. Shepherd also notes that, in the case of plastics and chemicals traffic that is transported over the Houston to Memphis corridor, "the geographical concentration of chemicals and plastics producers, and of the UP/SP dominance over the Gulf Coast area, mean that the merger, if anything, would diminish source competition." *Id.* Dr. Shepherd indicates that

> The UP material include rosy opinions, but they provide no significant tangible evidence that source and destination competition will actually be a significant force in many markets, much less in all of them. The effects are likely to be minor at best. And they would not weigh against the larger loss of competition throughout the western U.S.

Shepherd V.S., p. 55.

More fundamentally, though, is the fact that source and destination competition provide at best only a second-level constraint:

> The anecdotes provided by Mr. Peterson and others generally focus on the theoretical ability of a receiver of a product to choose among alternative sources of supply. Even if such choices are available in some cases to receivers, the first-order effect of such a choice would be to constrain the delivered price at which the product would be accepted at the destination. While such destination market competition might

> place a limit on the combination of the shipper's product price and the transportation rate to that destination, the example provided says nothing about whether the shipper or the railroad has the greater bargaining leverage to capture the larger portion of the shared profit component of the delivered price.

Shepherd V.S., p. 56 [emphasis in original].

As in the case of intermodal competition, on deposition the broad claims of the Applicants regarding geographic and source competition wilted. For example, witness Spero's claims regarding geographic competition for chemicals assume that there is a nationwide market for all chemicals. Yet Mr. Spero admitted there "may well be situations" in which the geographic scope of supply and demand for particular chemicals is less than the United States, and Mr. Spero performed no quantitative analysis of geographic market size. Spero deposition, p. 176-78. Mr. Spero also admitted that it is difficult to generate competition by shifting sources of production if the product in question is being produced at capacity. *Id.* at 179. Conveniently, however, of the 24 chemicals that Applicants' witness Peterson selected for analysis, Mr. Spero discussed only four examples in his Verified Statement; and of these four, three represented the smallest percentage of total U.S. capacity for any of the group. *Id.* at 293--296. Conversely, Mr. Spero also conveniently ignored such major Gulf Coast products as

Hidden beneath the Applicants' broad claims of vigorous geographic and source competition is another flaw: the Applicants' analysis merely examined *producing* points (*i.e.*, whether such producing points were served by UP and/or SP, or other carriers). But they failed to analyze the *destinations* to which these "alternate sources" moved. Again on deposition, Applicant witnesses conceded the weakness of their analysis: Mr. Spero, for example, was forced to concede that the

*Id.* at p. 298-302. "Source competition" is a chimera where the "alternate sources" sell to a destination served by a post-merger carrier that also serves one of the sources, since the destination monopoly carrier is in a position to exercise effective control over both sources.

Indeed, UP's President Davidson was quoted in a December 1994 Wall Street Journal news article that the UP had originally decided *not* to seek a merger with the SP precisely *because* a merger of the UP and SP would "corner the freight market in Gulf Coast chemicals, raising competition questions . . . ." Davidson Deposition, Exhibit 1. In the face of this statement, it is with ill-grace that the Applicants now contend that there is pervasive intermodal, product and geographic competition. In short, intermodal, geographic or product competition cannot act as a constraint on market power in the case of a proposed merger of such unprecedented size and scale.

## VIII. THE PORTRAYAL OF THE SP AS A WEAK COMPETITOR IS NOT SUPPORTED BY THE RECORD

The Board should also put to rest any notion that the proposed merger should be approved because SP is a failing company. Although there is no explicit claim by the applicants that SP is a failing company, they have

endeavored to portray SP as a "weak" competitor.[27] SP may face competitive challenges, but an objective assessment will demonstrate that with proper management, SP has the resources to successfully and vigorously compete.

In order for a merger involving a so-called "failing company" to qualify for approval, the Board's predecessor, the ICC, applies the same stringent criteria found in the Horizontal Merger Guidelines. *GLI Acquisition Company -- Purchase -- Trailways Lines, Inc., et al.*, 4 I.C.C.2d 591, 602-606 (1988), *aff'd sub nom. Peter Pan Bus Lines, Inc., et al. v. Interstate Commerce Commission*, 873 F.2d 408 (D.C. Cir. 1989) (per curiam). Those criteria require a showing of all of the following:

> 1) the allegedly failing firm would be unable to meet its financial obligations in the near future; 2) it would not be able to reorganize successfully under Chapter 11 of the Bankruptcy Act; 3) it has made unsuccessful good-faith efforts to elicit reasonable alternative offers of acquisition of the assets of the failing firm that would both keep its tangible and intangible assets in the relevant market and pose a less severe danger to competition than does the proposed merger; and 4) absent the acquisition, the assets of the failing firm would exit the relevant market.

1992 Horizontal Merger Guidelines, 1992 FTC LEXIS 176 at *66-*67.

As the ICC summarized these requirements in *SF/SP Control*, there must as a matter of fact, be "a clear probability of business failure." 2 I.C.C.2d at 829. The most recent of the annual revenue adequacy determinations made by the ICC for the railroad industry demonstrates that SP is clearly able to meet its financial obligations, having achieved a return on investment of 7.2%. Ex Parte No. 524, *Railroad Revenue Adequacy - 1994 Determination* (served Aug. 18, 1995). In

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[27] Certainly that is the self-serving characterization advanced by several of UP's witnesses. *See, e.g.* Peterson V.S. at 171. However, no SP witness so characterized its position. Dr. Willig accepted the UP witnesses' characterization of SP as a weak competitor, but never communicated with any SP employees regarding their view of SP's position in the marketplace. Willig Dep. Tr. 388-393.

addition, SP has made no efforts to find other reasonable offers. *See, e.g.*, Yarberry Dep. Tr. 104. And finally, SP has many valuable routes that would remain in the market available to provide transportation service. Grinstein Dep. Tr. 81-82. Indeed, Mr. Grinstein, the recently-retired chairman of the BNSF observed that SP had been and would continue to be a "ferocious competitor." *Id.* at 44-45.

As Mr. Crowley shows, during the course of the proceedings involving its proposed merger with Santa Fe, SP also made similar claims regarding its viability. However, the ICC found that those claims were belied by the record of SP's own statements. 2 I.C.C.2d at 829-831. As Mr. Crowley demonstrates, the SP's similar claims in this proceeding are contradicted by SP's own statements. Crowley V.S. 84-85.

In short, SP is financially viable, and is well-positioned to meet the competitive challenges.

## IX. REMEDIES REQUIRED TO PRESERVE EFFECTIVE COMPETITION

In view of the above evidence, the League asks the Board to impose the following primary conditions:

Texas Gulf Coast and Related Lines:

(1) New Orleans to Houston: Divestiture of SP's line from New Orleans to Houston including the line between Iowa Jct, LA and Avondale, LA that is scheduled for sale to the BNSF under the UP/SP/BNSF access agreement, and including access in the vicinity of New Orleans to related terminal facilities.

(2) Houston to St. Louis: Divestiture of SP's line from Houston, TX to Memphis, TN; divestiture of SP's line from Brinkley, AR to North Jct., MO; and transfer of existing SP trackage rights from North Jct., MO to East St. Louis, IL to the rail carrier acquiring the Brinkley to North Jct. line.

(3) Houston to Brownsville/Mexican Border: Divestiture of SP's line from Houston to Placedo, TX via Flatonia, TX and transfer of existing SP trackage rights from Placedo to Brownsville to the rail carrier acquiring the Houston to Placedo line; and divestiture of SP's line from Flatonia to Eagle Pass, with BNSF retaining existing haulage rights to Eagle Pass.

The proposed transaction, in its current form, would result in severe competitive harm in the corridor from Texas to key midwest gateways. Moreover, the BNSF Access Agreement does not and cannot preserve rail-to-rail competition in the affected region. Divestiture of the lines noted above would preserve the current competitive situation on the Texas Gulf Coast to key Midwest gateways, and would: (1) enable a purchasing carrier to have access to sufficient volume of traffic to provide a realistic competitive alternative to the merged UP/SP; (2) enable a purchasing carrier to operate its line efficiently and in its own best interest, without interference from a landlord; (3) provide a purchasing carrier with the infrastructure required to offer full-scale, flexible transportation services; and, (4) provide the incentive and the ability to a purchasing carrier to manage its operations in the most cost-efficient manner possible, and permit the full flow-through of productivity gains. Divestiture of the lines described above would, in short, replicate insofar as possible the current competitive situation, and would prevent a merged UP/SP from exercising increased market power.

The League believes that if the Board orders divestiture of the SP line from Houston to Memphis, it should also order transfer of the SP's existing trackage rights from Memphis to St. Louis to the carrier that purchases the Houston to Memphis line. A significant proportion of important products being transported from the Houston area to Memphis in fact continue to St. Louis, where they are interchanged with other carriers and for service beyond. Transfer of the SP's current trackage rights would enable the carrier purchasing

the Houston to Memphis line to offer shippers the same competitive service now being offered by SP, and would be necessary for the full and efficient operation of the divested line.

Similarly, divestiture of the lines from Houston east to New Orleans and Houston west to Eagle Pass are necessary to replicate the competitive service offered by the UP or SP for traffic moving to the southeast, to the west coast, and into Mexico. Divestiture of the SP's line to Eagle Pass would have the added benefit of avoiding UP/SP control of four of the five major gateways into Mexico. While the League has not addressed this matter specifically in these comments, the League believes that this matter is one of great significance, particularly in view of the approval of the North American Free Trade Agreement.

Central Corridor:

Divestiture of SP's line between Stockton/Oakland, CA and Denver/Pueblo, CO and transfer of SP's existing track or trackage rights to Kansas City via Herrington to the rail carrier acquiring the California to Colorado line.

For the reasons noted above, the League believes that divestiture of the SP's line between Stockton and/or Oakland, CA and Denver and/or Pueblo, CO is the most appropriate remedy to cure the anticompetitive effects of the proposed transaction in the Central Corridor. Transfer of the SP's track or trackage rights from Colorado to Kansas City is similarly necessary to enable the carrier purchasing the California to Colorado line to offer shippers the same competitive service now being offered by SP, and would be necessary for the full and efficient operation of the divested line for traffic moving to or from major Midwestern gateways to or from the west coast.

Retention of Trackage Rights

UP/SP should retain overhead trackage rights over all of the lines divested, except that UP/SP should retain full service trackage rights at any point where

UP or SP and the acquiring carrier both can serve existing shippers or could serve new shippers locating at those points.

In order to preserve the efficiencies of the proposed merger, the merged UP/SP should retain overhead trackage rights over all of the lines divested. This will enable the merged UP/SP to maintain the reductions in mileage, etc. that are set forth in its Application, while avoiding the undue concentration of market power inherent in the current proposal. In addition, retention of full service trackage rights at any point where the UP or SP and the acquiring carrier both serve existing shippers or could serve new shippers would avoid creating any new "2-to-1" points.

Other Related Relief

In order to fully protect competition in the affected region, to address specific needs for competitive relief, and/or in order to preserve the efficiencies of the merger as fully as possible, certain related relief and/or certain refinements of the relief outlined above may be appropriate.[28]

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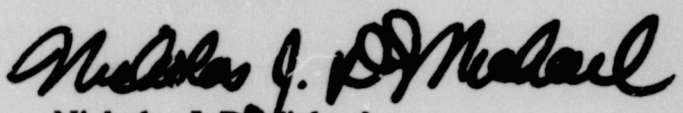
For example, instead of the SP line from Ogden, UT to Wells, NV, the Board may find operating efficiencies can be enhanced and competition preserved by ordering divestiture of the cent UP line from Salt Lake City to Wells. Instead of divestiture of the SP line from Houston an Antonio via Flatonia, the Board may find it more appropriate to order divestiture of the llel line from Houston to San Antonio via West Point and Smithville, TX. These matters and s can best be evaluated after the record is completed. The Board may also need to prohibit the licants from giving priority to any particular candidate of a line to be divested.

## X. CONCLUSION

The proposed transaction should be denied unless the conditions described in the foregoing comments are granted.

Respectfully submitted,



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March 29, 1996

## SELECTED STATISTICS ON CLASS I RAILROADS-1994

Source: AAR "Railroad Facts, 1995 Editon"

| 1994 | Miles of Road Operated | Miles of Road Owned | No. of Freight Cars | No. of Locomotives | Net Investment | Operating Revenue | Operating Expenses | Net Railway Oper. Income | Carloads Originated | Tons Originated | Ton-Miles | Total Capital Expenditures | Average No. of Employees |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BN | 22,189 | 20,778 | 70,066 | 2,391 | 5,861,857,000 | 4,994,663,000 | 4,163,232,000 | 519,204,000 | 3,801,065 | 289,861,519 | 260,574,000,000 | 702,683,000 | 30,711 |
| Percent | 18.0% | 19.0% | 11.9% | 12.9% | 10.8% | 16.2% | 16.3% | 15.3% | 16.4% | 19.7% | 21.7% | 14.4% | 16.2% |
| ATSF | 8,352 | 7,432 | 33,796 | 1,691 | 4,774,379,000 | 2,680,936,000 | 2,252,035,000 | 266,656,000 | 1,968,685 | 76,025,447 | 100,031,000,000 | 701,934,000 | 15,020 |
| Percent | 6.8% | 6.8% | 5.7% | 9.1% | 8.8% | 8.7% | 8.8% | 7.9% | 8.5% | 5.2% | 8.3% | 14.4% | 7.9% |
| UP | 17,499 | 15,752 | 81,652 | 3,105 | 9,286,990,000 | 5,167,248,000 | 4,094,723,000 | 680,929,000 | 2,845,462 | 161,727,074 | 235,770,687,000 | 836,384,000 | 28,946 |
| Percent | 14.2% | 14.4% | 13.8% | 16.8% | 17.1% | 16.8% | 16.1% | 20.1% | 12.3% | 11.0% | 19.6% | 17.1% | 15.2% |
| CNW | 5,211 | 4,288 | 29,957 | 829 | 1,499,322,000 | 905,342,000 | 764,497,000 | 109,348,000 | 845,792 | 48,482,414 | 37,198,767,000 | 118,041,000 | 6,129 |
| Percent | 4.2% | 3.9% | 5.1% | 4.5% | 2.8% | 2.9% | 3.0% | 3.2% | 3.6% | 3.3% | 3.1% | 2.4% | 3.2% |
| SP | 13,715 | 11,713 | 46,116 | 2,389 | 5,012,069,000 | 2,941,527,000 | 2,718,027,000 | 89,649,000 | 1,580,333 | 103,862,057 | 132,971,798,000 | 550,718,000 | 18,251 |
| Percent | 11.1% | 10.7% | 7.8% | 12.9% | 9.3% | 9.5% | 10.7% | 2.6% | 6.8% | 7.1% | 11.1% | 11.3% | 9.6% |
| Conrail | 11,349 | 9,551 | 59,684 | 2,094 | 6,615,996,000 | 3,641,473,000 | 3,043,338,000 | 411,011,000 | 2,721,953 | 142,083,809 | 94,425,902,000 | 387,745,000 | 24,091 |
| Percent | 9.2% | 8.7% | 10.1% | 11.3% | 12.2% | 11.8% | 11.9% | 12.1% | 11.7% | 9.7% | 7.9% | 7.9% | 12.7% |
| CSX | 18,759 | 16,963 | 105,486 | 2,620 | 8,994,916,000 | 4,625,359,000 | 3,892,232,000 | 452,475,000 | 4,349,845 | 313,989,072 | 153,734,000,000 | 553,289,000 | 29,731 |
| Percent | 15.2% | 15.5% | 17.9% | 14.2% | 16.6% | 15.0% | 15.3% | 13.3% | 18.8% | 21.4% | 12.8% | 11.3% | 15.7% |
| NS | 14,652 | 13,457 | 108,707 | 1,982 | 8,583,173,000 | 3,918,069,000 | 2,874,757,000 | 682,005,000 | 3,325,306 | 221,894,080 | 122,263,537,000 | 655,281,000 | 24,710 |
| Percent | 11.9% | 12.3% | 18.4% | 10.7% | 15.8% | 12.7% | 11.3% | 20.1% | 14.3% | 15.1% | 10.2% | 13.4% | 13.0% |
| IC | 2,665 | 2,479 | 17,877 | 417 | 1,099,292,000 | 593,869,000 | 401,521,000 | 134,102,000 | 678,814 | 52,484,333 | 21,160,582,000 | 112,241,000 | 2,870 |
| Percent | 2.2% | 2.3% | 3.0% | 2.3% | 2.0% | 1.9% | 1.6% | 4.0% | 2.9% | 3.6% | 1.8% | 2.3% | 1.5% |
| KCS | 2,880 | 2,706 | 14,302 | 372 | 1,176,585,000 | 472,487,000 | 360,067,000 | 85,638,000 | 449,247 | 32,345,035 | 15,560,152,000 | 140,219,000 | 2,618 |
| Percent | 2.3% | 2.5% | 2.4% | 2.0% | 2.2% | 1.5% | 1.4% | 2.5% | 1.9% | 2.2% | 1.3% | 2.9% | 1.4% |
| Soo | 5,139 | 3,486 | 16,953 | 373 | 923,275,000 | 551,582,000 | 613,937,000 | (33,088,000) | 364,595 | 18,795,602 | 20,555,959,000 | 106,605,000 | 4,118 |
| Percent | 4.2% | 3.2% | 2.9% | 2.0% | 1.7% | 1.8% | 2.4% | -1.0% | 1.6% | 1.3% | 1.7% | 2.2% | 2.2% |
| GTW | 925 | 727 | 6,274 | 242 | 356,352,000 | 316,422,000 | 332,739,000 | (6,408,000) | 247,498 | 8,446,594 | 6,454,523,000 | 20,325,000 | 2,767 |
| Percent | 0.7% | 0.7% | 1.1% | 1.3% | 0.7% | 1.0% | 1.3% | -0.2% | 1.1% | 0.6% | 0.5% | 0.4% | 1.5% |
| Totals | 123,335 | 109,332 | 590,930 | 18,505 | 54,184,206,000 | 30,808,977,000 | 25,511,105,000 | 3,391,521,000 | 23,178,595 | 1,469,997,036 | 1,2[illegible],700,907,000 | 4,885,465,000 | 189,962 |

# Verified Statement of Geoffrey Shepherd

# Verified Statement of Geoffrey Shepherd

BEFORE THE
SURFACE TRANSPORTATION BOARD

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Finance Docket No. 32760

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UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY
AND MISSOURI PACIFIC RAILROAD COMPANY

-- CONTROL AND MERGER --

SOUTHERN PACIFIC RAIL CORPORATION, SOUTHERN PACIFIC
TRANSPORTATION COMPANY, ST. LOUIS SOUTHWESTERN RAILWAY
COMPANY, SPCSL CORPORATION AND THE DENVER AND
RIO GRANDE WESTERN RAILROAD COMPANY

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Verified Statement

of

WILLIAM G. SHEPHERD

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VERIFIED STATEMENT

OF

WILLIAM G. SHEPHERD

## INTRODUCTION

My name is William G. Shepherd. I am a Professor of Economics in the Department of Economics at the University of Massachusetts, in Amherst, Massachusetts.

I am submitting this Statement jointly on behalf of the Chemical Manufacturers Association, The National Industrial Transportation League, and The Society of the Plastics Industry, Inc.

My professional experience and research qualifications are summarized in the attached biographical note. They include substantial attention to the transportation sector, including the railroad industry, as well as other sectors and markets throughout the U.S. economy.

In 1976 I was Chair of the Transportation and Public Utilities roup of the American Economic Association. In 1995 I was designated Distinguished Member of that Group. I was President of the dustrial Organization Society in 1990. My research during 23 years the University of Michigan and 9 years at the University of

Massachusetts has resulted in some 21 books or editions of books, and over 80 papers mainly in professional research journals. They cover the standard issues of antitrust, mergers and deregulation, including the defining of markets, the degree of competition, and anti-competitive actions and effects. My textbooks include The Economics of Industrial Organization, 3d ed., Prentice-Hall, 1990, and Public Policies Toward Business, 8th ed., Richard D. Irwin, 1991.

I am the General Editor of the Review of Industrial Organization, a professional journal on economic research and public policies. Published six times yearly, it deals with competitive issues, antitrust policies, regulation and deregulation, and related topics. As General Editor I have to deal fairly with all sides of the controversies in this field.

In 1967-68 I participated directly in antitrust policy as the Special Economic Adviser to Donald F. Turner, then the Assistant Attorney General in charge of the Antitrust Division in the U.S. Department of Justice. One duty involved assisting in preparation of the first Merger Guidelines, issued by the Division in 1968.

I regularly teach Industrial Organization, Antitrust and Regulation at both the undergraduate and graduate levels.

I have been involved in numerous antitrust and regulatory proceedings, covering the issues that are involved in the current case. They are indicated in my biographical note. I testified in 1985 before the Interstate Commerce Commission on behalf of Union

Pacific Railroad against the relevance of "contestability" assertions in the proposed Southern Pacific/ Santa Fe merger. I have also testified before Congressional hearings on various matters of policy toward industries.

For this case I have prepared by reading the merger application materials, reviewing the literature on the issues and the railroad industry, considering a variety of draft statements by witnesses for various participants in this proceeding, and evaluating a variety of economic evidence prepared for this proceeding.

## 1. Summary Of Conclusions

My main conclusions can be summarized as follows:

1. **Reduction of Competition.** The Union Pacific/Southern Pacific merger as it is now designed (including trackage rights) will reduce competition in substantial economic markets. In some markets (particularly the "2-to-1 markets"), dominance and unilateral market control will rise. In other markets (especially the "3-to-2 markets"), coordination between the two railroads will increase.[1]

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[1] The term coordination refers to the familiar range of tacit or overt agreement among competitors, with the effect of reducing competition. It may range from an unspoken pattern of mutual restraint up to tangible and detailed arrangements for collusion. . See William J. Fellner, Competition Among the Few, New York: Knopf, 1949, ch. 1; Carl Kaysen and Donald F. Turner, Jr., Antitrust Policy: An Economic and Legal Analysis, Cambridge: Harvard University Press, 1959, ch. 3; George J. Stigler, The Organization of Industry, Homewood, Ill.: Richard D. Irwin, 1968, ch. 5, pp. 39-65; Jean Tirole, The Theory of Industrial Organization, Cambridge: MIT Press 1988, pp. 5-7; and F.M. Scherer and David Ross, Industrial Market Structure and Economic Performance, 3d ed., Boston: Houghton Mifflin, 1991, chs. 6-8.

2. **Specific Markets.** The merger's anti-competitive effects occur in specific markets, areas and regions, and the cures for those effects are matters of specific detail. An assessment only of the merger's total effects will not clarify those individual effects.

3. **Consider Net Merger Gains Only.** The net economic gains of the merger proffered as a justification for the merger can be assessed properly only by comparison with alternative arrangements, such as long-term contracts, achieving efficient routing of traffic by joint rates, joint facilities agreements, and other mechanisms. The merger proposal does not address these net gains. The inevitable conclusion is that the balance between net gains and competitive harms is less favorable than the statements by the applicants' witnesses would suggest.

4. **BNSF Faces Four Barriers.** The proposed trackage rights are inadequate to provide effective competition. For the 2-to-1 markets, Burlington Northern/Santa Fe is only a potential entrant, not an actual competitor. As it considers whether to enter any of the trackage-rights markets, it faces four types of economic barriers, even if it is given formal access: 1. an inability to serve a majority of shippers in the markets, 2. operational difficulties which will prevent BNSF from offering an assured quality of service, 3. cost disadvantages compared to UP/SP, and 4. the need for large, risky investments.

Consequently, in many or all of those markets BNSF will not be on an equal competitive footing, especially on routes between Houston and New Orleans, between Houston and Memphis and on to St. Louis, and in the central corridor between Denver and the west coast. In all of the trackage-rights markets, BNSF will lack traffic density and face disadvantages of cost, information and facilities. It will incur higher costs of service than UP/SP and will face high risks of having insufficient customers to justify investing in facilities.

Therefore BNSF is unlikely to compete fully in many or all of the trackage-right markets. Essentially, under the planned traffic rights, competition will be reduced from 2 competitors to 1 monopolist, at many or all points.

5. **Removal of Southern Pacific as a Maverick Competitor.** The Southern Pacific railway currently has incentives to behave, and has behaved, as a maverick competitor, willing to cut price deeply in order to offset various competitive disadvantages. The merger will eliminate that vigorous competitor.

6. **Supra-competitive Prices Will Result.** Therefore, because Burlington Northern/Santa Fe may well have little or no role in important markets while Southern Pacific will be removed as a competitive factor, the Union Pacific/Southern Pacific railroad will probably be able to charge higher supra-competitive prices in many markets.

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7. **Mutual Restraint between UP/SP and BNSF as a Duopoly.** Also, the Union Pacific/Southern Pacific and Burlington Northern/Santa Fe rivals are likely to adopt coordinated duopoly behavior in many markets, rather than unrestrained price competition. This mutually-restrained duopoly behavior is likely to occur also along the larger regional patterns, where the two railroads differ in their regional presence, power and spheres of interest. In short, this merger is likely to yield live-and-let-live behavior by these two dominant railroads throughout the western U.S.

8. **Lack of Economic Evidence.** In denying these anti-competitive effects, Union Pacific's economic witness Dr. Robert D. Willig offers opinions that appear to be based on theory and intuition. The criteria he uses to reach his conclusions are not in accord with the mainstream research literature, nor with his own views about merger standards when he was an antitrust official.

9. **Specifying the Monopoly Impacts.** It is possible to identify with reasonable accuracy the markets and regions where the merger will reduce competition, in order to show the extent of the problems and to indicate where appropriate cures are needed.

10. **Possible Remedies.** Additional divestiture may be necessary as a appropriate cure for certain markets, given the likelihood of duopoly restraint and the inadequacy of the trackage rights that have been provided to BNSF. It is also possible that the terms of trackage

rights can be adjusted markedly enough to give them some effectiveness in luring Burlington Northern/Santa Fe in as an attempted entrant.

2. **Format Of The Statement**

To explain these conclusions, I will first review in Part I the economic criteria which are relevant to the policy judgments, considering the economic goals, the defining of relevant markets, the standards for judging effective competition and monopoly impacts, helpful examples in the airlines and telecommunications industries, and strategic pricing methods. I have to provide this careful review of the mainstream research literature, grounded as it is in general business experience, because Dr. Willig's ideas in his Verified Statement diverge so far from this literature. I will need to cite sources in the literature to show the criteria firmly.

Then I will consider this merger in Part II. First I will discuss the three levels of relevant markets, and then I'll review the likely increases in monopoly power.

Part III then considers trackage rights and other possible cures for the monopoly impacts. I will explain why trackage rights will probably be ineffective, because BNSF will face at least four types of high barriers to entry. BNSF already behaves as if it will not try to enter. The removal of Southern Pacific as a maverick competitor will cause a significant loss of competition in a substantial range of markets.

In Part IV I discuss the merger's effect in raising prices and reducing other directions of economic performance.

## I. GENERAL ECONOMIC METHODS AND CRITERIA APPLY TO THE EVALUATION OF THIS MERGER

First I need to review the economic criteria that apply to competitive and monopoly conditions. I start with the economic goals, and the methods for defining relevant markets and assessing a merger's effects on competition. I will give examples of analogous monopoly problems from airlines and telecommunications. Then in Section 4 I will apply these criteria and methods to the facts in this case and show the basis for my conclusions.

The economic criteria arise from many decades of mainstream research in the field of Industrial Organization, on the basic conditions that occur in all markets, including railroads.[2] They also reflect many decades of established antitrust criteria and practices.

I recognize that the ICC in previous merger decisions has focused in part on the existence of two-railroad competition at every shipping point. As I explain below, I believe that this merger does not even

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[2] For reviews of those criteria and their evolving research base, see Scherer and Ross, Industrial Market Structure and Economic Performance, chs. 1, 2, 11 and 18; William G. Shepherd, The Economics of Industrial Organization, Englewood Cliffs, N.J.: Prentice-Hall, 1990, especially chs. 1 and 3; George J. Stigler, "Perfect Competition, Historically Contemplated," Journal of Political Economy, 65 (February 1957), pp. 1-17; Richard Schmalensee and Robert D. Willig, eds., Handbook of Industrial Organization, Cambridge: MIT Press, 1989,

meet that standard because BNSF will not be able or adequately induced to enter and compete fully.

Apart from such 2-to-1 questions at the micro-market level, this merger presents the Board for the first time with the creation of a 2-railroad dominance in the whole western two-thirds of the U.S. The Board needs to take a fresh look at this distinctive situation. It is different from other recent mergers. It is somewhat like the proposed Southern Pacific/Santa Fe merger in the early 1980s, which posed questions beyond specific micro-market conditions, in addition to raising questions, also found in the present merger, about the consolidation of parallel (rather than end-to-end) rail lines.

In broadening its view to include more than a narrow consideration of 2-to-1 markets, I hope that the Board will consider the competitive criteria that arise in the array of all markets. These mainstream criteria are relevant to markets in the railroad industry.[3] An attempt to apply different criteria bears the burden of proof. If this industry is to continue evolving toward deferring regulation in favor of reliance on market competition, it needs to be brought under the more complex mainstream antitrust criteria. Otherwise, competition in large parts of this industry may be

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[3] The recognition that railroad economics does not differ fundamentally from mainstream industrial-market principles is well established and of long standing. On that unity, see John R. Meyer, Merton J. Peck, John Stenason and Charles J. Zwick, The Economics of Competition in the Transportation Industries of the United States, Cambridge: Harvard University Press, 1959; and Alfred E. Kahn, The Economics of Regulation, 2 vols., New York: Wiley, 1971, vol. 1, chs. 1 and 6, vol. 2, chs. 1 and 4-6.

crippled, and effective competition in those parts may never be reached.

### 1. The Economic Goals Include Efficiency, Innovation, Fairness And Freedom Of Choice

Good economic performance has many dimensions. One is economic efficiency, as economists have long emphasized.[4] Costs are minimized, and prices are constrained down to those cost levels. In that way, supra-competitive pricing and excess profits are prevented.

But efficiency in the use of current resources is just one goal: other important performance goals include innovation, in which all firms are motivated to adopt new products and technologies as rapidly as possible.[5] The process of vigorous innovation raises productivity and income, in some cases by compound rates of growth, as Schumpeter and others have stressed. The resulting rises in income and arrays of new products can easily exceed the benefits from more static efficiency.

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[4] See Stigler, The Organization of Industry, ch. 2; Kaysen and Turner, Antitrust Policy, chs. 1 and 3; Scherer and Ross, Industrial Market Structure, chs. 11 and 18; Kahn, The Economics of Regulation, vol. 1, ch. 3; and Shepherd, The Economics of Industrial Organization, chs. 1 and 5-7.

[5] See for example Joseph A. Schumpeter, Capitalism, Socialism and Democracy, New York: Harper & Row, 1942, pp. 63-106; and Oliver E. Williamson, Markets and Hierarchies, New York: Free Press, 1975, ch. 10. Michael E. Porter, Competitive Advantage: Creating and Sustaining Superior Performance, New York: Free Press, 1985, stresses the importance of innovation both for social benefits and for the health of the firm itself (at chs. 2, 3, 5 and 6).

Kaysen and Turner also stress the special importance of "progressiveness" and also fairness, in Antitrust Policy at pp. 14-17; and Scherer and Ross emphasize innovation, Industrial Market Structure, especially at ch. 17. In a public utility context, see Kahn, The Economics of Regulation, vol. 2, pp. 95-101.

For example, Scherer and Ross's comprehensive text sums up the literature (at p. 682): "In the long run, we have urged repeatedly, good economic performance depends much more critically upon sustaining a vigorous pace of technological progress than upon plausible variations in allocative efficiency or income distribution." Still other goals include **fairness** and **freedom of choice**. Those goals are important and deep-seated economic values in the U.S.

In sum, efficiency is important, but it is not the only criterion. The literature has recognized and emphasized that the other goals -- especially innovation -- may be more important in the long run. For valid policy decisions, a weighing of possible efficiency effects (e.g., merger "economies") is only one step in a multi-step evaluation.[6] The other steps (especially considering innovation) may be more important. And a decision that permits efficiency while undermining the basis for innovation and freedom of choice may have negative economic effects, on balance.

[6] See especially Kahn, The Economics of Regulation, Vol. 2, pp. 95-101; Scherer, The Economics of Industrial Organization, chs. 1, 6 and 7; Scherer & Ross, Industrial Market Structure, chs. 1, 17 and 18. Moreover, good [illegible] requires that the benefits of efficiency be passed on to the public rather than being captured only by railroad shareholders.

## 2. The Relevant Markets Include Only Fully-Substitutable Services

In defining the relevant economic market, substitutability is the governing criterion.[7] One includes inside the market only the products or services that are fully substitutable for each other.

Substitutability, and the markets themselves, exist in two dimensions: **1. by product (or service) types, and 2. by geographic areas.**

To be relevant as a substitute and competitor in the market as defined, a carrier must be fully present in the market, with comparable facilities and operational abilities to serve most or all customers, and at equal costs. Only then will consumers be able to regard rival suppliers as genuine substitutes, so that the shippers can substitute freely among them.

A potential competitor is not to be considered to be in the market. For example, Southwest Airlines has had strong impacts, but only after it has actually entered specific city pair markets. Only after it has entered the market, gained substantial market position and achieved comparable costs can a potential entrant be safely regarded as a meaningful competitor.[8] Moreover a potential competitor

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[7] Phillip E. Areeda, Herbert Hovenkamp and John L. Solow, Antitrust Law, Vol. IIA, Boston: Little, Brown, 1995; Joe S. Bain, Industrial Organization, rev. ed., New York: Wiley, 1968; Shepherd, The Economics of Industrial Organization, ch. 3; Scherer and Ross, Industrial Market Structure, pp. 73-76; Richard A. Posner, Antitrust Law, Chicago: University of Chicago Press, 1976, chs. 4 and 6; Eleanor M. Fox and Lawrence A. Sullivan, Cases and Materials on Antitrust, St. Paul: West Publishing, 1989, pp. 139-43.

[8] This is clear from Bain's discussion in Joe S. Bain, Barriers to New Competition, Cambridge: Harvard University Press, 1956, ch. 1; and Scherer and Ross, Industrial Market Structure. Some writers seem to regard firms that might enter as if they already were real competitors; Drs. Willig, Janusz

which faces strong barriers against entry usually has no economic relevance. If it will not be able to enter, then it has no role in discussions of future competitive outcomes.

In the railroad industry, correctly-defined markets will include only the carriers that can provide transport precisely between the desired origins and destinations, under comparable service conditions and at comparable prices. If a carrier merely has physical operations at a point or in an area, that alone does not establish that the carrier is genuinely substitutable for other carriers' services in the market. Each carrier must also be fully able to provide comparable services (outgoing and incoming) linked to other areas and points, and at comparable prices.

The carrier must also have the abilities and the incentives to seek the shippers' business actively, in competition with others. And it must have a substantially equal chance to get it. If instead a carrier is physically present but is inactive, or is impeded, or is burdened with higher costs, then that carrier's services are not genuine substitutes in the market. The carrier then does not and will not exist as an economic competitor in the market.

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...er and David Scheffman for example call them "uncommitted entrants" just ...se they are in adjacent markets; see their papers in the Special Issue ...er Guidelines, Review of Industrial Organization, pp. 139-50 and ... But that is inaccurate, blurring the meaning of competition and

### 3. Effective Competition Involves Sufficient Numbers, Reasonable Competitive Parity And Reasonably Easy Entry

The central concept in the literature, and for an economic evaluation of this merger, is effective competition: will competition remain at an effective level after a merger or instead be substantially reduced by it? Or even if competition was not fully effective before the merger in some or many markets, will the merger reduce competition even further?

The meaning and presence of effective competition is often a complex matter.[9] There is usually some degree of actual or potential competition in most markets, but the competition may be weak or incomplete rather than vigorous and hard. Moreover, the net effect of a horizontal merger may be to reduce the market's degree of competition significantly further.

The concept of effective competition has come to involve a reasonably well-agreed set of criteria.[10] The research literature has

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[9] One phrase for effective competition is "hard competition," as developed by members of the Chicago School. Hard competition involves maximal efforts by all firms, at all times. See Melvin Reder, "Chicago Economics: Permanence and Change," Journal of Economic Literature, (1982), pp. 1-38; also Stigler, The Organization of Industry, ch. 2.

[10] This has of course been a central issue in the research field for many decades. See Fellner, Competition Among the Few, ch. 1; George J. Stigler, ed., Business Concentration and Price Policy, Princeton: Princeton University Press, 1955; Kaysen and Turner, Antitrust Policy, chs. 1-3; Stigler, The Organization of Industry, ch. 2; Scherer and Ross, Industrial Market Structure, chs. 2 and 6-8; Shepherd, The Economics of Industrial Organization, chs. 1, 3 and 4.

The mainstream discussion extends to the U.S. federal antitrust agencies, as shown by the discussions of competition and structure in their merger guidelines (noted below).

developed over a number of decades a recognition of three main conditions that usually provide for effective competition:

1. **Numerous competitors.** There needs to be sufficient numbers of significant competitors. If there are too few (especially as low as just 2 or 3), then those firms' incentives to coordinate with each other in some degree, either directly or indirectly, will often prevail over their incentives to compete independently.[11] Some degree of coordination will often occur and have significant effects even if there are some periods or geographic/product pockets of aggressive competition.

Even if the Board were to expect that just two firms could guarantee hard, fully-effective competition all of the time, the merger will fail to meet that standard, as I will show below. But the general literature is substantially less tolerant of fewness.

The mainstream literature has suggested that a minimum of about five competitors is needed if competition is to be relied on to be fully effective.[12] For example George J. Stigler, the leader of the

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[11] See Fellner, Competition Among the Few, ch. 1; Kaysen and Turner, Antitrust Policy, ch. 3, Scherer and Ross, Industrial Market Structure, chs. 6-8; Shepherd, The Economics of Industrial Organization, chs. 1, 3 and and Tirole, The Theory of Industrial Organization, chs. 5-7.

One part of the literature has discussed small-numbers behavior, under incentives of joint maximization of profits. Fellner's landmark ussion identified the tendencies for the few leading firms to adopt joint ization of profits

Kaysen and Turner, Antitrust Policy, ch. 3, define and discuss tight oly (with high concentration in just a few leading competitors) as onable market power," at pp. 77-80. They regarded tight oligopoly as monopoly."

conservative Chicago School from the 1950s to the 1980s, considered structural evidence as relevant, and he set standards for empirical evidence for "the existence of competition" that are even stricter than the mainstream conditions that I note. In considering "a variety of statistical tests of the existence of competition" that "deserve some attention," Stigler considered first the number of firms, the absence of dominance, and low concentration: "The presence of numerous firms, none dominant in size, is directly observable and is usually described by a low concentration ratio.'[13] Later he says, "...a large number of rivals is sufficient to achieve competition," and that "many producers" will be sufficient for "the socially optimum amount of competition."[14]

Kaysen and Turner's landmark study says, "If we wish to eliminate unreasonable market power, we must in general move toward less concentrated markets in which there are more sellers with smaller shares. An increase in the number of competitors and a decrease in the relative market positions of the larger of them is usually a

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[13] Stigler, The Organization of Industry, ch. 2, at p. 14. Stigler noted various reservations about structural data, and he noted other possible indicators of the degree of competition, including "the absence of systematic price discrimination" and the "traditional" indicator of monopoly as "a high rate of return on investment," pp. 14-15. But he clearly implies that many firms are necessary in order to give effective competition.

[14] Stigler, The Organization of Industry, p. 18. In a discussion of "The Minimum Necessary Condition for Competition," he noted that perfect competition was more than was necessary; "These conditions are much stronger than we need, however, and this note will argue (but not rigorously prove) that a large number of rivals is sufficient to achieve competition," pp. 16-18.

sufficient condition for the reduction of market power in any market."[15] If market concentration in the largest 4 firms exceeds 75 percent, market power is "unreasonable."[16]

Scherer and Ross's leading text on industrial organization notes "Economic theory suggests that the vigor of competition is related positively to the number of firms in the relevant industry, other things (such as the height of entry barriers) being equal."[17] As they summarize, "Pure monopolists, oligopolists, and monopolistic competitors .... possess monopoly power or market power," (page 17).

If all five (or more) firms are comparable, strong and well motivated, they may usually act independently and forcefully to provide hard competition. Then the tendencies to coordinate may not be strong enough to prevail, at least not most of the time.

With each reduction below 5 firms (5-to-4, 4-to-3, 3-to-2, and of course 2-to-1) there is a significant loss of competition as the incentives for coordination become relatively stronger, compared to the rewards for independent competitive actions. In most normal

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Kaysen and Turner, Antitrust Policy, p. 79. They do note reservations about unnecessarily trying for excess precision in structural conditions. But their whole theme is the market power created when concentration in a few firms is high; "Both economic theory and experience indicate the likelihood of a monopoly problem in the structurally oligopolistic markets," (at page 5).

Kaysen and Turner, Antitrust Policy, pp. 29-34.

Scherer and Ross, Industrial Market Structure, p. 71. They note that a market is "oligopolistic" when firms are few and mutually interdependent; they distinguish between that and "a competitive market structure," page 17. They note that the mainstream literature (with the exception of "contestability" theory) regards tight oligopoly as involving market power, at page 17.

markets, mainstream researchers would not expect that 2 or 3 firms would provide effective competition. A few markets might have unusual conditions which permit less than 5 firms to yield effective competition, but that possibility would need to overcome a heavy burden of proof. As shown below, that is not the situation in this case.

2. **No Unilateral Market Dominance.**[18] There also needs to be reasonable competitive parity among the competitors, so that they all apply strong mutual pressure on each other to perform well. Instead, one firm may hold market dominance, with a market share of half or more of the market and no close rival.[19] Then competition will usually be unbalanced and ineffective.[20]

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[18] I am using the term "market dominance" here as it is commonly used in the economics literature, primarily relating to market shares and entry conditions. That is different from the term's technical use in the statutory jurisdiction of the STB.

[19] In the economics literature, a dominant firm has more than 40 percent and "no close rival," which may usually mean that the lesser rival's market share is 20 points or more lower. Such an indicator of market dominance is roughly similar to the "50%-10%" guideline adopted by Richard B. Peterson of Union Pacific Railroad (Verified Statement, pp. 233-34) as a test for whether the Union Pacific and Southern Pacific may be viewed as competing currently for the transportation of chemical products from the Gulf Coast. If the two firms combined have a market share of 50 percent or more for the transportation of a particular product, and both have more than 10 percent, then there is a particular concern that the merger will adversely affect the market for transportation of that product. If on the other hand the two firms combined have a market share of 50 percent or more, while one has less than 10 percent, then the firm with the small market share is not viewed as currently competing effectively, and there is less concern about the reduction of competition as to that market segment.

[20] See Scherer and Ross, Industrial Market Structure, pp. 221-26; Donald Hay and John Vickers, The Economics of Market Dominance, Oxford: Basil Blackwell, 1987; and Shepherd, The Economics of Industrial Organization, ccs 11 and 12.

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[20] See Scherer and Ross, Industrial Market Structure, pp. 221-26; Donald Hay and John Vickers, The Economics of Market Dominance, Oxford: Basil Blackwell, 1987; and Shepherd, The Economics of Industrial Organization, ccs 11 and 12.

The dominant firm will apply a degree of unilateral control in the market, raising prices and adopting strategic discriminatory pricing in ways which limit its rivals' ability to compete. The dominant firm will not be pressed hard to perform well, and the lesser rivals in that market will be over-matched by the dominant firm's greater resources in the market.[21]

3. **Easy entry.** There needs to be reasonably easy or free entry into the market and among all its segments.[22] Numerous new firms will be able to enter quickly and freely, to survive, and to acquire significant market shares, if the incumbent firms raise prices significantly. Impeded entry, in contrast, permits the few firms to collude more effectively and raise prices further.

Some theorists (including Dr. Willig) have explored certain pure cases in which 3, 2 or even just 1 firm may instead tend toward competitive efficiency results.[23] But those cases assume extreme

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[21] If the firms are just parts of larger firms, then the mismatch of resources may depend both on conditions **inside** the market as well as the firms' total resources **outside** the market. Yet the positions inside the market may govern the main ability of the dominant and lesser firms to compete and gain profits.

[22] See especially Joe S. Bain, Barriers to New Competition, Cambridge: Harvard University Press, 1956; Joe S. Bain and H. Michael Mann, "Seller Concentration, Barriers to Entry, and Rates of Return in 30 Industries, 1950-1960," Review of Economics and Statistics, August 1966, pp. 296-307.

[23] "Contestability" theory is a leading example of this; see William J. Baumol, John Panzar and Robert D. Willig, Contestable Markets and the Theory of Industry Structure, San Diego: Harcourt Brace Jovanovich, 1982. This theory purportedly "proves" that even a monopoly can be relied on to reach competitive results (though only in terms of static efficiency: the theory says little about other economic goals, including innovation and freedom of choice). See also Tirole, The Theory of Industrial Organization, chs. 5-7.

conditions of totally free entry and exit, with no sunk costs, and they are in any event merely matters of theorizing. They have not been supported by research evidence from real markets nor by widespread business experience. As shown below, BNSF will face barriers, rather than completely open entry.

In this case, Dr. Willig relied (Verified Statement, pp. 586-89) on Richard Peterson's interpretation (Verified Statement, pp. 177-85) that two-firm competition is strong in various railroad situations, including traffic on the Southern Corridor and coal shipments from the Powder River Basin. But those situations involved highly specialized circumstances where a new competitor did in fact have or obtain equal access to very substantial amounts of new traffic, for which it had the incentive and ability to make major investments to compete. And, given that they decided to make the heavy investment needed to enter the market, had every incentive to compete aggressively for the traffic needed to pay off their investment.

In the Powder River Basin, the CNW/UP entered the market at a time when few utilities had signed rail transportation contracts, since clear contracting authority and implementing rules had first been promulgated after the passage of the Staggers Act. Thus, the market was largely "open" and was not foreclosed by the presence of existing contracts, thus permitting the CNW and the UP to compete at the outset for substantial amounts of traffic. More importantly, in the case of the movement of massive amounts of Powder River Basin

coal, the capture of just a few individual movements of traffic between a single origin and a single destination for a single customer were large enough by themselves to support the investment required. Additionally, the CNW, along with its joint-line partner, the UP, itself served major consumers of coal, and therefore had natural advantages in competing with the BN, a fact that could help to justify the necessary investments. Finally, each contract for PRB coal traffic, and to a large extent Southern Corridor intermodal traffic, is defined by a market for a discrete product between a discrete origin and one or at most a few destinations, making it relatively easy for a potential competitor to "target" the customer and his needs.

Here, those conditions are not present. There are substantial barriers to BNSF entry, and there are substantial handicaps if BNSF tries to compete. There is not even the potential available traffic base that would tempt BNSF to compete vigorously, even aside from the barriers and handicaps it must face. Unlike the CNW/UP with respect to Powder River Basin coal traffic, the BNSF does not directly serve large numbers of important destinations for plastics and chemical shippers. Moreover, a substantial amount of potential traffic is under existing contracts. The "network" pattern of much chemical or plastics traffic, which moves from relatively few origins but to numerous destinations, makes it difficult for a single carrier to identify and isolate its competitive opportunities.

The mainstream literature has developed extensive evidence that when there is dominance, rivals are few, and entry is impeded, then the standard effects of monopoly power will occur.[24] In one authoritative summary: "Perceptive managers will recognize that their profits will be higher when cooperative policies are pursued than when each firms looks only after its own narrow self-interest. As a consequence, even in the absence of any formal collusion among firms, we should expect tightly oligopolitic industries to exhibit a tendency toward the maximization of collective profits, perhaps even approaching the pricing outcome associated with pure monopoly."[25] This applies to several-firm dominance; the conclusion holds more strongly, of course, for single-firm dominance.

Some dominant firms have had such strong and lasting monopoly effects that major antitrust cases have been necessary in order to restore competition.[26] In addition, some remaining dominant firms nowadays (such as local newspaper monopolies) are recognized to

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[24] Bain, Barriers to New Competition, chs. 1 and 7; Scherer and Ross, Industrial Market Structure, chs. 11 and 18; Leonard W. Weiss, Concentration and Price, Cambridge: MIT Press, 1991.

[25] Scherer and Ross, Industrial Market Structure, p. 226, see also chs. 6, 7 and 8.

[26] The leading cases include, among many others, the Standard Oil trust (1911), American Tobacco (1911), the Aluminum Company of America (1945), United Shoe Machinery (1954), and AT&T (1984); see Areeda and Turner, Antitrust Law; Fox and Sullivan, Antitrust, ch. 2, pp. 99-281; and William G. Shepherd, Public Policies Toward Business, 8th ed., Homewood, Ill.: Richard D. Irwin, 1991, chs. 6 and 7.

present serious problems, for which remedies are needed but not currently available.

In addition, there are a number of familiar cases from business experience that show the impacts of single-firm dominance and tight oligopoly.

### 4. Airlines And Telecommunications Offer Helpful Examples And Parallels To This Merger

In recent industrial experience, there are important examples, including two industries -- airlines and telecommunications -- whose network basis makes them closely parallel to the railroad industry.

#### a. Airlines

The airline industry provides a set of significant parallels and examples.[27] "Hub dominance" is an important element of airline market power. Since 1980 there has developed extensive dominance by one or two airlines at many of the major airports, including Detroit, Minneapolis, Dallas, St. Louis, Pittsburgh, Chicago, Denver and San Francisco. The consensus of empirical research is that the dominance has tended to raise fares by about from 17 to 26 percent.[28] This

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[27] See Steven A. Morrison and Clifford Winston, The Evolution of the Airline Industry, Washington, D.C.: Brookings Institution, 1993; Elizabeth E. Bailey, David R. Graham, and Daniel P. Kaplan, Deregulating the Airlines, Cambridge, Mass.: MIT Press, 1985; Richard H.K. Vietor, "Contrived Competition, Airline Regulation and Deregulation, 1925-1988," Business History Review, Spring 1990, pp. 61-108.

[28] See among many others Severin Borenstein, "Hubs and High Fares: Dominance and Market Power in the U.S. Airlines Industry," Rand Journal of Economics, 20 (1989), pp. 344-65; William N. Evans and Ioannis Kessides, "Localized Market Power in the U.S. Airline Industry," Economic Statistics, 75 (February 1993), pp. 66-75; Alfred E. Kahn, "The Competitive Consequences of

effect appears to occur both for unilateral dominance and for duopoly situations, even though direct collusion is illegal and the duopolies are fully known and subject to close observation by policy agencies, economic specialists and the public.

Another instance is the east coast air shuttle duopoly. Delta and USAir are in a long-standing duopoly in the northeast corridor of the U.S. between Washington, New York and Boston. Entry is closed because of their control of scarce airport landing slots.[29] The two airlines have carefully avoided price competition for many years in this set of markets. The fares are substantially higher than those for comparable shuttle service between San Francisco and Los Angeles, where entry is open.[30] The profits on the east coast shuttle duopoly have been correspondingly high.[31] With new entry closed, this duopoly has avoided sharp competition, in ways which railroad duopoly may replicate.

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Hub Dominance: A Case Study," Review of Industrial Organization, 8 (August 1993), pp. 379-405; Margaret A. Peteraf, "Sunk Costs, Contestability and Airline Monopoly Power," Review of Industrial Organization, 10 (June 1995), pp. 289-306; Morrison and Winston, Evolution of the Airline Industry; John P. Meyer and Clinton V. Oster, Jr., Deregulation and the Future of Intercity Passenger Travel, Cambridge: MIT Press, 1987, ch 9.

[29] See the thorough discussion in Edwin McDowell, "Shuttles in Northeast Thrive and Keep Fares Up," New York Times, May 8, 1995, p. D3.

[30] The fare in 1995 was $147 on both the New-York-Boston and New-York-Washington routes. On the open-entry route between Los Angeles and Oakland the fare was only $69; on the Los Angeles-San-Francisco route, it wa $99, still well below $147. McDowell, "Shuttles."

[31] Delta reported a profit of as much as $20 million on its shuttle operations in 1994, while losing $159 million on all operations. USAir, whic suffered a much-larger total loss of $685 million in 1994 and yet still recorded an expected net shuttle income of about $6 million. McDowell, "Shuttles."

## b. Telecommunications

The telephone-service industry offers equally instructive parallel examples, both in long-distance markets and local-service markets.[32] In **long-distance service**, AT&T was the total monopoly until the 1970s, when MCI and Sprint were allowed to enter. AT&T then became a dominant firm with these two small rivals plus a fringe of tiny new competitors, most of which soon exited by closing or selling out. At first MCI and Sprint competed by setting prices that were markedly lower than AT&T's prices, usually 30 percent lower or more.

But since 1986, all three firms have charged similar prices. Despite the surface appearance of active non-price competition (advertising campaigns, special discounts for certain groups, etc.), the three firms can be seen as a stable dominant-firm/three-firm tight oligopoly whose participants have tacitly agreed to avoid sharp, frontal price competition.[33] There may be no explicit collusion, but the mutual forbearance among the Big Three is a recognized fact.

This outcome is caused partly by AT&T's continuing dominant position, Quick substantial entry did not occur; instead MCI and Sprint were able only to nibble at AT&T's dominance during 1980 to 1989. It took MCI at least 10 years to gain its 20 percent share,

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[32] See Robert W. Crandall, After the Breakup, Washington, D.C.: Brookings Institution, 1991, chs. 1 and 3.

[33] Paul W. MacAvoy, "Tacit Collusion under Regulation in the Pricing of Interstate Long-Distance Telephone Services," Journal of Economics and Management Strategy, 4 (Summer 1995), pp. 147-85.

point by point, and Sprint has been able to gain only 10 percent. When AT&T was constrained before 1989 by the Federal Communications Commission's moderate regulation of it, AT&T's share did recede at about 4 points per year. But the FCC deregulated AT&T in 1989, and AT&T has stabilized its dominant share at about 60 percent of the market.

The outcome also reflects the mutual comfort of these three firms in avoiding all-out competition. A few minor competitors have survived, while many others have been forced out. Entry has become virtually closed to any major entrants. That is why the Telecommunications Competition Act of February 1996 took drastic steps to allow the Baby Bells to enter long distance markets. Competition was widely agreed to be ineffective, and only these massive adjacent firms had a chance of making substantial entry into each others' markets.[34]

Local telephone service also offers instructive examples. Entry into many large-city local-exchange markets has been "open" for a number of years, and yet only minor entry has occurred in a relative few of them. Despite this nominally open entry, the Local Bells' monopoly power has remained so great that regulation has still been needed. As shown below, similar controls can be applied by UP/SP against BNSF, such as by controlling dispatching and other mechanisms.

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[34] The Act permits mutual entry (under certain conditions) between the long-distance markets and the local-service markets. That entry had been previously barred, after the break-up of the Bell System in 1984.

### c. Lessons from Airlines and Telecommunications

These two closely-studied sectors are parallel to railroad markets in many respects: network-based industries, with many submarkets, widespread dominance and few-firm conditions, bottlenecks that may control competitive access, and discriminatory pricing.

**Effects of Market Power despite Deregulation.** One main lesson of these two cases is that dominance, the fewness of competitors, and impeded entry will cause the major effects of monopoly in situations where deregulation is seeking to create effective competition.

Both unilateral dominance and few-firm coordination have had substantial impacts, in a large variety of market settings in much of the U.S. Only the unleashing of possible competition, as provided by the new Telecommunications Act, offers some promise of escaping from dominance and three-firm tight oligopoly in telecommunications, as it is reinforced further by difficult-entry conditions.

**Mutual Restraint.** These cases also show that it is important to be realistic about whether firms that seem to compete are really competing fully by using all competitive weapons. Often they are not.

**Impeding Entry.** Still another lesson is the ability of the incumbents in network-based industries to prevent strong entry. Repeatedly, the legal shift to "open entry" has yielded only little or no significant entry. Therefore, comparable markets are likely to experience only minor entry by small increments, rather than massive entry that quickly captures large market positions.

One tactic used by telephone-service firms (and railroads, in transportation markets) to prevent strong entry is strategic discriminatory pricing -- "pin-point pricing", "sharp-shooting", cutting discount deals with the best customers -- as a way to restrain smaller rivals in the market and confine them to market niches. AT&T used extensive discounting after 1988 to impede MCI and Sprint from attracting the best customers.[35] Airlines have developed price discrimination (called "yield management") to extremely refined degrees, with the effect of enhancing profits and discouraging mutual entry.[36]

**Spheres of Interest.** A final lesson is that these network-based industries tend to develop patterns of market accommodation and "spheres of interest," so that parallel dominant firms in few-firm situations learn to stay out of each other's main territory. That can be expected to occur in similar industries, such as railroads.

### 5. Concentration And Numbers Of Rivals Are Relevant In Assessing A Merger's Effects On Competition

The degree of competition is not a matter of guesswork and personal opinions. The numbers of substantial competitors, together with market shares and concentration indexes (4-firm ratios and HHIs),

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[35] AT&T used its customized Tariffs 12 and 15 to protect or gain at least 75 major national accounts, under deep price discounts and specialized service arrangements. Among the customers held in this way were General Electric, Ford Motor Co., E.I. DuPont de Nemours, and Holiday Inns. See Jay Arnold, "FCC Rejects Challenge to Customized Phone Service," Associated Press, Business News, June 30, 1989.

[36] See the discussion in Morrison and Winston, Evolution of the Airlines Industry; Bailey, Graham and Kaplan, Deregulating the Airlines.

indicate the likelihood that there is unilateral power or coordination in a market. As I discussed at length above, when the numbers of competitors are low, and market shares and concentration are high, they set the burden of proof against any claim that the duopoly competition will be strict.

It is simple and straightforward to consider the reduction in the number of significant competitors. As I noted earlier, every reduction below 5 causes a significant rise in the likelihood that tight-oligopoly behavior will tend to be implicitly or directly coordinated.

As for market shares and concentration, research economists and the antitrust agencies use these data extensively in assessing situations of market power as well as mergers. Since 1982, the HHI has been a standard test. The main threshold criterion has been an HHI value of 2,000; above that level, it is expected that the leading firms are likely to adopt cooperative behavior. The higher the HHI index is above 2,000, the stronger is the presumed tendency to collude.

The HHI is also used to assess the reduction of competition that the merger will cause. The two partners' shares are multiplied together and doubled. A rise of 100 points or more is regarded as a significant reduction in competition, if the HHI level is already above 2,000.

Both uses -- the level of market power and the possible increase of market power -- are relevant to this merger case, and both calculations can readily be made for significant markets. Both will indicate monopoly levels that violate the standard antitrust criteria in many markets.

### 6. The Net Economic Gains From A Merger Are The Correct Basis For Evaluating That Merger

In assessing mergers, only the net economic gains (compared to non-merger alternative arrangements such as long-term contracts, achieving efficient routing of traffic by joint rates, joint facilities agreements, and technical coordination) are the proper basis for a public-policy evaluation. The UP and SP merger partners in this case have stressed instead the gross gains in efficiency. That ignores the non-merger ways that may be available to achieve the same benefits.

Where competition may be reduced by the merger, any valid comparison of the merger's benefits with its monopoly impacts needs to identify and incorporate solely the net benefits.

In addition, Applicants have not stated what proportion of the efficiency gains will be passed on. Given the reduction in competition, it is likely that most of the gains will instead be retained for the benefit of the UP/SP shareholders only.

## 7. Strategic Price Discrimination By A Dominant Firm Can Tend To Reduce Competition Without Giving "Ramsey-Pricing" Efficiency

Dominant firms normally develop extensive price discrimination, using pin-point pricing in a dynamic process so as to deter competition and extract maximum profits.[37] Notice that price discrimination could promote competition, when it is done by firms with small market shares. But it tends to reduce competition when done by dominant firms, who typically suppress the rivals with smaller shares in the market by using pin-point strategic pricing against them.

As Scherer and Ross summarize the literature. "In sum, systematic price discrimination can preserve and strengthen monopoly positions by permitting large firms to buy inputs at lower prices than their smaller rivals, by tying buyers together with sellers giving discounts for concentrated purchases, and by making entry into narrow segments of a market more difficult," (at p. 502).

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[37] For particularly thorough analysis of discrimination's possible anticompetitive effects, see Kahn, The Economics of Regulation, pp. 131-91; and Scherer and Ross, Industrial Market Structure, pp. 499-502.

Stigler also stresses that price discrimination can signal a lack of effective competition: "A related evidence of competition is more powerful: the absence of systematic price discrimination." The Organization of Industry, pp. 14-15.

Leading past examples of dominant-firm anticompetitive discrimination include IBM in tabulating equipment and computers, Xerox in the copier industry, AT&T in long-distance service, and airlines after 1978. See for example Richard T. DeLamarter, Big Blue: IBM's Use and Abuse of Power, New York: Dodd, Mead, 1986, chs. 2, 6 and 9-13; also, for analysis and examples, W. Shepherd, The Economics of Industrial Organization, ch. 12, pp. 287-315.

This discrimination does not offer the efficiency-promoting properties which Ramsey pricing is said to have.[»] Ramsey pricing theory is relevant primarily to the static-efficiency effects of pricing by a complete monopoly with declining-cost conditions, in the absence of dynamic competition. Even for use in that narrow situation, the principal author of Ramsey pricing theory now states that Ramsey pricing is impractical for use in guiding real policies.[»]

Once a competitive process begins, as it did long ago among railroads, the strategic impacts of dynamic discrimination come to the

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» See Scherer and Ross, Industrial Market Structure, pp. 496-502; Kahn, The Economics of Regulation, vol. 1, pp. 137-181; William G. Shepherd, "Ramsey Pricing: Its Uses and Limits," Utilities Policies, October 1993, pp. 295-98; and William G. Shepherd, "Contestability vs. Competition -- Once More," Land Economics, August 1995, pp. 299-309.

» See William J. Baumol and J. Gregory Sidak, Toward Competition in Local Telephony, Cambridge: MIT Press, 1994, pp. 36-39. It may be helpful to quote the reasons in full, as explained by Baumol and Sidak at pp. 38-39:

"Therefore, to use the full Ramsey analysis to calculate second-best optimal prices, one needs information on the marginal cost of, and the own-price elasticity of demand for, each of the products in question. One probably needs to know the full set of cross-price elasticities as well.

This data requirement is one reason why most regulators and consulting economists have rejected the use of the Ramsey formulas even to provide approximations for the prices that the regulated firm should be permitted to charge for its products. Marginal-cost figures are difficult enough to come by, although reasonably defensible approximations have been provided by firms to regulatory bodies. But up-to-date estimates of the full set of pertinent elasticities and cross-elasticities are virtually impossible to calculate, particularly in markets where demand conditions change frequently and substantially. As a result, an attempt to provide the regulator with an extensive set of Ramsey prices is likely to be beset by inaccuracies, by obsolete demand data, and by delays that will prevent the firm from responding promptly and appropriately to evolving market conditions. ...

In sum... , Ramsey analysis is unlikely to determine the actual magnitudes of regulated prices."

fore and the static-efficiency role fades away. Any lingering static-efficiency benefits that price discrimination may give are replaced by the reduction of competition, with its harms to efficiency, innovation and other economic goals.

Network-based industries such as railroads often contain hundreds of individual markets, within which the participants have extensive contact with each other. That provides many opportunities for strategic pricing using discounts, and the discounting intensifies the incentives to adopt "diplomatic behavior" recognizing "spheres of interest," which I noted earlier.[40] The discounting magnifies the extent of precise punishment which dominant carriers can impose on their rivals in many related markets.

Accordingly, the rivals learn to avoid frontal challenges to each other. The resulting peaceful-coexistence behavior has been a normal feature of a number of network-based, multiple-market industries containing market dominance.

## II. THE MERGER WILL REDUCE COMPETITION IN MANY MARKETS, INCLUDING MANY OR MOST OF THE TRACKAGE-RIGHTS MARKETS

This merger is likely to reduce competition not only in 3-to-2 markets and 2-to-1 markets but also generally in the western U.S.

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[40] Airline hubs are an important parallel example of spheres of influence. [i]t is highlighted by the fact that the maverick airline Southwest Airlines [a]empts successfully to crack fortress hubs, as a central part of its [s]tegy. In contrast, the established airlines generally do not try to [i]de each others' fortress hubs, preferring instead to observe mutual [r]raint about each others' main areas of interest.

because of mutual duopoly restraint. For the 2-to-1 markets, Union Pacific/Southern Pacific has pointed to the Burlington Northern/Santa Fe railroad as an effective competitor, by means of a set of trackage rights. These rights were negotiated as part of the merger design, and Union Pacific presents them as a complete solution.

In discussing the 3-to-2 situations, the merger application presents Dr. Willig saying at length that the duopolists will engage in hard competition, with no tendencies toward cooperative behavior. On the larger problem of mutual duopoly restraint, Dr. Willig provides his opinion that all interactions will involve maximum hard competition, with unlimited and ubiquitous strife. The evidence suggests the opposite.

The trackage rights issue may be the more important and complex specific topic. I will address it and the likelihood of duopoly restraint, after covering some points of market definition.

### 1. The Relevant Markets Include Shipping Points, Corridors, And Region-Wide Areas

Attention naturally focuses on the relevant markets within which the merger will reduce competition. They include not only several major route corridors, but also many more specific origin-destination pairs and route lines, as well as the larger western-U.S. railroad services market.

**Modal Competition.** First, I need to mention modal competition in which trucks and barges may substitute for railroad services. Modal competition is important for some categories of freight, in so

directions. But for many major categories (including most plastics, many chemicals and others), it is not feasible and not economically important in practice.

In the literature of transportation economics, it has long been recognized that trucks and barges do not provide effective substitutes or competitors for railroads on major classes of traffic.[41] Railroads are most suitable for high-bulk, uniform, low-speed, long distance freight.

Trucking is substitutable for railroad carriage for some types of freight, and it is superior for certain categories, such as low-bulk, high-value, differentiated cargo that must be delivered to multiple locations (as in a city). But certain major cargo classes are out of reach for trucks, both by the relatively higher cost of trucking and the specific service features and locations.[42]

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[41] Leading discussions include Meyer, Peck, Stenason and Zwick, The Economics of Competition in the Transportation Industries of the United States; Kahn, The Economics of Regulation, pp. 178-93; Dudley F. Pegrum, Transportation: Economics and Public Policy, Homewood, Ill.: Richard D. Irwin, 1968; Theodore E. Keeler, Railroads and Public Policy, Washington, D.C.: Brookings Institution, 1983, chs. 4 and 5.

[42] For expert opinions that are directed to this case, see the Verified Statements of Larry D. Ruple and A.O. Bowles, Jr. on behalf of the Society of the Plastics Industry in this proceeding.

At best, the anecdotes provided by Mr. Peterson and others show that some shippers have used other modes for some shipments, or have threatened to attempt to use other modes in order to gain leverage. But even if one shipper can use non-rail transportation for some shipments, this does not mean that other shippers can do so, or that the first shipper can do so for all shipments. The UP/SP have presented no systematic evidence of the ability of shippers on their systems to use non-rail transportation for the long-distance movements that are of most concern to shippers in this case.

Plastics resins are particularly captive to rails, because the industry requires large-scale storage of the resins on rail cars as part of the process of accommodating output and holding material to fit demand patterns.[43] Also, covered hopper cars provide the levels of security and cleanliness that are necessary for these products. Therefore virtually all production facilities are designed to transfer the resins to rail cars. Even the small amount of plastics resin that is eventually carried by trucks is moved "initially by rail in that the plants are designed for rail rather than motor carrier loading."[44]

As for chemicals, the ICC itself in 1989 recognized the rail-dependency of the important STCC groups 28-1 and 29-1: ".... the products in these groups moving by rail often travel long distances in shipper-owned or leased tank cars.[45]

Waterborne traffic may appear to overlap more closely with railroad services in categories of distance, uniformity, less need for

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[43] A.O. Bowles Verified Statement, pp. 3-8, "The plastics industry truly is dependent upon rail transportation for the movement of product from production to customer destinations" (p, 8); Larry D. Ruple Verified Statement, pp. 12-15, "Producers are almost totally reliant on the rail car for loading production, storage track for both loaded and empty, and movement to final destination and return of empty cars." (p. 13). "No other means can be substituted or supply the multitude of logistics characteristics that rail represents." (p. 15)

[44] A.O. Bowles Verified Statement, p. 7.

[45] Ex Parte No. 346 (Sub-No. 24), Rail General Exemption Authority -- Miscellaneous Manufactured Commodities, 6 I.C.C. 2d 186 at 201 (1989). In the notice of proposed rulemaking in that same proceeding, the Commission noted that "the length of haul is a major economic measure of the relative potential of competition between rail and truck, as rails tend to have the competitive cost advantage over longer distances and trucks their relative potential advantage over shorter distances," ibid., Notice of Proposed Rulemaking, served February 9, 1988.

speed, etc. But waterborne traffic is tightly confined along fixed waterways, with a limited reach and pattern of pathways across the country. Although it is theoretically possible to use transloading between trucks and barges to reach points not on water, I understand that this is rarely done for chemicals or plastics traffic, for reasons including the extra cost, the need to prevent product contamination, and the need to minimize the risks of handling hazardous materials. In addition, waterborne traffic is subject to seasonal interruptions and uncertainties (e.g., from winter ice and blockages in parts of the country). Therefore waterborne traffic offers little or no substitution for major categories and directions of rail carriage."

The Verified Statements of A.O. Bowles, Jr., and Larry D. Ruple on behalf of the Society of the Plastics Industry, Inc. in this case show clearly the distinctive nature of rail service for most plastics and chemicals, as well as other freight.

My Statement focuses on those types of freight which, because of their types and locations, rely on rail carriage. They include plastics and chemicals concentrated in the Texas coastal area, as well as a variety of shippers on the Central Corridor between Denver and the west coast.

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See Larry D. Ruple Verified Statement, pp. 13-15; A.O Bowles Verified Statement, pp. 7-8, "Waterborne movement of plastics resins for distribution within the U.S. has never been a major factor for several reasons." (p. 7)

It is my understanding that the definition of markets in this case is not a principal area of disagreement among experts and officials. Accordingly I have been happy to join Dr. Willig in not developing a detailed discussion of market definition. Richard Peterson and Richard Barber, witnesses for UP/SP, treat corridors, shipping points and regions as a meaningful basis for assessing competition. My discussion joins in that approach.

But I would stress that many shipping points may actually be part of more than one genuine market, because the two or three railroads at them go in different directions and to different destinations.

**Three Levels of Markets.** Markets can be considered on 3 levels, ranging from broad to highly specific. They include whole regions, major traffic corridors, and specific shipping points or origin-destination pairs.

1. Some of the relevant markets include whole corridors, particularly between Houston and New Orleans, between Houston and Memphis and on to St. Louis, and in the Central Corridor between Denver and Oakland.

2. Many relevant markets are much narrower, including specific origin-destination pairs. Moreover, for some of them the relevant traffic is in just one direction (that is, outgoing or incoming).

In many of these cases, the geographic scope of substitution and competition is precisely defined. The product dimension is commonly less exactly specified, because a given shipping location may handle a

variety of types of cargo. Yet many shipping locations actually have just one producer/shipper, and so the product type in effect is tightly defined as well.

3. One can also define region-wide markets, where whole rail systems interact and carry out strategic choices.

### 2. The Merger Will Raise Monopoly Power In Many Of The Relevant Markets

Applying the above analysis, and now turning to actual markets in this case, one finds a series of cases where the merger will reduce competition.

#### a. In Corrider Markets

As for corridors, the merged railroad would have high shares of traffic in the Houston-New Orleans and Houston-Memphis-St. Louis corridors. As shown in Mr. Peterson's Verified Statement (p. 160), the pre-merger combined UP and SP shares of all traffic in the Houston-New Orleans corridor was in 1994, and the share in the Houston-Memphis corridor was .

#### b. In Specific Shipping-Point and Origin-Destination Markets

The merger affects a large number of narrow markets, both shipping points and origin-destination pairs. Recognizing this, the proposal included elaborate discussions of these markets and the efforts to prevent monopoly effects. Dr. Willig also offered general opinions that the cures would be complete.

Yet Mr. Crowley provides extensive evidence that many markets will undergo substantial rises in market power. In 2-to-1 markets, competition will probably virtually cease, and BN will gain few customers.[47] In 3-to-2 markets, the loss of competition will be severe even if the remaining duopolists do not adopt coordinated behavior. That is obvious from the reduction in numbers. It also is starkly reflected in concentration evidence. Mr. Crowley calculated the HHI for rail movement of Gulf Coast plastics pre- and post-merger, and they are extremely high -- for polyethedone, from 2440 pre-merger to 4075 post-merger and for polypropylene, from 3275 to 5778. Both of them would directly violate economic and antitrust criteria for competition.

In these many markets, the merger would therefore be unacceptable and would require direct actions to maintain competition. Dr. Willig says instead that the merger has no monopoly effects whatever; rather, he says, it will promote competition. Note, however, that Dr. Willig's conclusions are based not on his own analysis, but rather on his essentially uncritical acceptance of the conclusions of UP

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[47] At best, using reasonable assumptions about the share of available traffic that may be captured by the BNSF railroad using its trackage rights obtained from the UP/SP, the BNSF would gain 90 percent of the traffic moving to the relatively few destinations exclusively served by the BNSF and 50 percent moving to interchanges served by BNSF and at least one other railroad. These are the assumptions used by both the UP/SP in their traffic diversion studies and by Mr. Crowley in his Verified Statements for NITL, CMA and SPI. Richard Peterson, however, in his analysis of competition for chemical traffic, bases many of his observations and conclusions on the inconsistent and highly implausible assumption that BN will win every possible customer to all destinations.

personnel (principally Richard Peterson), including that some selected two-railroad markets are hotly competitive. Willig Verified Statement, page 641-42, I have already discussed above why in my view the principal examples do not shed light on the issue of whether BNSF is likely to enter and compete strongly in this case. (See my discussion of the Southern Corridor and Powder River Basin examples above.)

Dr. Willig's rejection of HHI evidence here conflicts with his stated views during 1989-91, when he was the chief economist at the Antitrust Division and leading the revision of the Division's Merger Guidelines (issued in 1992). He supported the validity of the economic standards of competition (including the 2,000-threshhold HHI values) at that time, in showing the likelihood of indirect or direct collusion." But his Verified Statement in this case makes no mention of those standards nor of the fact that the merger will create values that are a multiple of 2,000 in many important markets.

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In his previous approach, the only condition that may supersede the trict 2,000 HHI standard is extremely free entry; see his joint paper, anusz A. Ordover and Robert D. Willig, "Economics and the 1992 Merger idelines: A Brief Survey," in the Special Issue on Merger Guidelines, view of Industrial Organization, April 1993, pp. 139-50.

Yet entry is in fact exceedingly difficult or entirely blocked in lroad markets, because of its particular lack of openness and the need for entrant to possess its own road-bed and full array of associated ilities. Trackage rights do not overcome that entry blockage, as I explain his Statement.

### c. In Larger Regional Markets

Beyond these specific market patterns lie the larger regional presence and layouts of the two major western railroads after the merger. It is fully recognized in the industry and the business press (and among experts) that each railroad system will now have its main home areas and corridors, where it holds long-established dominance and superior resources.

The competition will not be evenly spread throughout a general western-U.S. market (although there are of course numerous overlaps between these duopoly railroads, including overlaps that may arise from the attempts to use trackage rights to create competition). Instead, competition will be at the edges of the main home areas of the duopolists. Also, in many of the specific markets, there is a marked imbalance between the dominant railroad and its one or two competitors.

These spheres of interest and unbalanced competition give the railroads strong incentives to avoid trying to mount hard competition in each others' home areas, corridors and markets. Each railroad can respond against a challenger by retaliating against it in many other specific markets throughout the west. The net gains to BNSF or UP/SP from invading the other's home markets will therefore usually be low or negative.

The deterrents to competition are sharpened because strategic price discrimination is common throughout the railroad industry.

rates are negotiated between railroads and individual customers, based on individual demand and cost conditions. Sophisticated discrimination is the way of life. That can be healthy and pro-competitive when no firm dominates. The discounting by all firms promotes healthy, flexible pricing. But, as I noted in Part I, point 7 above (pp. _____), the literature indicates that discrimination can suppress competition when it is used extensively and systematically by the dominant firm.

Therefore these railroad duopolists know that dynamic pin-point pricing will be used freely in multiple-market patterns, in order to protect the core customer base and home markets against competition from "outside." Even if two equal-sized railroads use the weapons head to head against each other, the incentives tilt them toward mutual restraint and against invading each others' main regional base.

### 3. BNSF Is Only A Potential Entrant To Trackage-Rights Markets, And It May Choose Not To Enter Or To Compete Fully In Many Or All Of The Relevant Markets

In the context of trackage rights, BNSF will be a potential entrant into trackage-rights markets, an outsider which may (or may not) seek to enter many or all of the Texas-coast-related markets, the central-Denver-west-coast corridor, and other markets. BNSF faces many barriers against its entry, as I discuss more fully below, and it will also need to consider the likelihood of multiple-market retaliation by UP/SP.

As I will discuss, BNSF actually has scant prospects of successful entry, even if it were strongly motivated to try. Therefore BNSF will have particularly strong incentives to draw back and focus on keeping out of battles with UP/SP, working instead to develop and protect its own home-area regional operations.

Even if instead the trackage rights were entirely effective in giving BNSF a fully equal competitive status with UP/SP, there would still be strong incentives for BNSF not to compete fully on those corridors and in those markets, as is explained in the following section.

## III. AMONG POSSIBLE REMEDIES FOR THE MONOPOLY EFFECTS, THE CURRENTLY-NEGOTIATED TRACKAGE RIGHTS WILL NOT CURE THE PROBLEM

I have considered carefully the trackage rights (and limited divestiture) that UP/SP has negotiated with BNSF. These rights have been candidly offered by UP/SP in recognition that the merger will otherwise have sharp and widespread monopoly-increasing effects in a large number of substantial markets for railroad services. The trackage rights function solely as an entry-permitting method. That makes them similar to the formal opening of entry into telecommunications and airlines markets: entry is now permitted, as a legal matter.

Two main economic questions need to be asked and answered:

1. If BNSF attempts to enter, would the trackage rights put BNSF on a fully equal competitive footing in all markets, immediately able to match UP/SP in all dimensions of service and price?

2. If not, will BNSF actually take advantage of such opportunities, in order to compete at all in every one of the relevant markets?

The answer to both questions is No. BNSF is unlikely to enter and offer hard competition in many or all of these markets. Even where it does try to enter, BNSF is likely to face substantial disadvantages in many or all of the trackage-rights markets, so that it may fail or at least compete less than fully.

### 1. BNSF Faces At Least Four Types Of High Barriers, And So The Trackage Rights Will Not Let BNSF Enter Successfully Into Many Or All Of The Relevant Markets

Some limitations of the trackage rights are already well-known, and I will not try to cover all of them here. The economic role of these rights is the attempt to make it possible for an outside railroad to extend itself as an effective entrant against an incumbent dominant railroad, using that dominant railroad's roadbed.

But the trackage rights remove only one type of barrier -- the physical barrier -- against entry. They passively open up the outside railroad's physical access to some shippers on some parts of the UP/SP railroad system. If there are no other economic barriers or disadvantages, then the potential entrant may try to become an actual entrant into the trackage-rights markets. But instead, the potential

entrant may not try to enter at all, or it may make mild efforts to serve some shippers on some routes.

BNSF's entry and survival will depend on its obtaining enough traffic density. That is the standard determinant of success in network-based industries such as railroads. Only by gaining quickly as much traffic flow as UP/SP already has might BNSF acquire an equal economic footing with UP/SP as a competitor (apart from BN's other disadvantages).

Because instead BNSF in practice will be deprived of such full density under the Trackage Rights Agreement, BNSF will be at a cost disadvantage. Knowing that, BNSF may rationally choose not even to try to compete in many or all markets. BNSF will consider its opportunity costs, given by the returns it can obtain on operations in its own system. If the returns in the trackage-rights markets are less than that, then BNSF lacks economic incentive to try to enter those markets.

On top of that, BNSF will also face four additional and different kinds of barriers. Each of these other barriers is, by itself, capable of deterring BNSF from entering many or most of the markets involved with trackage rights. These four types of barriers are:

1. A simple exclusion from access to compete for certain customers.
2. Operational difficulties in arranging to provide good-quality service along UP/SP's tracks.

4. Extra investment costs that BNSF must incur even before it is able to solicit business from shippers.

I will now discuss each of these barriers. They are in addition to still other barriers. In fact there are at least 14 categories of economic barriers that can deter entry in large-scale, complex markets, including railroads."

**BARRIER 1. BNSF's inability to serve a majority of customers in the trackage-rights markets.**

Even if it enters, BNSF will be unable to bid meaningfully to serve a large fraction of the traffic in the trackage-rights markets. The first reason is that BNSF will not be able to serve all points along the lines over which it has trackage rights, but rather only the 2-to-1 points. The second reason is that many shippers at the 2-to-1 points ship to or from points exclusively served by the UP/SP. UP/SP would therefore be able to use its veto power over joint rates to ensure that the traffic remains on its system rather than being diverted to the BNSF. BNSF will therefore be relegated, at best, to competing for the small amount of traffic moving to destinations which it exclusively serves, and a portion of traffic moving to jointly served destinations or interchange points.

The extent of this inability to serve is large. BNSF is unable at the outset to serve 62 to 63 percent of plastic traffic from Gulf

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" For surveys of the many sources of entry barriers, see Bain, Barriers to New Competition, especially ch. 1 but also chs. 2-7; Shepherd, The Economics of Industrial Organization, Chapter 11, where 14 sources of barriers are discussed; and Scherer and Ross, Industrial Market Structure, ch. 10.

UP/SP system, as it and BNSF adopt mutual restraint in the larger duopoly interaction between them.

In short, this merger presents the Surface Transportation Board with a relatively clear and unambiguous case; there is a preponderance of negative economic effects. The prices for railroad transportation services may be elevated at least 25 percent above costs on average, throughout much or most of the western U.S.

The cost levels themselves might be reduced in some parts of the UP/SP system, thanks to merger efficiencies. But the discussion by the applicants of those prospective efficiencies are only in terms of gross amounts of gains. It is instead the net gains that matter, compared to alternative methods (long-term contracts, pooling, etc.). Those net gains may be small. The net gains may in turn be offset by the general internal inefficiencies that may emerge in both systems under the mutual restraint and moderate competition that UP/SP and BNSF are likely to adopt.

Meanwhile the loss of competition will also reduce the stimulus for innovation, and it will decidedly reduce the freedom of choice for a large number of shipping customers.

## V. IN MY OPINION, THE BOARD SHOULD APPROVE THIS MERGER ONLY IF IT REQUIRES SUBSTANTIAL ADDITIONAL PROCOMPETITIVE CONDITIONS

Accordingly, the economic choice before the Surface Transportation Board appears to be clear. A merger that sacrifices competition, raises prices, reduces innovation, and reduces freedom of

The extent of this inability to serve is large. BNSF is unable at the outset to serve 62 to 63 percent of plastic traffic from Gulf Coast origins, according to data prepared by Peabody.[50] In the central corridor Denver-to-Oakland, the exclusion of BNSF will be even greater, at 87.4 per cent.[51]

Further, many large shippers are locked into long term contracts, up to 10 years in duration. If a substantial number (say, half) of shippers are locked into contracts in any year, then there is no substantial window of contract renewals which gives BNSF a chance at a large volume of traffic, enough to justify the volume of investment and related costs necessary to enter the market in appropriate scale.

Finally, the trackage rights as now negotiated for BNSF would not enable BNSF the ability to "build-in" to serve shippers on nearby lines. Currently, shippers that are on a Union Pacific line that is near to Southern Pacific line (or vice versa) can and do put pressure on Union Pacific for lower rates by threatening to apply to the Surface Transportation Board for permission to build a rail spur out to the Southern Pacific line or have the Southern Pacific build a line in to the location. The merger will extinguish this leverage, and will preclude this potential market from the BNSF.

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[50] See Crowley Verified Statement for SPI.

[51] The economic basis of these calculations is the UP/SP's own views, as noted by Richard B. Peterson at page 292 in Volume II of the UP/SP Application, that BNSF would capture 90% of the traffic to the destinations it exclusively serves and 50% of the traffic to neutral interchanges.

theoretically supposed to give it access.[52] Even if the barriers noted below are not considered, the shares of traffic from 2-to-1 points that BNSF is likely to obtain are low: only 17.3 percent for movements via the Houston-to-Memphis corridor, and 8.2 percent for movement via the Denver-to-Oakland corridor, according to Peabody calculations.

That will automatically prevent BNSF from gaining traffic density enough to lower its operating costs toward a reasonable ability to compete with UP/SP. Looked at objectively, a barrier this severe would be quite sufficient, in many or most other markets in the U.S. economy, to deter a rational entrant even from trying to enter.

**BARRIER 2. Operational difficulties in arranging high-quality service along UP/SP's tracks.**

The most obvious difficulty will occur in the Houston-to-Memphis corridor, where traffic is one-way southward on one route as part of the whole corridor. BNSF trains carrying shipments from Houston northward would face one-way traffic coming the other way. That would limit BNSF's traffic flow and impede its efficiency and ability to provide the desired quality of service.

There are numerous other operational difficulties. In its dispatching role, UP/SP has incentives to retard BNSF's trains by means of scheduling arrangements which favor UP/SP's own traffic.

[52] In practice, many shippers are already tied up in long-term contracts with UP and SP. That increases even further the degree of exclusion that BNSF would face.

UP/SP will also automatically acquire valuable monitoring information about BNSF's traffic. For scheduling purposes UP/SP will learn details about BNSF's shipments, and that will help UP/SP in trying to take away BNSF's customers.

**BARRIER 3. Higher operating costs for BNSF, compared to UP/SP.**

To assess the next barrier, Peabody has derived estimates of variable costs of service over key corridors. These reflect reasonable assumptions about the loads, car types, empty returns, trackage-rights fees, and switching charges.

The result is that on two corridors, BNSF's costs will significantly exceed UP/SP's costs. On Houston-to-St. Louis (via Memphis), BNSF's costs, according to Mr. Crowley, will be $2.12-$2.90 per ton (that is, 18-37 percent) higher than UP/SP's costs. On that basis, BNSF would not rationally choose to use the UP/SP route. That will leave all shippers on that route facing a UP/SP monopoly despite the existence of trackage rights.

On the Denver-to-Oakland corridor, BNSF's costs would be $3.53 per ton higher, an 18 percent disadvantage.

A cost barrier as large as this would probably deter rational potential entrants from most markets elsewhere in the economy, and there is no reason that BNSF could ignore this extra cost burden in this situation. Even if it were irrational enough to attempt entry some of the trackage-rights markets, one would not expect BNSF to

attempt and succeed in making significant entry into the trackage-rights markets.

In any event, this barrier alone would give UP/SP a rational basis for raising its own prices to shippers by some or all of that cost difference. The supra-competitive pricing would be raised to the limit price, by some 25 percent average or possibly more.

**BARRIER 4. Extra investment costs that BNSF must incur even before it can solicit business from shippers.**

Entering into any of the markets will require BNSF to start from scratch, creating or enhancing its own infrastructure, including switching and classification yards, fueling yards, crewing, and other storage and loading facilities.[53] To enter significantly in any markets at all, BNSF will need to enter at a large scale over broad areas and corridors, in order to have a substantial and flexible full-service system to offer shippers.

That will require BNSF to make a large volume of new investments, which bear high degrees of risk since they depend on BNSF's gaining large shares of the traffic (which is highly unlikely, as I have noted). I would note for contrast, and in a note of skepticism, that Richard Peterson of Union Pacific in his deposition said that BNSF

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[53] An example of the costs that must be invested in advance is the need for BNSF to invest in training their crews to handle hazardous chemicals. That these costs are large is indicated by Department of Transportation regulations detailing the required training, as shown at Section 172-702, Subpart H - Training, of Research and Special Programs Administration, 49 CFR ch. 1 (10-1-93 Edition), pp. 407-409.

would not need to make significant investments.[54] The risk is all the greater because it is a gamble on getting large future volumes of traffic. BNSF will have to make those investments in advance of obtaining any actual customers.

The investments will be in the nature of sunk costs, which BNSF would not be able to recover if it is forced to exit the market. Such sunk costs are particularly strong deterrents to entry.[55] They alone would probably deter BNSF from trying to enter a significant portion of the markets, let alone every one of the markets.

In summary, BNSF faces at least four separate ranks of barriers if it seeks to use the trackage rights.[56] Each barrier would probably prevent entry by itself, and each one would cripple BNSF as a competitor even if it irrationally did try to enter and compete.

Taken together, all of these barriers make it virtually certain that BNSF will not enter significantly in any markets. It is even less likely that BNSF would try to enter every one of those markets and corridors, as UP/SP and its witnesses predict. Therefore, any expectation that the trackage rights will cure the monopoly impacts of this merger is not in touch with economic and business reality.

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[54] Peterson deposition transcript at 1058-59.

[55] Baumol, Panzar and Willig, Contestable Markets, chs. 1 and 2.

[56] Still another deterrent is that tendency of a carrier holding a domir position to make a shipper give all of its business to the carrier, even fr other locations. That amounts to a use of leverage to extend control from market to others.

### 2. BNSF May Not Actually Be A Committed Prospective Competitor

There appear to be signs that BNSF is not fully committed to providing hard competition against UP/SP by using trackage rights. Indeed, I understand that BNSF did not seek the trackage rights from UP/SP in the first place, and that there is also evidence that could be construed as reflecting a reluctance on BNSF's part to enter particular markets with its own equipment using its trackage rights. Meanwhile, BNSF has long-standing profitable operations and prospects in its main established service areas. And a substantial aggressive entry by BNSF into UP/SP's home areas via trackage rights may stir UP/SP retaliation in other markets, including BNSF's core markets.

### 3. Southern Pacific Is A Maverick Competitor, Whose Removal By The Merger Will Reduce Competition

Both the research literature and antitrust policies recognize the importance of maverick firms.[57] These distinctive competitors regularly depart from the shared values and interests that often lead to a joint-maximizing of profits by the few firms in tight oligopolies. Maverick behavior is especially likely when a firm is under unusual pressure, so that its incentives tip it toward price-cutting against the others rather than co-existing comfortably.

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[57] A maverick has been recognized in the economics and antitrust literature as an independent and unruly firm, which tends to depart from the patterns established by other firms. Mavericks are often strong influences toward effective competition, rather than being merely irresponsible or trivial participants. An example is Southwest Airlines, with its willingness to break unsettled lines and pricing patterns. Public policies (for example, the 1982 Merger Guidelines issued by the Antitrust Division), made provision for stricter rules to protect the independence of maverick competitors.

Southern Pacific has been in that hard-pressed maverick's situation, with disadvantages which Dr. Willig and other UP witnesses discuss in detail. Accordingly, Southern Pacific's behavior has been more independent, with a greater willingness than Union Pacific and BNSF to resort to price-cutting.[58]

The merger will remove that maverick railroad and its effect in a large variety of markets. As one indication, Richard Davidson, President of the Union Pacific Railroad, apparently said at a chemical industry association meeting that the Union Pacific planned to bring Southern Pacific's aggressive pricing ("cash flow pricing") to a stop after the merger.[59]

### 4. Source And Destination Competition Are Minor Possible Elements, Which Will Not Remove The Merger's Monopoly Effects

UP officials and witnesses say that any monopoly-raising effects of the merger will be nullified by source and destination competition faced by shippers. This argument has an element of logic, because source and destination competition are conditions which might have some effect.

Yet in this case these elements would offer no significant protection against the strong monopoly effects. At the most, these

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[58] Another example is the pricing of plastics traffic by the Chicago and Northwestern railroad (CNW) at rates below UP, with the effect of holding UP rates. Following the UP-CNW merger, UP carefully discussed and then r those low, maverick prices of CNW. See UP staff memo on page HC39-301443 Exh. 24.

[59] See SPI witness Johnson's Verified Statement (SPI V.S.-6), p. 1-

forms of competition are only indirect influences on transportation prices. Some element of them may be present in some situations, but extreme care must be used in evaluating such claims on the basis of detailed evidence that such competition is full, "hard" competition. Moreover, the geographical concentration of chemicals and plastics producers, and of the UP/SP dominance over the Gulf Coast area, means that the merger, if anything, would diminish source competition. Indeed, the UP/SP has entered a stipulation with the Kansas City Southern Railroad that there is at present source competition permitting some shippers on UP lines to switch or threaten to switch production to facilities on the SP (or vice versa) in order to obtain bargaining leverage in negotiating rail rates or services. Any such existing competition between the UP and SP would, of course, be completely eliminated by the merger except in the unlikely event BNSF entered the market, and then only at the relatively few 2-to-1 points to which BNSF would obtain access under its agreement with the UP/SP.

The UP materials include rosy opinions, but they provide no significant tangible evidence that source and destination competition will actually be a significant force in many markets, much less in all of them. The effects are likely to be minor at best. And they would not weigh against the larger loss of competition throughout the western U.S.

The anecdotes provided by Mr. Peterson and others generally focus on the theoretical ability of a receiver of a product to choose among

alternative sources of supply. Even if such choices are available in some cases to receivers, the first-order effect of such a choice would be to constrain the delivered price at which the product would be accepted at the destination. While such destination market competition might place a limit on the combination of the shipper's product price and the transportation rate to that destination, the example provided says nothing about whether the shipper or the railroad has the greater bargaining leverage to capture the larger portion of the shared profit component of the delivered price. It is clear as a general matter, however, that the proposed merger, by increasing UP/SP's dominance, including their regional dominance in the Gulf Coast, will diminish whatever bargaining power shippers might have in this respect.

5. **The Merger Deserves Special Scrutiny**

This merger differs from numerous earlier railroad mergers, in which the monopoly effects have been relatively limited and correctable without undermining the main gains in efficiency and other elements. Rather, this merger seems more like the proposed Southern Pacific/Santa Fe merger of the early 1980s, where the monopoly impacts were large.

The sum of reduced competition in this merger is substantial, on at least two levels. One is the specific losses in markets on the Houston-New-Orleans, Houston-Memphis-St. Louis, and Denver-Oakland corridors. The second level is the probable larger reductions in

competition from mutual duopoly restraint by the UP/SP and BNSF throughout the western U.S. As is detailed above, the proposed trackage rights, as they are now designed, will be ineffective as a cure for both of these effects.

## IV. THE MERGER WILL RESULT IN HIGHER PRICES AS WELL AS LOWER PERFORMANCE IN OTHER DIMENSIONS

This merger is permeated with reductions in competition, at three levels: specific shipping points, several main corridors, and in the larger duopoly setting of the entire western U.S. The resulting rises in railroad pricing are likely to be substantial.

We have direct evidence of the minimum price increases that will occur. That evidence is the cost disadvantages that BNSF would have, even if it were to enter using trackage rights along the three corridors: Houston-Memphis-St. Louis, and Denver-Oakland. Those cost disadvantages for BNSF are on the order of 25 percent. That 25-percent gap in turn indicates the minimum limit price that UP/SP would rationally adopt. Other corridors may have similar results but I have not seen specific evidence about them.

In fact, BNSF is extremely unlikely to enter those trackage-rights markets at virtually any price. Therefore a 25 percent rise in UP/SP's prices on those routes is actually an underestimate of the likely actual increment. Moreover the effects toward higher prices are likely to be spread throughout much of the

competition, raises prices, reduces innovation, and reduces freedom of choice is different from most earlier mergers considered by the ICC, where the benefits were generally positive and the remaining competition was still substantial. Here (as in the proposed 1980s Southern Pacific-Santa Fe merger) they are negative and a lot of competition will be eliminated.

One cure is divestiture of parallel lines. Alternatively, the trackage rights might conceivably be revised and extended, so as to put BNSF on a fully competitive footing in at least a significant number of markets. The rights would need to be framed so that they actually overcome the four high barriers that BNSF must face, and also overcome BNSF's incentives to stay out and adopt cooperative behavior with UP/SP.

If the Board approves this merger, it should require substantial pro-competitive changes in the merger, such as those suggested above, as conditions for approval in order to enhance economic welfare and promote effective rail competition.

VERIFICATION

COUNTY OF HAMPSHIRE :
ss:
STATE OF MASSACHUSETTS :

William G. Shepherd, being duly sworn, deposes and says that he has read the foregoing statement and knows the contents thereof, and that the same are true as stated.

William G. Shepherd

William G. Shepherd

Subscribed and sworn to before me, a Notary Public, this 26th day of March, 1996.

Jacqueline M Creedon

Notary Public

My Commission expires: 10/3/1998

CURRICULUM VITAE

January 1996

# WILLIAM G. SHEPHERD

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Married, with four children. Born: August 15, 1936.

## Education:

Ph.D. in Economics, Yale University, 1963; M.A. in Economics, 1958.
B.A. in Economics, Amherst College, 1957 (with honors).

## Professional Positions and Awards:

Professor of Economics, University of Massachusetts, since 1986.
Chairman, Department of Economics, University of Massachusetts, 1991 to 1994.
General Editor, Review of Industrial Organization, 1990 to the present.
Professor of Economics, Department of Economics, University of Michigan, 1971-86.
Associate and Assistant Professor, Department of Economics, University of Michigan, 1963-71.
Special Economic Assistant to the Assistant Attorney General for Antitrust, U.S. Department of Justice, Washington, D.C., 1967-1968.
Chairman, The Transportation and Public Utilities Group of the American Economic Association, 1976-1977.
President, the Industrial Organization Society, 1990-1991.
Distinguished Member, Transportation and Public Utility Group, American Economic Association, 1995.

## Fields of Teaching and Research:

Industrial organization. Public policies toward business, particularly Antitrust and Regulation. Microeconomics.

## Books Published:

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The Economics of Industrial Organization, 3d ed., Englewood Cliffs, NJ: Prentice-Hall, 1990 (with a Teacher's Manual). 4th ed. in preparation for 1996.

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"Competition and Growth: The Lesson of West Germany - A Comment," American Economic Review, December 1960 (with Alasdair I. MacBean).

**Research in Preparation or Submitted:**

Competition and Progress, a book-length reassessment of the nature of competition and of policies toward market power.

Economic Foundations of National Security: Self-Interest and Global Interests. A restatement of economic choices involving military and alternative methods of advancing national interests.

"Competition and Extremism: Failures in the Marketplace of Ideas"

"The Emergence of Dominance: Properties of Instability in the Competitive Process"

**Other Professional Activities:**

Visiting Professor: Williams College, 1982; University of Massachusetts, 1984-1985.

Preparation of numerous conferences on industrial organization, antitrust, regulation and public enterprise.

University of Glasgow, Fulbright Fellowship, 1959-60.

Research in Britain, in 1959-60, 1962, 1964, 1967, 1969, 1971, 1974, 1978, 1985 and 1987.

Awarded Ford Foundation Faculty Fellowship, 1967-68 (declined, to do the year at the Antitrust Division).

Numerous book reviews, refereeing of articles and books, screening research proposals, comments on other papers in conference volumes, etc., not listed individually here.

Addresses and seminars at various universities and colleges

in the U.S. (University of Chicago, University of Michigan, University of Cincinnati, Wesleyan University, Amherst College, miami University, University of Miami, University of Wyoming, Michigan State University, Middlebury College, College of William & Mary); Canada (McGill University, Dalhousie University); Britain (London School of Economics, Oxford University, Cambridge University, University of Lancaster); Europe (University of Amsterdam, University of Louvain, University of Rome); China (Nankai University) and Japan (Doshisha University) .

The Merrill Center for Economics, Associate Conferee, summer 1956.

Invited 4-week lecture series on Industrial Organization, Nankai University, Tianjin, China, April-May 1983. Further lectures at Nankai University, May, 1989; and September 1994 (for three weeks).

Director of Graduate Studies, Chairman of the Graduate Program Committee, and Chairman of the Graduate Admissions and Fellowships Committee, Department of Economics, University of Michigan, 1966-67, 1968-70.

Director of Graduate Studies in Economics, University of Massachusetts, 1990-91.

Statement and testimony for the Subcommittee on Antitrust and Monopoly, U.S. Senate; on industrial concentration, 1965; on antitrust policy in Britain, 1968; on discrimination in managerial employment, 1972; and for the House Committee on Energy, on Electric Sector competition, 1985.

Adviser at various times to: Antitrust Division, U.S. Department of Justice. U.S. Federal Trade Commission. U.S. Senate Subcommittee on Antitrust and Monopoly. Regulatory commissions in Massachusetts, New Jersey, the District of Columbia and Michigan. The African Development Bank, Abidjan, Ivory Coast. Various city governments, foundations, and private companies.

Testimony and consulting as an expert witness in antitrust and regulatory cases, including cases involving: IBM Corp. (California Computer Products), AT&T (Diversified Industries), DuPont Company (the titanium dioxide case), G.D. Searle, Pfizer Inc. (International Rectifier), the Santa Fe and Southern Pacific railroad merger, Southern California Edison (Cities of Anaheim et al); Macy's-Federated merger; Chicago Daily Herald v. Chicago Tribune et al; Rochester Gas & Electric; drug producers (price discrimination); and before the Federal Energy Regulatory Commission (the Williams Pipeline case, 1992), and the

regulatory commissions of the District of Columbia, New Jersey, Florida, Maine, Massachusetts, Montana and Virginia.

Adviser to the African National Congress, South Africa, on South African antitrust and related industrial policies, since 1992.

Adviser on industrial policies to departments and agencies of the Republic of Slovenia, since March 1995.

Chairman, the Ann Arbor Cablecasting Commission, 1973.

Included in Who's Who in Economics: A Biographical Dictionary of Major Economists, 1700-1980, by M. Blaug and P. Sturges, London: 1983; and in the revised edition of Who's Who in Economics, 1986.

Co-Editor (with Henry W. de Jong) of the monograph series, Studies in Industrial Organization, Dordrecht: Kluwer Academic Publishers, since 1978.

to reviews I have undertaken on behalf of The Society for the Plastics Industry, Inc. and the Chemical Manufacturers' Association. Others were undertaken for NITL alone.

The remainder of this Verified Statement and exhibits summarizes the results of my findings and is organized under the following headings:

II. Summary and Findings

III. UP/SP Merger Application Fails to Address Substantial Concerns

IV. UP/SP-BNSF Settlement Agreement Does Not Provide A Replacement For Competition Lost By The Merger

V. SP Status As A Viable Railroad

VI. Competitive Impact Of Proposed Merger on Transportation Rates

**BEFORE THE**
**SURFACE TRANSPORTATION BOARD**

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Finance Docket No. 32760

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UNION PACIFIC CORPORATION, UNION PACIFIC RAILROAD COMPANY
AND MISSOURI PACIFIC RAILROAD COMPANY

--CONTROL AND MERGER--

SOUTHERN PACIFIC RAIL CORPORATION
SOUTHERN PACIFIC TRANSPORTATION COMPANY, ST. LOUIS
SOUTHWESTERN RAILWAY COMPANY, SPCSL CORP. AND THE
DENVER AND RIO GRANDE WESTERN RAILROAD COMPANY

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Verified Statement
of
**Thomas D. Crowley**
**President**
**L. E. Peabody & Associates, Inc.**

On Behalf of
National Industrial Transportation League

Date: March 29, 1996

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# LIST OF EXHIBITS


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| Appendix A | Statement of Qualifications |
| Exhibit__(TDC-1A) | Listing of Locations Served by SP and SP Jointly -- 1994 |
| Exhibit__(TDC-1B) | Summary of Tons and Revenues by Five Digit STCC for Locations Served by UP and SP Jointly -- 1994 |
| Exhibit__(TDC-1C) | Summary of Tons and Revenues at Points Served by UP and SP Jointly by Originating and Terminating State -- 1994 |
| Exhibit__(TDC-2) | Summary Of Routes Affected By The Merger Between UP And SP (Locations Where Competitive Carriers Will Be Reduced From 2 To 1) |
| Exhibit__(TDC-3) | "2 To 1" Locations Not Identified In UP/SP And BNSF Settlement Agreement |
| Exhibit__(TDC-4) | "2 To 1" Locations Identified In UP/SP And BNSF Settlement Agreement Without Trackage Rights |
| Exhibit__(TDC-5) | Variable Costs Caused By BNSF Running Over UP/SP Tracks |
| Exhibit__(TDC-6) | Comparison Of Annual Percent Change In RCAF With URCS Variable Costs Per GTM Related To Trackage Rights |
| Exhibit__(TDC-7) | Comparison Of Cumulative Percent Change In RCAF With URCS Variable Costs Per GTM Related To Trackage Rights |
| Exhibit__(TDC-8) | Restatement Of BNSF Market Access |
| Exhibit__(TDC-9) | Summary Of Revenue And Costs Per Mile For UP/SP, BNSF And Trackage Rights Segments -- 1994 (UP/SP System Average Revenue And Costs Per Mile) |
| Exhibit__(TDC-10) | Schematic Of BN Routing Alternatives To St. Louis |
| Exhibit__(TDC-11) | Calculation Of Variable Costs Over Trackage Rights -- Houston - Memphis (BNSF Trackage Rights) |
| Exhibit__(TDC-12) | Schematic Of BNSF Routing Between Denver, CO And Oakland, CA |
| Exhibit__(TDC-13) | Calculation Of Variable Cost Over Trackage Rights -- Denver - Oakland (BNSF Trackage Rights) |
| Exhibit__(TDC-14) | Schematic of UP and SP Parallel Lines |

# I. INTRODUCTION

My name is Thomas D. Crowley. I am an economist and President of the economic consulting firm of L. E. Peabody & Associates, Inc. The firm's offices are located at 1321 Cameron Street, Alexandria, Virginia 22314. My qualifications and experience are attached as Appendix A to this verified statement.

I have been requested by The National Industrial Transportation League ("NITL") to review the Railroad Control and Merger Application filed by the Union Pacific Railroad Company ("UP") and the Southern Pacific Transportation Company ("SP") before the Surface Transportation Board ("STB") in Finance Docket No. 32760. The purpose of my review is to evaluate the impact the proposed merger will have on existing rail transportation competitive options. In making my evaluation, I reviewed the UP/SP merger application including the comprehensive UP/SP-BNSF[1/] settlement agreement which was designed to preserve the current competitive balance between the railroads.[2/] I also evaluated the amount of traffic available to BNSF pursuant to the UP/SP-BNSF settlement agreement and the viability of the BNSF operations over the trackage rights covered in the UP/SP-BNSF settlement agreement. I have evaluated the financial viability of the SP in the recent past. I have identified the non-Class I railroads where, after the merger, UP/SP's ownership will exceed 50 percent. Finally, I explained the potential harm to competitive prices from the reduction of rail competition in the West to two large railroads (i.e., UP/SP and BNSF). Certain of these reviews were identical

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1/ BNSF refers to the Burlington Northern Railroad Company and The Atchison, Topeka and Santa Fe Railway Company.

2/ My analysis is based on my review of the UP/SP's merger application and supporting workpapers, the 1994 Costed Waybill Tape provided to me by the ICC, the workpaper's supporting the BNSF's December 29, 1995 submission in this proceeding, UP/SP responses to interrogatories, BNSF responses to interrogatories, and the settlement agreements between UP/SP and several western railroads (including BNSF).

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III. UP/SP Merger Application Fails to Address Substantial Concerns

IV. UP/SP-BNSF Settlement Agreement Does Not Provide A Replacement For Competition Lost By The Merger

V. SP Status As A Viable Railroad

VI. Competitive Impact Of Proposed Merger on Transportation Rates

## II. SUMMARY AND FINDINGS

Based on my review of the UP/SP merger application as well as the workpapers and data submitted by UP/SP and BNSF, my findings and conclusions are as follows:

1. The UP/SP-BNSF settlement agreement does not provide a replacement for the rail competition lost by the merger.

2. The merger will potentially impact $2.6 billion in revenues from shippers at "2-to-1" locations.

3. The UP/SP-BNSF settlement agreement does not address 25 locations where competition will be reduced from two (2) railroads to one (1) railroad ("2-to-1" locations). In addition, the UP/SP-BNSF settlement agreement does not identify how BNSF service will be provided at 23 "2-to-1" locations.

4. The UP/SP merger will eliminate 179 competitive routes to and from "2-to-1" locations.

5. If the merger is approved, all settlement agreements between UP/SP and other railroads should be made a condition of the merger.

6. The merger of the UP and SP will result in UP/SP's complete ownership of 5 non-Class I railroads. In addition, UP/SP will gain control of more than 50% for 2 other non-Class I railroads.

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Based on my review of the UP/SP merger application as well as the workpapers and data submitted by UP/SP and BNSF, my findings and conclusions are as follows:

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5. If the merger is approved, all settlement agreements between UP/SP and other railroads should be made a condition of the merger.

6. The merger of the UP and SP will result in UP/SP's complete ownership of 5 non-Class I railroads. In addition, UP/SP will gain control of more than 50% for 2 other non-Class I railroads.

7. The BNSF does not have access to enough traffic in either the Central Corridor (Between Denver and California) or the Houston-Memphis Corridor to effectively replace the rail competition from the two merging railroads.

8. BNSF's witness Lawrence estimates that the UP/SP-BNSF settlement agreement will provide BNSF access to $1,812 million per year in additional traffic. When properly stated, however, BNSF will have access to only $258 million per year in additional traffic. BNSF's revenue per mile from the market access will be substantially less than BNSF's system average revenue per mile and cost per mile as shown below:

| Item (1) | Amount Per Mile (2) |
|---|---|
| 1. Market Access Revenue | $67,990 |
| 2. BNSF System Average | |
| a. Revenue | $246,369 |
| b. Costs | $210,316 |

Source: Exhibit__(TDC-9).

9. The BNSF will not have sufficient traffic available to operate trains efficiently over Houston-Memphis corridor. Traffic available to BNSF, including the rerouting of tr from BNSF's own lines, will equal only 1.2 million tons per year or an equivale 0.6 loaded trains per day. In order for BNSF to operate this line segment, BNS require aggregate infrastructure investment of approximately $97.5 million ( million per year).

10. The BNSF will not have sufficient traffic available to operate trains efficiently over the trackage rights between Denver, Colorado and the Oakland/Stockton, California ("Central Corridor"). Traffic available to BNSF, including the rerouting of traffic from BNSF's own lines, will equal 2.2 million tons per year or an equivalent of 0.85 loaded trains per day. In order for BNSF to operate over the Central Corridor, BNSF will require aggregate infrastructure investment of approximately $183.6 million ($36.1 million per year).

11. The BNSF's costs of providing service between Houston and St. Louis, utilizing the Houston-Memphis Corridor exceed the variable costs incurred by UP or the variable costs of BNSF when routed over its own tracks. The BNSF's variable costs equal $13.69 per ton when routed over the Houston-Memphis Corridor and $12.53 per ton when routed over its own tracks. The UP's variable costs between Houston and St. Louis equals $11.57 per ton. Thus, the floor for competitive prices after the merger will be raised.

12. The BNSF's costs of providing service over the Central Corridor exceeds the UP's variable costs. BNSF's variable costs between Denver and Oakland, including the trackage rights payments, equal $23.62 per ton while the UP's variable costs equal $20.09 per ton.

13. BNSF's compensation to UP/SP for trackage rights (3.0 to 3.48 mills per gross ton-mile) exceeds the UP/SP's costs and provides a profit for the landlord (UP/SP). Trackage rights compensation based on costs should be set at 1.48 mills per gross ton-mile.

14. The adjustment mechanism for the trackage rights compensation based on 70% of the change in the Rail Cost Adjustment Factor, excluding productivity ("RCAFU") exceeds the UP's and SP's actual change in costs, thus providing a further windfall to UP/SP. The adjustment mechanism which most closely tracks actual cost changes is the Rail Cost Adjustment Factor, including productivity ("RCAFA").

15. The merger of the UP and SP will cause major competitive harm to western shippers, even if the provisions of the UP/SP-BNSF settlement agreement are made a condition of the merger.

16. Prior to the announcement of the UP/SP merger, SP claimed that SP was a growing railroad with an improving service and financial condition. In this merger (as with the proposed merger of ATSF and SP in the mid-1980's), SP is now claiming that SP's service is degrading and SP cannot meet its financial needs.

17. The UP/SP merger will result in less competition for rail transportation in the Weste United States because BNSF will not be an effective replacement for lost competitio Due to market concentration, more potential for anti-competitive rate actions possible.

## III. UP/SP MERGER APPLICATION FAILS TO ADDRESS SUBSTANTIAL CONCERNS

The UP/SP have claimed that the BNSF access agreement provides effective competition at "2 to 1" points. However, as shown in this Verified Statement, UP/SP-BNSF settlement agreement will not permit BNSF to be an effective competitor.

In this section of my testimony, I quantify the amount of traffic that would be adversely affected by the merger, assuming the narrowest definition of a rail market. In light of my conclusion that the BNSF access agreement will not provide effective competition at "2 to 1" points, I would note that these are the same procedures that I used in presenting evidence on behalf of the NITL in the BNSF merger proceeding,[3/] which were credited by the Interstate Commerce Commission ("ICC") in concluding that there would be adverse competitive effects at such locations as Amarillo, TX and others. (BN/ATSF Decision, page 84, Unprinted)

This section of my testimony addresses these concerns under the following topics.

A. Locations and Routes Impacted By UP/SP Merger

B. Locations Not Covered by UP/SP-BNSF Agreement

C. Settlement Agreement as Merger Conditions

D. UP/SP Ownership of Non-Class I Railroads

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I.C.C. Finance Docket No. 32549, decided August 16, 1995. Unprinted ("BN/ATSF Decision")

## A. LOCATIONS AND ROUTES IMPACTED BY UP/SP MERGER

The UP and SP rail lines overlap in several western states where for numerous locations, the UP and SP are the only railroads to serve that location. A schematic of the parallel lines of the UP and SP is shown in Exhibit__(TDC-14). I have reviewed each location jointly served by UP and SP to identify the traffic that will be impacted from the merger of the two railroads. From my review I have identified the locations and routes where UP and SP compete for traffic and, therefore, competition will be eliminated after the merger. As discussed below, since the BNSF access agreement will not provide a effective replacement to the competition currently existing between UP/SP, these locations and routes will still suffer a loss of competition after the merger.

The procedure to identify the locations and routes impacted by the UP/SP merger involved the analysis of two data bases. First, locations jointly served by UP and SP were identified from publicly available data as shown in the Association of American Railroads' ("AAR") Centralized Station Master List ("CSM")[4/]. Second, the ICC's 1994 Costed Waybill Tape was analyzed to determine the impact of the merger on the traffic for those locations jointly served by UP and SP. The results of my analysis are discussed under the following topics:

1. Identification of Jointly Served Locations;
2. Example of Procedures to Identify Impacted Routes; and
3. Impact From UP/SP Merger.

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[4/] As discussed below, the locations impacted by the merger were also compared to the list of stations shown in the UP/SP-BNSF settlement agreement.

1. **Identification of Jointly Served Locations**

As discussed above, the CSM was utilized to identify the stations jointly served by UP and SP. The basis for identifying a jointly served location was a common Station Point Location Code ("SPLC") for that location. Each station in the United States has an unique SPLC number. For example, Salt Lake City, Utah which is SPLC number 762800, appears twice in the CSM, once as a UP station and once as an SP station. Any station served by a carrier other than UP and SP was eliminated from the list[5/]. Exhibit_(TDC-1A) identifies the stations jointly served by UP and SP as well as the SPLC number for each location. Exhibit__(TDC-1B) identifies the amount of tons and revenues for traffic by 5 digit Standard Transportation Commodity Code at these locations based on the 1994 Costed Waybill Tape. Exhibit__(TDC-1C) identifies tons and revenues for traffic at these jointly served stations by originating and terminating state. In total, locations jointly served by UP/SP, without any competitive alternative, shipped 83 million tons with total revenues of $2,584 million in 1994.[6/]

2. **Example of Procedures to Identify Impacted Routes**

After the common UP/SP locations were identified, all traffic from that location was reviewed to determine the routes where UP and SP could compete. Using Salt Lake City, Utah (SPLC 762800) as an example, the total traffic on the 1994 Costed Waybill Tape originating, terminating or interchanging at Salt Lake City equalled 4.3 million tons and $187 million in

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[5/] Several railroads interchange with the UP and SP but connect with no other railroad. Therefore, these short-line railroads are not a competitive alternative for shippers and are included in my route analysis. The short-line railroads include: Utah Railway Co.; Salt Lake Garfield & Western Railway Co.; Georgetown Railroad Co.; Austin Railroad; and, Little Rock and Western Railway.

[6/] Total revenues reflect the revenues for all railroads involved in the movement of the tonnage.

revenues. A review of each movement showed that UP and SP both moved traffic between Salt Lake City and Kansas City, MO (SPLC 566900). This is a route which will no longer have competition after the merger. Therefore I have included this movement in my analysis of traffic where conditions are required to maintain competition at pre-merger levels.

In contrast to the Salt Lake City - Kansas City movement, the 1994 Costed Waybill Tape also identifies tons moving between Salt Lake City and Bend, OR (SPLC 855340). All movements were UP single line service. This is an example of a movement which will not be impacted by the merger because the SP does not and cannot compete for the traffic. Therefore, I have not included this movement in my analysis of traffic where protective conditions are required to maintain competition.

### 3. Impact from UP/SP Merger

The UP/SP merger, without the imposition of protective conditions, will diminish potential or actual competition at many locations. In order to quantify the impact of the merger on the specific locations (and routes to/from those locations), I analyzed the 1994 Costed Waybill Tape to determine the amount of traffic originated, terminated or interchanged at each location. The specific locations, routes, tons and revenues impacted by the merger are shown in Exhibit__(TDC-2).

Based on the procedures discussed above, I identified the routes impacted by the merger. The routes which are impacted by the merger were separated into six categories:

a. Local Traffic -- UP and SP serve both origin and destination;

b. Local/Interline Forward -- UP and SP serve the origin and the destination is also served by one of the carriers (UP or SP);

c. Local/Interline Received -- UP and SP serve the destination and the origin is also served by one of the carriers (UP or SP);

d. Interline Forward -- UP and SP serve the origin and move the traffic to interchange for delivery to destination via a carrier other than UP or SP;

e. Interline Received -- UP and SP serve the destination and receive the traffic in interchange from another carrier; and

f. Overhead -- UP and SP participate in the movement as overhead railroads and a third routing alternative does not exist that would provide competition to the UP and SP routes.

As is discussed above, shippers which currently have the UP or SP as a competitive alternative will lose that alternative after the merger. Under an unconditional merger approval, the combined UP/SP entity will be able to dictate rates over these captive routes with impunity, simply because competitive leverage which had existed in the past would be taken away through approval of the Application. If the merger is consummated, without adequate protective conditions imposed for the benefit of the shippers, shippers will become captive for the line-haul movements identified in Exhibit (TDC-2).

Table 1 summarizes for the routes impacted by the UP/SP merger, the tons shipped and revenues for all routes from those stations.

Table 1
**Summary of Impacted Routes by Location**

| Item (1) | Amount (2) |
|---|---|
| 1. Number of Stations with Impacted Routes | 38 |
| 2. Number of Impacted Routes | 179 |
| 3. Tons Impacted | 8,868,263 |
| 4. Revenue for Impacted Routes (000) | $321,596 |

Source: Exhibit__(TDC-2).

Based on the 1994 Costed Waybill tape, I identified 179 routes where, after the merger, the shippers' competitive routing will be diminished because the UP and SP will be one railroad. The routes impacted reflect 9 million tons and $322 million in 1994.

## B. LOCATIONS NOT COVERED BY UP/SP-BNSF AGREEMENT

Prior to the UP/SP's submission of the merger application, UP/SP and BNSF reached an agreement to provide access to certain locations, provide trackage rights and address the sale of selected line segments. According to UP/SP, the settlement agreement "will greatly intensify rail competition in the West" (UP/SP Application, Volume 1, page 17).[7/] The purpose of the UP/SP-BNSF settlement agreement is to "preserve [two-railroad] competition for all 2-to customers" (V.S. Rebensdorf, page 297).

7/ In BNSF's December 29, 1995 submission in this proceeding, BNSF claimed that the UP/SP-BNSF settlement agreement "will promote aggressive competition" (BNSF comments, page 3).

Section 8i of the UP/SP-BNSF settlement agreement does contain an "omnibus" clause intended to cover rail customers that "are not located at points expressly referred to in this Agreement or Exhibit A to this Agreement" (settlement agreement, Section 8i).[8/] However, the UP/SP-BNSF settlement agreement has not identified all the stations which will lose competition after the UP/SP merger. For other rail stations, the UP/SP-BNSF settlement agreement fails to specify how the rail stations will receive competitive service. Each set of rail stations is discussed under the following topics:

1. Stations Not Identified in UP/SP-BNSF Settlement Agreement
2. Stations Without Competitive Service

**1. Stations Not Identified In UP/SP-BNSF Settlement Agreement**

Based on the AAR's 1995 CSM listing, I have identified all stations by Standard Point Location Code ("SPLC") that are jointly served by UP and SP and no other carrier as shown in Exhibit__(TDC-1A). I have also identified all stations served by the UP and SP and a short-line carrier that only accesses UP/SP. Based on this summary, I compared the total station list with the stations covered in the UP/SP-BNSF settlement agreement. The settlement agreement does not address 25 stations which will lose a competitive alternative after the merger. Exhibit__(TDC-3) identifies each station (by SPLC, name and state) not addressed in the UP/SP-BNSF settlement agreement. Before the merger can be approved, competitive service for these stations needs to be addressed.

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8/ This provision was included as part of the Supplement to the settlement agreement between UP/SP and BNSF dated November 18, 1995.

### 2. Stations Without Competitive Service

The UP/SP-BNSF settlement agreement identified 23 rail stations which are "2-to-1" locations, but the UP/SP-BNSF settlement agreement does not provide the BNSF with the trackage rights to access traffic at these stations. The specific stations are shown in Exhibit__(TDC-4) to this statement.

UP/SP's witness Rebensdorf states that UP/SP and BNSF have agreed to "make alternative arrangements to ensure the preservation of competitive service" (Rebensdorf, pages 296-297). Witness Rebensdorf cites the use of haulage service as the alternative arrangement. The use of haulage service is less preferable than trackage rights[9/] because the BNSF would not have any control of the train operations and would be required to pay the UP/SP its costs and profit for the service. In order to provide the current level of competition, BNSF must be provided competitive access to these customers at a cost level which will equal the UP and SP's competitive cost level.

## C. SETTLEMENT AGREEMENT AS MERGER CONDITIONS

Because of the competitive harm from the UP/SP merger, conditions should be imposed which would maintain for shippers the current level of competition. The UP/SP has, as noted above, reached settlement agreements with the BNSF. Other settlement agreements were reached between UP/SP and the Utah Railway Company ("Utah Railway") and Illinois Central

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9/ As discussed below, the level of the trackage rights compensation as specified in the UP/SP-BNSF settlement agreement will not provide the same level of competition as currently exists between UP and SP

("IC"). In return for trackage rights, haulage rights or other provisions granted by UP/SP, BNSF, Utah Railway and IC have agreed not to oppose this proceeding.

As these agreements stand now, the railroads can change the terms of the agreements without the input of shippers. The solution to this problem is for the STB to impose the agreements as conditions of the merger and thus protect shippers. After the STB imposes the settlement agreements as conditions, the STB can then set the compensation level to eliminate any economic disadvantage that the tenant railroad would have vis-a-vis the incumbent (UP/SP). Second, as conditions of the merger, UP/SP will not be able to alter the conditions without STB approval. Finally, the STB, as a condition of the merger, can order that the adjustment mechanism applied to the compensation terms be set to match the changes in costs incurred by the UP/SP.

## D. UP/SP OWNERSHIP OF NON-CLASS I RAILROADS

The UP/SP application does not address the impact on shippers (or other Class I railroads) due to UP/SP's joint control of non-Class I companies. After the merger of the UP and SP, UP/SP will control 100% of 5 railroads and possess greater than 50% control of 2 additional railroads. The problem presented is one of the shippers (or other Class I railroads) that can potentially be harmed because UP/SP control exerted on the non-Class I railroads may force traffic to be routed over the UP/SP instead of other Class I railroads.

Table 2 below summarizes the UP/SP control of non-Class I railroads where after the merger UP/SP will control more than 50 percent of the railroad.

Table 2
**Summary Of UP/SP Joint**
**Control Of Non-Class I Railroads**

| | Railroad | Percent Control | | | |
|---|---|---|---|---|---|
| | | UP | SP | UP/SP[1] | Other Railroads |
| | (1) | (2) | (3) | (4) | (5) |
| 1. | Alton & Southern Railway | 50% | 50% | 100% | 0.0% |
| 2. | Arkansas & Memphis Bridge & Terminal Co. | 33.3 | 66.7 | 100.0 | 0.0 |
| 3. | Central California Traction Co.[2] | 33.3 | 33.3 | 66.70 | 33.3 |
| 4. | Ogden Union Railway & Depot Co. | 50.0 | 50.0 | 100.0 | 0.0 |
| 5. | Portland Terminal Railroad Co. | 40.0 | 20.0 | 60.0 | 40.0 |
| 6. | Portland Traction Co. | 50.0 | 50.0 | 100.0 | 0.0 |
| 7. | Southern Illinois & Missouri Bridge Co. | 60.0 | 40.0 | 100.0 | 0.0 |

[1] Column (2) + Column (3).
[2] Operates lines between Stockton and Sacramento, CA with connection to railroads other then UP/SP at Stockton, CA.

The STB should recognize the extent of UP/SP's control on these non-Class I railroads aft the merger. The UP/SP should not be allowed to control these companies, or alternativel should not be allowed to modify current procedures and costs followed by these non-Clas railroads to exchange traffic with Class I railroads.

## IV. UP/SP-BNSF SETTLEMENT AGREEMENT DOES NOT PROVIDE A REPLACEMENT FOR COMPETITION LOST BY THE MERGER

The key to UP/SP's plan to gain approval to their proposed merger is the settlement agreement with BNSF. UP/SP have attempted to address the obvious anti-competitive components of their proposed merger through the settlement agreement. This section of my Verified Statement evaluates the UP/SP-BNSF settlement agreement to determine if the railroads were successful in eliminating the obvious anti-competitive problems. My research and findings are summarized under the following headings:

A. BNSF Market Access

B. Problems with Trackage Rights

C. Lack of BNSF Operating Plan

D. BNSF Operations and Costs -- Houston-Memphis

E. BNSF Operations and Costs -- Central Corridor

F. Compensation for BNSF Trackage Rights

G. UP/SP Agreement with Utah Railroad is Dependent On Agreement with BNSF

### A. BNSF MARKET ACCESS

In the BNSF's "Comments on the Primary Application" filed December 29, 1995, witness rry M. Lawrence, National Director of KPMG Peat Marwick's Transportation Consulting ctice, submitted a Verified Statement which analyzes the UP/SP - BNSF settlement

agreement. Mr. Lawrence concludes that the settlement agreement "is a complete and sufficient remedy for the loss of competition" for locations where the merger eliminates access to the UP or SP (Lawrence, page 2). He also concludes that the locations BNSF "will gain access to offer a sizable market opportunity and attractive traffic density" and BNSF "should be motivated to compete aggressively for this traffic" (Lawrence, page 3).

Table 3 below summarizes Mr. Lawrence's calculation, by segment, of the new market revenues he claims BNSF will be able to access.

Table 3
**Summary of Lawrence's**
**Calculation of BNSF Market Access**

| Segment (1) | Amount (millions) (2) |
|---|---|
| 1. "2 to 1" Points | |
| a. Central Corridor | $555 |
| b. Sealy - Eagle Pass | 126 |
| c. Houston - Brownsville | 88 |
| d. Houston - New Orleans | 126 |
| e. Houston - Memphis | 62 |
| f. "Independent" Points | 105 |
| g. Subtotal | $1,062 |
| 2. I-5 Corridor | 327 |
| 3. Laredo Gateway | 423 |
| 4. Total (L1g + L2 + L3) | $1,812 |

Source: V.S. Lawrence, Table 6, page 3-5.

In total, Mr. Lawrence has determined that BNSF will have access to $1.8 billion of UP/SP traffic.[10/]

My critique of Mr. Lawrence's determination of BNSF market access is addressed under the following topics:

1. Magnitude of BNSF Market Access
2. Mr. Lawrence's Methodologies
3. Restatement of BNSF Market Access
4. Market Access Revenue Per Mile

## 1. Magnitude of BNSF Market Access

Mr. Lawrence's study purports to show that the access granted under the UP/SP-BNSF settlement agreement will equal $1.8 billion per year. If this were true, this is a staggering concession by UP/SP. In order to put Mr. Lawrence's calculation in perspective, Table 4 below compares his claimed BNSF market access to total revenues for the BNSF, UP and SP for 1994.

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10/ UP's witness Peterson also claims that the UP/SP-BNSF settlement agreement will provide "competitive access to well over $1 billion in UP and SP traffic. ..." (Peterson, page 15). For the same reasons as discussed below, Mr. Peterson's quantification of BNSF's marked access is significantly overstated.

Table 4
**Comparison of Lawrence's**
**Market Access with System Revenues**

| Item (1) | Amount (Millions) (2) | Percent of Market Access[1/] (3) |
|---|---|---|
| 1. Lawrence Market Access | $1,812 | xxx |
| 2. BNSF Revenues | | |
| a. BN | $4,876 | xxx |
| b. ATSF | 2,639 | xxx |
| c. BNSF | $7,515 | 24% |
| 3. UP/SP Revenues | | |
| a. UP[1/] | $5,076 | xxx |
| b. SP | 2,839 | xxx |
| c. UP/SP | $7,915 | 23% |

Source: Exhibit__(TDC-9).
1/ Includes CNW.

Mr. Lawrence's calculation of market access equals 24 percent of BNSF total revenues and 23 percent of UP/SP's total revenue. In other words, Mr. Lawrence claims that UP/SP will allow BNSF access to over 20 percent of the total revenue generated by the company.

## 2. Mr. Lawrence's Methodologies

Mr. Lawrence's determination of BNSF market access is based on UP/SP movements in the ICC's 1994 Waybill Tape. His procedures for developing the market access can be grouped into two categories: 1) "2 to 1" points; and, 2) I-5 Corridor; and the Laredo Gateway. His procedures for each are discussed below.

For the market access at "2 to 1" locations (i.e., stations currently served by both UP and SP and no other railroad), Mr. Lawrence grouped the traffic into six different line segments (Table 3, Line 1). For each line segment, Mr. Lawrence utilized the following steps to quantify the BNSF market access:

a. Identify the total revenues for all movements originating or terminating at the "2 to 1" location ("Total Station Traffic");

b. Identify the "Station Open Traffic". Based on Mr. Lawrence's study of switching tariffs, only 74%[11/] of all revenues to/from "2 to 1" locations are actively open to both UP/SP. Therefore, Station Open Traffic equals Total Station Traffic multiplied by .74;

c. Subtract the revenue already received by BNSF for the Station Open Traffic; and,

d. Subtract the interline revenue received by railroads other than UP, SP or BNSF ("Interchange Revenues").

Table 5 below summarizes Mr. Lawrence's calculation of the BNSF's market access for "2 to 1" locations.

11/ Bates Number BN/SF - 00436. The 74% reflects stations at a 2-to-1 SPLC which are accessible to UP or SP, but not both carriers.

Table 5
Summary of BNSF Market
Access For "2 to 1" Locations

| Item (1) | Source (2) | Amount (millions) (3) |
|---|---|---|
| 1. Total Station Traffic | 1/ | $1,677 |
| 2. Station Open Traffic | L1 x .74 | 1,241 |
| 3. Current BNSF Revenue | 1/ | 46 |
| 4. Current Interchange Revenue | 1/ | 133 |
| 5. Market Access - "2 to 1" Locations | L2-(L3+L4) | $1,062 |

1/ Lawrence, Table 6, page 3-5.

In total Mr. Lawrence claims that the BNSF market access for "2 to 1" locations equal $1.06 billion.

For the I-5 Corridor and Laredo Gateway,[12/] Mr. Lawrence utilized the followi procedures:

a. Identify the total revenues for applicable UP/SP movements (i.e., the Pac Northwest to California for the I-5 corridor and all traffic to/from Laredo for Laredo Gateway);

b. For the I-5 corridor, subtract the closed traffic where BNSF will not gain acce

c. Subtract the revenue already received by BNSF for the Station Open Traffic;

d. Subtract the interline revenue received by railroads other than UP, SP or ("Interchange Revenues").

12/ The Laredo Gateway will be accessible to BNSF via the Texas Mexican Railway Company ("TM").

Table 6 below summarizes Mr. Lawrence's calculation of the market access for the I-5 Corridor and Laredo Gateway.

Table 6
**Summary of BNSF Market Access**
**For I-5 Corridor and Laredo Gateway**

| Item | Source | Amount (millions) I-5 | Amount (millions) Laredo |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| 1. Total Station Traffic | 1/ | $369 | $514 |
| 2. Closed Traffic | 1/ | 8 | 0 |
| 3. Current BNSF Revenue | 1/ | 31 | 30 |
| 4. Current Interchange Revenue | 1/ | 3 | 61 |
| 5. Market Access | L1 - (L2 + L3 + L4) | $327 | $423 |

1/ V.S. Lawrence, Table 6, page 3-5.

Mr. Lawrence's calculations of BNSF's market access for the I-5 Corridor equals $327 million (Table 6, Column (3), Line 5). Mr. Lawrence's calculation of the BNSF's market access for the Laredo Gateway equals $423 million (Table 6, Column (4), Line 5).

### 3. Restatement of BNSF Market Access

I have reviewed Mr. Lawrence's calculations and underlying workpapers and have found that Mr. Lawrence has utilized a flawed procedure which significantly overstates the traffic that BNSF will have the opportunity to divert from UP/SP. In addition, Mr. Lawrence results

include mathematical errors which also overstate the traffic that can be diverted to BNSF. Mr. Lawrence's study is flawed and should be rejected for the following reasons:

a. Mr. Lawrence's market access contains a significant number of movements where UP or SP control both the origin and destination (i.e., local moves). BNSF will not divert moves where UP/SP control both terminals[13/];

b. Mr. Lawrence's calculation of revenues received by other railroads for traffic in the I-5 corridor equals $18.4 million, not the $3 million he has shown;

c. Mr. Lawrence has assumed that BNSF will capture all movements to which BNSF has access. Following UP's witness Peterson's study, BNSF will capture 50% of traffic moving to an interchange railroad and 90% of traffic moving to a BNSF terminal; and,

d. Mr. Lawrence has ignored the impact of contracts on traffic available to BNSF. Much of the UP/SP traffic moves under contracts and, depending upon the length of the term and volume commitment, this traffic will not be available to BNSF.

I have restated Mr. Lawrence's calculation of market access to eliminate the errors in items 1 through 3 above. Concerning traffic moving under contract, I have not made any adjustment for traffic which is not available to BNSF but would note that my result reflects the maximum traffic available to BNSF. The details of my calculation are shown in Exhibit__(TDC-8) and summarized in Table 7 below. Table 7 also compares my results to the market access presented by Mr. Lawrence:

13/ UP's witness Peterson's study recognized that local moves are not divertable to BNSF.

Table 7
**Restatement of BNSF Market Access**

| Item | Amount (millions) Mr. Lawrence | Restated | Difference |
|---|---|---|---|
| (1) | (2) | (3) | (4) |
| 1. "2 to 1" Points | | | |
| a. Central Corridor | $555 | $82 | $473 |
| b. Sealy - Eagle Pass | 126 | 6 | 120 |
| c. Houston - Brownsville | 88 | 11 | 77 |
| d. Houston - New Orleans | 126 | 28 | 98 |
| e. Houston - Memphis | 62 | 8 | 54 |
| f. "Independent" Points | 105 | 14 | 91 |
| g. Subtotal | $1,062 | $148 | $913 |
| 2. I-5 Corridor | 327 | 57 | 270 |
| 3. Laredo | 423 | 53 | 370 |
| 4. Total | $1,812 | $258 | $1,554 |

Mr. Lawrence calculates that BNSF will have access to traffic with revenues of $1,812 million. When his errors are restated, the appropriate revenues that BNSF can divert from UP/SP equal $258 million, a reduction of $1,554 million.

4. **Market Access**
**Revenue Per Mile**

Mr. Lawrence claims that each line to which BNSF gets access "presents a sufficient density of shippers that BN/Santa Fe can be expected to compete aggressively" (Lawrence, page 3-5)[14]. Mr. Lawrence bases his analysis on the available revenues per mile.

[14] As shown below, BNSF can not attract sufficient traffic to pay for the necessary infrastructure and operating costs.

Exhibit__(TDC-9) develops the average freight revenue per mile and costs per mile for UP, SP and BNSF and compares those values with my restatement of revenue per mile over the line segments that BNSF will gain access to pursuant to the UP/SP-BNSF settlement agreement. Because the revenues from the traffic from the I-5 Corridor move over the Central Corridor, I have grouped these revenues together. In addition, because the traffic to the Laredo gateway moves over a portion of the Houston-Brownsville line segment, I have grouped these revenues together. For movements to stations categorized by Mr. Lawrence as "independent points," I have included the revenues in my analysis but without any associated mileage. Table 8 below summarizes this data.

Table 8
**Summary of Average Revenue and Costs Per Mile**

| Item | Amount |
|---|---|
| (1) | (2) |
| 1. Revenue Per Mile - UP/SP-BNSF Settlement | |
| a. Central Corridor (including I-5 Corridor) | $73,192 |
| b. Sealy - Eagle Pass | 11,782 |
| c. Houston - Brownsville (including Laredo) | 114,662 |
| d. Houston - New Orleans | 150,691 |
| e. Houston - Memphis | 11,155 |
| f. Independent Points | 1/ |
| g. Weighted Average | $67,990 |
| 2. System Average Revenue Per Mile (1994) | |
| a. UP/SP | $253,559 |
| b. BNSF | 246,369 |
| 3. System Average Operating Costs Per Mile (1994) | |
| a. UP/SP | $218,259 |
| b. BNSF | 210,316 |

1/ Not applicable.
Source: Exhibit__(TDC-9).

The revenue per mile over the trackage rights segments, when properly restated, range between $11,155 per mile and $150,691 per mile (Table 8, Line 1). Overall the BNSF's market access will generate revenues of $67,990 per mile (Table 8, Line 1g). In contrast, the system average revenue per mile equals $253,559 for UP/SP and $246,369 for BNSF (Table 8, Line 2). The system average operating costs equals $218,259 per mile for UP/SP and $210,316 per mile for BNSF. (Table 8, Line 3). The UP/SP-BNSF settlement agreement will provide BNSF revenues which are far short of the system average revenues per mile. In addition, the revenues from BNSF's market access will be substantially less than BNSF's operating costs per mile. When viewed this way, the BNSF will have little incentive to compete for this traffic.

## B. PROBLEMS WITH TRACKAGE RIGHTS

The UP/SP have claimed that the trackage rights provisions contained in the UP/SP-BNSF settlement agreement replace the loss of competition posed by the merger. In signing the settlement agreement, UP/SP has effectively conceded the loss of competitive advantage to shippers who have previously been served by UP and SP in the event that the merger is approved. Therefore, the ability of the UP/SP-BNSF settlement agreement to provide a competitive alternative is critical to the merger. As I discuss in following sections of this testimony, the introduction of BNSF trackage rights is an impractical and, in many respects, unworkable solution to the loss of competitive options which shippers would suffer if the merger is approved.

In addition to the numerous specific problems associated with the trackage rights provisions of the settlement agreement, trackage rights, in general, have been viewed by railroads themselves as inferior to direct ownership of rail lines. Trackage rights are generally viewed as a device which is employed only in those instances where no other operating options are available. Those trackage rights arrangements which have worked out generally involve relatively clear-cut operations, involving many fewer miles than those involved in the settlement agreement and where the tenant railroad exercises some leverage in the determination of operating priorities.

In this proceeding the trackage rights solution proposed by UP/SP and agreed to by BNSF involve approximately 3,800 miles of UP and SP rail line. As I discuss below, traffic rights operations and related finances can be problematic at best. Even the railroads involved here have had problems implementing trackage rights agreements which involved only a fraction of the miles covered in the UP/SP-BNSF settlement agreement.

Ironically, the most recent and notable indictment of traffic rights arrangements comes directly from the BNSF. It should be noted that this candid assessment of trackage rights occurred well after the settlement agreement had been signed. In a November 1995 interview by Forbes magazine, former BNSF chairman Gerald Grinstein addressed trackage rights as follows:

> Although Burlington Northern will not oppose the UP/SP merger because of its trackage rights agreement, Grinstein admitted that trackage rights do not necessarily insure unfettered competition. "It's service with some disability", he says. "You've

got track maintenance issues and dispatch issues. It is quite different from owning your own track."[15/]

A further indictment of trackage rights arrangements is included in a document entitled *An Important Message from Chicago and Northwestern Railway Company*. This document was dated January 27, 1995 and relates to the BN - CNW Joint Line Agreement ("JLA") which provided respective operating conditions for the joint BN/CNW's use of trackage in the southern Powder River Basin coal region. Although, strictly speaking, the Joint Line Agreement does not represent a pure trackage rights arrangement, it nevertheless contains some features which are the exact equivalent of several crucial trackage rights terms included in the settlement agreement. There, CNW, entirely dissatisfied with the JLA states that:

> "The structural flaws of the Joint Line Agreement go beyond the issue of capacity additions. Under the JLA, BN is exclusively and perpetually authorized to control day-to-day operations over the joint line including the dispatching of BN and CNW trains, both loaded and empty. The JLA contains no standards to govern the dispatching of trains, other than a general requirement that it be done "without discrimination."
>
> This is the competitive equivalent of having United Airlines and American Airlines operating out of the same busy airport, but giving United exclusive authority over the control tower!"

A similar control problem clearly exists within the UP/SP-BNSF settlement agreement where Section 9d, at page 16 states:

> The management and operation of the trackage rights line shall be under the exclusive direction and control of the owning carrier. The owning carrier shall have the unrestricted power to change the management and operations on and over joint trackage as in its judgement may be necessary, expedient or proper for the operations thereof intended. Trains of the parties utilizing joint trackage shall be given equal dispatch without any discrimination in promptness, quality of service, or efficiency in favor of comparable UP/SP traffic. (emphasis added)

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15/ Forbes, December 18, 1995, *Can Drew Lewis Drive the Golden Nail*, pages 60 and 64.

CNW goes on to say that, "The ICC prescribed the existing Joint Line Agreement in 1982. At that time the principal focus of all parties properly was on bringing CNW's access to the PRB to fruition, so that shippers' mines in the Powder River Basin would begin to benefit from railroad competition anticipated when construction of the joint line was authorized. The flaws in the Joint Line Agreement, which gives so much power to BN, were far less obvious in 1982 than they are today." The CNW's comments should raise concerns here. The difficulties inherent in the complete control exercised by BNSF over the dispatching functions on the joint line (which were readily recognized by UP's former subsidiary the C&NW) exemplify the problems which will inevitably occur under the much more extensive and largely unplanned UP/SP-BNSF trackage rights arrangements. The shippers will be the party injured if the UP/SP are able to prevent open and reliable access to the locations which are losing competition due to the merger.

## C. LACK OF BNSF OPERATING PLAN

The UP/SP Operating Plan, as presently presented, which is summarized in Volume 3 the Application contains approximately 434 pages of detailed operational descriptions, operati statistics and maps. Although the Operating Plan is not all-inclusive and, of necessity, re upon some estimated data, it provides a competent and relatively complete projection of consolidated operations of UP and SP in the event that the subject merger succe Furthermore, UP/SP have provided thousands of pages of workpapers to support the ope plan. However, notably lacking in the UP/SP Operating Plan is any semblance of a de description and rationale of projected BNSF operations over the 3,800-mile trackage

complex which BNSF will theoretically provide competitive service. In other words, UP/SP understands how the merger of UP/SP will affect operations (including the impact on employment, cycle time, dispatching, etc.), but the operations of BNSF are not addressed.

Although occasional mentions of BNSF operations appear in the verified statements, exhibits and workpapers, these references are usually limited to discussions of reciprocal benefits which the BNSF trackage rights operations provide, rather than detailed explanations of how such operations will be conducted. The only supplemental data regarding how BNSF operations would be conducted over UP/SP lines is contained in BN/Santa Fe's Comments on the Primary Application, filed December 29, 1995, approximately one month after the Primary Application was filed. BNSF Witness Neal D. Owen endeavors to provide a description of BNSF's "proposed customer service and train operations in connection with" the merger Application (Owen, page 2). Mr. Owen's testimony states that "a formal traffic study was not conducted for the service planning" outlined in his statement (Owen, page 3). He further states that "This description reflects my judgments based on my research and on site visits, together with input from experienced BN/Santa Fe traffic and operating officers" (Owen, page 3).[16/]

The balance of Mr. Owen's statement provides a limited description of anticipated BNSF operations over six primary trackage rights access and purchased operating routes included in the settlement agreement. While this description may provide a useful general summary of projected BNSF trackage rights operations, neither it, nor any other source provided by the railroads, have developed a detailed operating plan of the type necessary for the STB to assess

[16/] In response to interrogatories, BNSF stated that they did not conduct any study of operations.

the feasibility of the trackage rights operations and, therefore, assess the viability of BNSF as a competitive replacement to SP.

The 4,200 mile trackage rights/acquisition plan manifested in the UP/SP-BNSF settlement agreement constitutes the largest and most complex imposition of an independent carrier's operations over the lines of another independent carrier. As shown in Table 2 of witness Rebensdorf's testimony, the trackage rights in this proceeding are almost double the length of the extension trackage rights granted in the BN/ATSF merger. As such, even before such a massive strategy is suggested, detailed studies should have been undertaken. This infirmity places shippers who would be affected by the UP/SP-BNSF settlement agreement, and indeed the STB itself, in a position where the terms of the agreement must be accepted as a doctrine of faith, as opposed to a rational judgment based upon a detailed level of analysis.

In order to exemplify the inadequacy of planning for BNSF operations over existing UP/SP lines, I have compared the respective efforts in the analysis of projected operation over UP/SP with the inadequate plans postulated by BNSF. These comparisons are made in approximate order of their importance to future operations, although each function discussed would be ultimately integral to feasible trackage rights operations.

My comparison of the UP/SP operating plan data with that the plan submitted by BNSF discussed under the following topics:

1. Train scheduling
2. Train dispatching

3. Crew Management
4. Equipment Utilization
5. Equipment Repairs
6. Yard & Local Train Activities
7. Operating Organization
8. Locomotive Fueling
9. Specific Route Operations

**1. Train Scheduling**

a. UP/SP -- In addition to detailed descriptions of coordinated train operations which are included in the UP/SP Operating Plan text, some 132 pages of detailed tabulations and schematics project post merger UP/SP operations (Application, Vol. 3, pages 267-398). This data identifies, by line segment, each train along with arrival/departure times. Additionally, explanations of train coordination and traffic flows are discussed throughout the application in the testimony of several other UP/SP witnesses.

b. BNSF -- By way of contrast, BNSF comments are limited to a description of the projected number of trains operating over the six corridors included in their analysis. Neither UP/SP nor BNSF offers discussion as to the relationship between existing or future train densities, handling of scheduled train meets, or how the BNSF traffic would be controlled and coordinated with UP/SP.

2. Train Dispatching

a. UP/SP -- The UP/SP operating plan calls for the current SP train dispatching function in Denver to be consolidated with the UP dispatching center in Omaha. Dispatch office and function relocation will be implemented in phases in order to accommodate changes in locomotive management and crew balancing in the earlier phases of the merger, with the train dispatchers being the last group to be relocated to the Omaha center. The UP/SP operating plan explains the relationship between train dispatching and crew and personnel requirement time keeping functions. The consolidated system would use UP's TCS operating data system for the assignment of train crews. (Application, Vol. 3, page 241.)

b. BNSF -- Except to the extent that train dispatching functions are discussed in the settlement agreement (with no explanation as to how BNSF dispatching control will actually be accomplished), neither BNSF or UP/SP have provided crucial details relating to the addition of BNSF traffic over UP/SP owned lines.

3. Crew Management

a. UP/SP -- For crew assignments, crew calling and related activities UP/SP will employ its computerized crew calling system (crew management system - CMS) which interacts with the TCS system discussed above. The crew management function will be centralized in Omaha. Crew domicile and assignment locations

specifically detailed in the portion of the operating plan titled "Effects On Applicant Carriers' Employees". (Application, Vol. 3, pages 241-242 and pages 407-422.)

b. **BNSF** -- BNSF provides no explanation regarding train crew manpower requirements and projected post merger operations. Witness Owen projects that BNSF crew assignment locations will correspond with current UP/SP crew locations for several of the corridors which he discusses. Lacking however, is any strategic plan which would account for variations in traffic volumes, the availability of experienced personnel or the suitability of UP/SP crew locations for BNSF, under BNSF operations.

4. **Equipment Utilization**

a. **UP/SP** -- UP/SP has drawn from its previous experience in earlier mergers in order to formulate a plan for both the assignment of through movement locomotives and existing car fleets. The operating plan calculates modifications in fuel consumption, freight car assignments and resulting car miles and the elimination of empty car movements resulting from the combined traffic base. (Application, Vol. 3, pages 235-241.) UP/SP operations study fails to consider, and does not mention nor quantify the estimated effects of traffic displacements and equipment utilization which would occur as the result of the implementation of the settlement agreement.

b. BNSF -- BNSF offers no details regarding the source, assignment, or availability of motive power and rolling stock requirements under the terms of the settlement agreement.

5. Equipment

a. UP/SP -- The UP/SP operating plan specifies in detail the post merger disposition of both locomotive and car heavy repair facilities. It specifies which facilities will be closed, which will be expanded and which corridors each facility would serve. (Application, Vol. 3, page 229, and Various Corridor Descriptions, pages 20-230.)

b. BNSF -- Despite the fact that operations under the comprehensive agreement would involve train movements which are hundreds of miles from BNSF-UP/SP junction points, BNSF has explained no plan for the repair and servicing of either locomotives or freight cars. While the distances involved may not present serious problems for BNSF scheduled maintenance, running repairs and/or non-scheduled heavy repairs will be extremely problematic in the absence of a formalized maintenance plan.

6. Yard and Local Train Activities

a. UP/SP -- UP/SP provides a detailed explanation of the projected post merger status of current UP/SP yards and terminals. The current functions of each yard or terminal rail operation is discussed, and rationales for the retention or revision operation are provided. Additionally, the effects of yard and terminal operation

line haul service were analyzed. (Application, Vol. 3, Various Corridor Descriptions, pages 20-230.)

b. BNSF -- Witness Owen offers a brief explanations of projected BNSF yard and terminal operations within his "route segment analysis". These explanations are limited to the assertion that, according to developments in yard and terminal activities, BNSF may elect neither reciprocal switching or direct BNSF service in order to meet operational requirements.

7. Operating Organization

a. UP/SP -- In the post merger period UP/SP projects that it will consolidate the current UP/SP general management staff of eight regional general managers to a staff of six regional general mangers located in Omaha. These general managers will supervise 21 service unit superintendents. Again, UP/SP makes no special provision to account for the projected introduction of BNSF traffic over its merged system. (Application, Vol. 3, pages 248-249.)

b. BNSF -- BNSF offers no information regarding the impact on management, superintendence and/or direction of its projected traffic over UP/SP lines.

8. Locomotive Fueling

a. UP/SP -- UP/SP does not provide a detailed description of post merger fueling locations or procedures. However, this is not required because the fueling locations

on the current UP and SP will be adequate to service the combined traffic of the carriers. No provision is mentioned with respect to the fueling of BNSF trackage rights traffic and no discussion is offered as to the adequacy of these facilities to handle BNSF locomotive fueling in the event that UP/SP elects to allow BNSF use of such facilities under projected BNSF access.

b. BNSF -- As is discussed above, many of the projected BNSF movements under the trackage rights agreement would involve transportation which would occur at locations that are at considerable distance from BNSF owned lines and the fueling facilities which service those lines. Again, BNSF has failed to offer any plan regarding this crucial consideration.

9. Specific Route Operations

a. UP/SP -- UP/SP devoted the majority of the opening sections of its operating pl (228 pages) to a detailed analysis of operations over each section of the combi UP and SP system. This analysis includes consideration of current operati modified consolidated operations, projected densities, local train operat switching and interchange operations, as well as revised train frequencie resulting impacts upon various shipper locations. Although some mention is respecting the integration of BNSF trackage rights traffic, no analysis is pr regarding the treatment of this traffic. (Application, Vol. 3, Various C Descriptions, pages 20-230.)

b. BNSF -- In contrast, BNSF witness Owen devotes approximately 22 pages of narrative to an explanation of operations over the six primary service routes which he discusses. Again, his analysis is limited to a simple declaration of the number and types of trains which are anticipated to operate over the trackage rights. His analysis disregards any consideration of the personnel and infrastructural requirements that the movements would involve. Most importantly, Mr. Owen fails to analyze how BNSF operations would "fit" with the operations that are so specifically detailed in the UP/SP operating plan.

In summary, as presently constituted, the plans for trackage rights operations developed by the UP/SP and BNSF are conjectural at best. Given the operating problems recently experienced by each of the three rail entities which are party to the agreement it is difficult to conceive that the introduction of the many complications which are inherently involved in trackage rights operations could, within a reasonable time period, be successfully overcome by the participants.

The recent merger (1995) between UP and CNW is an example of the problems with operations after the merger. The UP operates 17,499 miles of road and the CNW has 5,211 miles of road.[17/] After the UP's consolidation of a railroad one-third its size, substantial operating problems occurred. The operating problems became so bad that in November 1995, UP's President Ron Burns sent letters to customers to assure them that the problems would be resolved. In that letter of Mr. Burns blamed the operating problems on the UP/CNW merger. This is contrary to the UP's claim that the UP/CNW merger would "enable the two carriers to

17/ For comparison, the SP has 13,715 miles of road.

improve service through closer coordination of operation and marketing activities" (UP 1994 10-K, Volume 7, page 379). (emphasis added) In reality, the UP/CNW merger resulted in service that "has deteriorated to a level never before seen on UP."[18/]

## D. BNSF OPERATIONS AND COSTS -- HOUSTON-MEMPHIS

Several factors impact the effective operation BNSF over UP/SP lines under the terms of the UP/SP-BNSF settlement agreement. When these factors are investigated in detail it becomes evident that BNSF can not provide the viable competitive options which the parties contend would be preserved under the terms of the UP/SP-BNSF settlement agreement. A major, and perhaps overriding, impediment to successful BNSF participation under the trackage rights provision of the Agreement involves the volume of traffic which BNSF will realistically be able to capture, should the merger be approved. Another factor weighing against successful BNSF competition for traffic involves the cost of operations. This cost must be considered at two levels. The first consideration involves the investment in infrastructure and expenses which would be required in order to service the minimal volumes of traffic. The second level of cost reflects BNSF's ability to compete, from a cost standpoint, with the UP/SP.

My analysis is discussed under the following topics:

1. Traffic Volumes Available To BNSF
2. Operational Issues

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[18/] Mr. Burns' letter as quoted in *Traffic World*, November 13, 1995, page 13.

3. BNSF Cost To Install Infrastructure

4. BNSF Cost Disadvantage

**1. Traffic Volumes Available to BNSF**

According to the Applicants, the anti-competitive aspects of the merger would be cured through the granting of trackage rights to BNSF for 2 to 1 shipper locations. Volume and train frequencies are obviously important elements in the determination of the viability of BNSF as a competing entity. Capturable volume will be a major determinant of BNSF's infrastructural requirements, operating expenses, and most significantly, its ability to price competitively.

UP/SP Witness Peterson's methodology by which UP/SP estimates the amount of traffic that would divert to BNSF is based on "90% of each movement that was to or from an exclusive BN/Santa Fe point and 50% of each movement that was to or from a competitive point or gateway" (Peterson, page 292). Movements that were to or from UP/SP locations not served by BNSF would not be diverted to BNSF. The percentage distributions provided by Mr. Peterson are made without consideration of BNSF's ability to service the diverted traffic or UP/SP's ability to accommodate it. Additionally, although Mr. Peterson acknowledges the fact that contracts impact the availability of traffic to BNSF, he assumed that "the existence of a transportation contract would not preclude diversion..." (Peterson, page 256). These analytical deficiencies, if corrected, would reduce substantially Mr. Peterson's projection of the volume of UP/SP traffic actually available to BNSF. However, even without correction of the deficiencies, and adhering to Mr. Peterson's diversion formula, divertable traffic volumes over

many trackage rights lines are substantially below volumes required to justify the infrastructure investment and operational expenses.

I have employed a conservative approach in order to determine traffic volume diversion and resulting train frequencies for the Houston-Memphis corridor. Using Mr. Peterson's methodology, the results of my analysis indicate very low BNSF trackage rights volume densities over the route.

In order to determine the eligibility of traffic for BNSF transport over the Houston - Memphis corridor I analyzed each movement from the 1994 ICC Costed Waybill Tape originating or terminating in the Houston and Memphis areas and/or traffic which could qualify for overhead movement over the Corridor (e.g., traffic moving through from Beaumont, Texa to Birmingham, Alabama which could utilize the Houston-Memphis corridor). A schematic o this corridor for the UP/SP and BNSF major lines are shown in the schematic included Exhibit__(TDC-10).

The traffic available to BNSF was placed in 3 categories. The first category reflects BN originated or terminated traffic which could be rerouted to the Houston-Memphis corri ("Reroute of BNSF To Trackage Rights"). This rerouted traffic was determined from a ma review of the origins, destinations and interchange locations. For example, a move originating on the BNSF in Tenaha, Texas for movement to Birmingham, Alabama cou rerouted by BNSF over the Houston-Memphis corridor (instead of moving through Bea and Dallas). However, a movement originating in Houston for movement to Denver wo

be subject to rerouting. A movement originating in the Houston area and moving to Chicago could be routed either through Dallas or over the Houston-Memphis Corridor. BNSF's witness Owen, in his deposition, stated that traffic would traverse the "most effective routing" (Tr. 194). Because of the compensation level and the inherent operational problems, the most efficient BNSF routing for traffic in the Houston area to the St. Louis and Chicago gateways will be routed through Dallas instead of the Houston-Memphis Corridor. In total, my analysis indicates that BNSF can divert ons per year from BNSF lines to the Houston-Memphis corridor.

The second category reflects traffic available to BNSF from "2 to 1" locations which can be diverted from UP/SP to BNSF. In order to determine eligible diversions of UP/SP traffic to BNSF trackage rights transported over the Corridor, I identified all traffic originating or terminating at 2-to-1 locations on the Houston-Memphis corridor. I then separated the traffic into three groups:

a. Traffic where UP/SP control the originating and terminating location,

b. Traffic where UP/SP control the 2-to-1 location and BNSF controls the other terminal, and;

c. Traffic where UP/SP control the 2-to-1 location and a carrier other than UP/SP or BNSF controls the other terminal.

Table 9 below summarizes the traffic available to BNSF at "2 to 1" locations on the Houston-Memphis corridor.

Table 9
Summary Of Traffic At "2 to 1"
Locations Located On Houston-Memphis Corridor

| Item | Tons | Percent |
|---|---|---|
| (1) | (2) | (3) |
| 1. Total Traffic | 5,046,072 | 100.0% |
| 2. UP or SP Control Both Terminals | | |
| **BNSF Settlement Agreement** | | |
| 3. BNSF Has Access to "2 to 1" Point and Controls Other Terminal | | |
| 4. BNSF Has Access to "2 to 1" Point and Other Terminal Is Not UP, SP or BNSF | | |
| 5. Probable BNSF Traffic[1/] | | |

Source: 1994 ICC Waybill Tape.
[1/] (Line 3 x 90%) + (Line 4 x 50%).

Traffic controlled by UP/SP at both ends of the movement was designated as largely n available to BNSF. Following Mr. Peterson's formula, I have designated 90 percent of traf which originates or terminates from or to an exclusive BNSF location and 50 percent of traf to or from a competitive location or gateway as divertible to BNSF. The results of this anal is shown as "Traffic From "2-to-1" locations. In total, BNSF can divert only ton year.

The final category involves traffic available to BNSF from non-Class I Railroads. The settlement agreement provides that BNSF will be allowed to interchange with any non-Class I carrier which currently interchanges exclusively with UP and SP. Shortline traffic from the 1994 ICC Costed Waybill Tape was analyzed using the same procedures summarized for UP/SP originations. The result of this analysis is shown as "Traffic from Shortlines." Based on the use of the efficient routes, the BNSF will divert traffic only from shortlines it has access to which are on the route between Houston and Memphis (i.e., the Little Rock and Western Railway). In total, BNSF can divert . tons per year.

BNSF traffic which would logically be rerouted over the Houston-Memphis Corridor is summarized in Table 10 below. For purposes of calculating the number of loaded trains BNSF will operate over the corridor, I have utilized BNSF's average load of 74.9 tons per car and average train size of 75 cars per train.

Table 10
**Summary Of Traffic Available To BNSF**
**(Houston - Memphis Trackage Rights)**

| Item (1) | Amount (2) |
|---|---|
| 1. Annual Tons For Traffic Available To BNSF[1/] | |
| a. Reroute Of BNSF To Trackage Rights | |
| b. Traffic From "2 to 1" Locations | |
| c. Traffic From Shortlines | |
| d. Total | 1,170,323 |
| 2. Average Tons Per Car | 74.9 |
| 3. Average Loaded Cars Per Year (L1d ÷ L2) | 15,625 |
| 4. Average Cars Per Train | 75 |
| 5. Average Loaded Trains Per Day (L3 ÷ L4 ÷ 365 Days) | 0.57 |

[1/] 1994 ICC Costed Waybill Tape.

BNSF will be able to divert 1.2 million tons per year to the Houston-Memphis corri
This tonnage level will support only 0.6 loaded trains per day.

## 2. Operational Issues

This section of my statement addresses numerous deficiencies in the opening testimo
both the UP/SP and BNSF relating to projected BNSF trackage rights operations ov
Houston-Memphis Corridor. Three specific issues impact the operation on the H

Memphis corridor. First, the UP/SP will operate in such a way as to create a directional flow problem. Second, the BNSF will not have trackage rights through Shreveport, LA. Finally, the BNSF will not have storage facilities in the Texas/Louisiana area to support the plastics industry.

a. **Directional Flow** -- The UP/SP operation plan for the Houston-Memphis Corridor calls for trains on the UP line to operate northbound and trains over the SP line to be operated southbound (UP/SP, Application, Volume 3, page 43). According to UP/SP's witnesses King and Ongerth, this configuration "suits the operations and suits the terrain and suites the existing facilities much better..." (Tr. 508). The conclusion to operating this way, according to Mr. Ongerth, is "what I would call a no-brainer to operate the way we did it" (Tr. 509). This mode of operation is intended to free-up capacity on both railroad. UP/SP reaches the conclusion that "--- even with BN/Santa Fe's diversions of traffic from UP/SP as the result of our settlement, neither the UP routes nor the SP routes could separately handle the traffic of both roads." (Operating Plan, Page 42) A schematic of the UP/SP plan operating flow is shown on Exhibit__(TDC-10).

The South Central directional plan which is depicted on Exhibit__(TDC-10) call for the outing of all southbound traffic over the current SP (Pine Bluff) line and the routing of all orthbound traffic over the current UP (Little Rock) line. According to the applicants, BNSF ackage rights traffic will use the current SP route for both north and southbound movements. herefore, the directional operation would result in the northbound loads traveling against the

combined southbound volume of UP/SP traffic. Although the settlement agreement states that train dispatching and resulting train superiority will favor neither UP/SP nor BNSF traffic, any traffic (whether UP/SP or BNSF) will be disadvantaged when moving against the predominant directional movements. Compounding the directional flow problem is the fact that the current SP line between Houston and Shreveport is dark (unsignaled).

b. KCS Control of Shreveport -- It is a well known fact that KCS has mounted strenuous opposition to the UP/SP merger and the attendant settlement agreement. The SP is dependent upon trackage rights over KCS lines at Shreveport, LA (Volume 3, page 299).[19/] These KCS trackage rights agreements do not transfer to BNSF. The UP/SP Operating Plan and testimony of Neil D. Owen assume that the STB will grant trackage rights through the Shreveport yard at a compensation level which will keep BNSF competitive.

c. Lack of Storage Facilities -- The storage of commodities for the chemical and plastics industry is integral to the transportation and marketing of these products. UP/SP Witness Richard B. Peterson acknowledges the importance of storage with his statement that:

> "Shippers of some bulk commodities such as plastic pellets often need in-transit storage of their product in shipper-owned railcars on railroad yard tracks. Storage in transit ("SIT") allows plants to be run at capacity and product to be readily available for prompt movement to various end markets as product price and demand change. The UP/SP merger will make new SIT yard capacity available at UP's Amelia Yard (near Beaumont) and in St. Louis, which will importantly increase the competitiveness of

19/ The same problem exists at Beaumont, TX where the SP relies upon trackage rights over the KCS.

> the merged system or these commodities. Also, UP's more extensive Gulf Coast SIT capabilities will be made available to SP shippers." (Application, Vol. 2, Peterson, Page 65)

UP/SP Witness Robert D. Willig further validates the crucial role of storage with the following statement:

> "Storage for plastics represents another major dimension of nonprice competition between railroads, as plastics generally move from production directly to rail cars, and are often sold while they are in storage in railcars." (Application, Vol.2, Willig, Page 619)

Although stated for entirely different reasons, this portion of Dr. Willig's testimony puts a fine point on the importance of storage capacity in the determination of the relative viability of carriers competing for chemicals and plastics traffic. Again, as is the case with other facets of operations, the Applicants have analyzed UP/SP's capabilities with respect to storage capacity while disregarding the storage capabilities of BNSF. BNSF does not have the storage capacity that is available to UP/SP. While the UP/SP have the massive Dayton yard for storage, BNSF would have to rely on the yard at Teague, Texas. BNSF's witness Owen, in his deposition, discussed BNSF's capabilities to utilize the Teague yard for Chemicals traffic (Tr. 191-193). However, as noted by Mr. Owen, the Teague yard is "a little over 100 miles north of Houston" (Tr. 193). This will hinder BNSF's ability to compete with UP/SP for the chemicals and plastics traffic in the Houston area.

### 3. BNSF Cost to Install Infrastructure

As is discussed previously, the traffic volume capturable by BNSF to and from the Gulf Coast and transported over the Houston - Memphis Corridor translates to only 0.6 loaded trains per day. For the Houston-Memphis Corridor, BN will have trackage rights over 575.6 miles of SP track and 101.4 miles of UP track.[20/] The only BNSF intersections between Houston and Memphis are at Cleveland, Texas and Tenaha, Texas.[21/]

BNSF's tenant status under trackage rights operations provisions of the UP/SP-BNSF settlement agreement would necessitate a substantial investment in infrastructure before any BNSF trackage rights traffic moves over the Corridor. The trackage rights provisions of the settlement agreement account for only those "below the wheel" costs which are considered under the compensation terms of the agreement. Provision of the "above the track" infrastructure investments and operating expenses necessary to implement the trackage rights operations is entirely incumbent upon BNSF. As I discuss subsequently, BNSF has not only failed to quantify infrastructural and expense requirements, by its own admission it has also failed to analyze them. In the absence of this data I have estimated the infrastructure and expense requirements for BNSF above-the-track operations over the Houston-Memphis route in the following sections.

a. Identification of Infrastructure Required -- As a guide for the identification of infrastructure and expense requirements I have employed those elements which were analyzed by UP and SP in the merger application. The items which I identify

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20/ The UP-owned track runs from North Little Rock, AR to Pine Bluff, AR and Fair Oaks, AR to Bridge Junction, AR.

21/ All BNSF traffic from Tenaha runs through Beaumont.

considered by UP and SP to be crucial to the coordination, successful operation and integration of two previously independent rail systems.

With the exception of limited track construction, such as that required for junction point connections, all of the items which I have identified involve above-the-track operations. Although I have tailored my estimates to reflect the actual projected train frequencies over the line, several of the infrastructure items identified require full implementation to service even minimal train frequency. Stated simply, a number of significant infrastructural requirements must be met even before the first BNSF train moves over UP/SP lines. Table 11 below identifies infrastructural additions and/or expansions and associated values provided by UP/SP in this proceeding (where stated) which are required for minimal implementation in of BNSF trackage rights for the subject route.

Table 11
**Infrastructure Requirements For The**
**Implementation Of BNSF Trackage Rights--Houston-Memphis**

| Item (1) | UP/SP Merger Values (2) |
|---|---|
| 1. Locomotives | $2 Million Per Locomotive |
| 2. Freight Cars | $57,000 Per Car |
| 3. Locomotive Repair Facilities | $5.2 Million to $24 Million Per Facility |
| 4. Freight Car Repair Facilities | Not Specified |
| 5. General Management | Not Specified |
| 6. Crew Management | Not Specified |
| 7. Communications | Not Specified |
| 8. Terminal Expansion/Modification | $22 Million Per Terminal |
| 9. Fuel Servicing Facilities | $2.4 Million Per Facility |
| 10. Customer Service | Not Specified |
| 11. Connections | $2.3 Million Per Connection |
| 12. Dispatching Coordination | Not Specified |
| 13. Storage Construction/Expansion | Not Specified |
| 14. New Computer Applications | $43 Million |

b. Cost of Infrastructure Required For BNSF Trackage Rights -- In developin estimates of BNSF's minimal infrastructure requirements, I have taken into ac BNSF Witness Owen's limited outline of projected BNSF operations, proximi availability of current BN operational support facilities and the length of the I have also considered the reduction in through train frequencies as determi the preceding Section of this statement.

The infrastructural investments summarized in Table 11 above were estimate following bases:

(1) Locomotives, Through Train: The cost ($2.0 million per locomotive) was derived from the UP/SP Operating Plan. The number of locomotives per train (3.3) were multiplied by the 0.6 loaded trains per day. Loaded train locomotives were multiplied by 2 (loaded and empty trains) and increased by 10 percent for locomotive spare requirements. Average train cycle times over the Houston-Memphis Corridor were derived from attachment 13-1 to the UP/SP Operating Plan and equal 27.23 hours. Cycle times was divided by 24 hours in order to determine complete cycle requirements. The total number of locomotives required equal 5.[22/]

(2) Locomotives, Switching: The cost per locomotive is based upon the average cost of BNSF reconditioned power for units less than 2,000 horsepower ($318,000 per unit). Two units were applied to each designated switching assignment (Houston, Shreveport, Pine Bluff and Memphis). An additional locomotive was added as a spare.

(3) Locomotive Maintenance Facilities: BN will require a locomotive maintenance facility on this line. Cost per facility is based upon UP/SP estimates of facility expansions at 8 small facilities of $41.6 million or $5.2 million per facility.

(4) Car Shops: These are facilities required as equipment maintenance bases and storage for supplies needed for minor repair services. It is estimated that one

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[22/] 0.60 loaded trains per day x 2.0 loaded to empty ratio x 3.3 locomotives per train x 27.23 hours ÷ 24 hours per day x 1.10 spare factor = 4.9 locomotives.

building with related storage and equipment will be required for the route. The cost estimated for this facility is derived from my experience in recent proceedings where such cost has been identified.

(5) Fuel Servicing Facilities: The aggregate investment cost is derived from UP/SP's estimate for fuel servicing facilities as shown in the merger application ($2.4 million per facility). Facilities are required at Shreveport and Pine Bluff.

(6) Connections: The cost per connection is derived from UP/SP Operating Plan ($2.3 million per connection). Connections are required at the four BNSF-UP/SP junction points (Houston, Memphis, Cleveland, TX and Tenaha).

(7) General Management Building: The BNSF will require facilities at Shreveport and Pine Bluff. The cost of a building is estimated at $1.50 million per building. The cost estimated for this facility is derived from my experience in recent proceedings where such cost has been identified.

(8) Computer Applications: In the UP/SP merger, UP/SP are spending $43[illegible] million for computer hardware/software. UP/SP operate over 31,214 miles. Based on a mileage prorate of the Houston and Memphis trackage rights (67 miles), the BNSF will incur $939,000 for computer needs.

(9) Terminal Expansion: The BNSF will need to expand yard facilities to handle trains operation over the trackage rights. In the UP/SP operating plan, UP

states that the investment to upgrade the BNSF interchange with UP/SP at Nelson-Buda, Illinois in the amount of $21.7 million for various projects for that terminal. The BNSF will require upgraded facilities at the four yard locations. I have estimated that each facility will require one-half the cost of the Nelson-Buda upgrade.

(10) Communications: Communications costs is derived from my experience in recent proceedings where such cost has been identified and prorated according to the 677 miles of trackage rights involved here.

Table 12
**BNSF Infrastructural Cost For Implementation Of Operations Over The Houston-Memphis Trackage Rights Route**

| Item (1) | Unit Cost (2) | Number Required (3) | Investment Cost (000)[1/] (4) | Annual Cost (000)[2/] (5) |
|---|---|---|---|---|
| 1. Locomotive Investment | | | | |
| a. Through Train | $2,000,000 | 5 | $10,000 | $1,947 |
| b. Switching | 310,000 | 9 | 2,790 | 543 |
| 2. Locomotive Maintenance Facility | 5,200,000 | 1 | 5,200 | 1,012 |
| 3. Car Shop | 14,700,000 | 1 | 14,700 | 2,862 |
| 4. Fuel Servicing Facility | 2,400,000 | 2 | 4,800 | 934 |
| 5. Connections | 2,300,000 | 4 | 9,200 | 1,791 |
| 6. General Management Building | 1,500,000 | 2 | 3,000 | 584 |
| 7. New Computer Applications | 939,000 | 1 | 939 | 183 |
| 8. Terminal Expansions | 10,300,000 | 4 | 43,400 | 8,02 |
| 9. Communications | 5,700,000 | — | 5,700 | 1,11 |
| 10. Total | xxx | xxx | $97,529 | $18,98 |

[1/] Column (2) x Column (3).
[2/] Annual investment costs are based on an annuity of 15 year life on a cost of capital of 17.8 percent.

In total, I estimate that the BNSF will be required to invest $98 million in order to pu required infrastructure in place to operate over the Houston-Memphis corridor. The annual for the investment equals $19.0 million per year.

4. BNSF Cost Disadvantage

The BNSF will not enjoy costs which are as low as those of the UP in part, due to the trackage rights compensation. I have costed each carrier for over the Houston-St. Louis route. First, I have developed BNSF's variable costs between Houston and St. Louis, utilizing the trackage rights over the Houston-Memphis Corridor. Next, I developed the BNSF's variable costs between Houston and St. Louis based on the BNSF route using BNSF's own rail lines through Dallas, Texas and Tulsa, Oklahoma. Finally, I have developed UP's variable cost between Houston and St. Louis over UP's route. My cost analysis is based on ICC 1994 URCS unit costs for each railroad and indexed to fourth quarter 1995 levels ("4Q95"). The costing methodology is based on the procedures utilized by UP's witness Rebensdorf. The BNSF mileage between Houston and St. Louis over the trackage rights between Houston and Memphis equals 844.5 miles.[23/] The mileage between Houston and St. Louis over BNSF's owned lines equals 969 miles. The movement over UP's lines between Houston and St. Louis equals 803.5 miles.

My development of variable costs are shown in Exhibit__(TDC-11) and summarized in Table 13 below:

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23/ For the movement over the trackage rights, one-half of the mileage was applied to ATSF unit costs and one-half to BN unit costs.

Table 13
**Summary of Variable Costs of**
**Houston-Memphis Corridor--4095**

| Railroad (1) | Cost Per Ton (2) |
|---|---|
| 1. BNSF (via trackage rights) | $13.69 |
| 2. BNSF (over BNSF tracks) | $12.53 |
| 3. UP | $11.57 |

BNSF's variable costs equal $13.69 per ton utilizing the trackage rights on the Houston-Memphis Corridor. BNSF's variable costs from Houston to St. Louis over BNSF tracks equals $12.53 per ton. The UP's variable costs equal $11.57 per ton. Therefore, BNSF will be at a cost disadvantage and will not be able to price as competitively as UP/SP. In addition, BNSF has little incentive to re-route traffic over the Houston-Memphis Corridor due to the increased costs incurred versus running over its own rail lines.

## E. BNSF OPERATIONS AND COSTS -- CENTRAL CORRIDOR

The Central Corridor stretches from Denver to the West Coast. As with the operations the Houston-Memphis corridor, a major, and perhaps overriding, impediment to successful BNSF participation under the trackage rights provision of the settlement agreement involves the volume of traffic which BNSF will realistically be able to capture, should the merger be approved. Another factor weighing against successful BNSF competition involves the cost of operations over the Central Corridor. A schematic of the route is included as Exhibit ___(

12). This exhibit also identifies BNSF's current route to the west coast via Arizona and New Mexico.

My analysis of the BNSF operations and costs for the Central Corridor are addressed under the following topics:

1. Traffic Volume Available to BNSF
2. Operational Issues
3. BNSF Cost to Install Infrastructure
4. BNSF Cost Disadvantage

In addition, BNSF has little incentive to re-route traffic over the Houston-Memphis Corridor due to the increased costs incurred versus running over its own rail lines.

## 1. Traffic Volume Available to BNSF

This section identifies the traffic volumes for the Central Corridor which could actually be captured by BNSF under the terms of the settlement agreement. Volume and consequent train frequencies are obviously important elements in the determination of the eventual viability of BNSF as a competing entity in the Central Corridor. Capturable volume will be a major determinant of BNSF's infrastructural requirements, operating expenses, and most significantly, its ability to price competitively. In my analysis, I have followed the same procedures as with the calculation of the volume for the Houston-Memphis Corridor.

In order to determine the eligibility of traffic for BNSF transport over the Central Corridor, I analyzed each movement originating or terminating in areas that BNSF can divert to the Central Corridor. In any instance where rerouting over trackage rights would reduce the mileage involved in the current BNSF movement, traffic was diverted to trackage rights line. The results of this analysis is shown as the "Reroute of BNSF to Trackage Rights". In 1994, rerouted traffic equals tons.

In order to determine eligible diversions of UP/SP traffic to BNSF trackage rights transport over the Corridor, I identified all traffic originating or terminating at 2-to-1 locations. I then separated the traffic into three groups:

a. Traffic where UP/SP control the originating and terminating location,

b. Traffic where UP/SP control the 2-to-1 location and BNSF controls the oth terminal, and;

c. Traffic where UP/SP control the 2-to-1 location and a carrier other than UP/SP BNSF controls the other terminal.

Table 14 below summarizes the traffic available to BNSF at "2 to 1" locations on Central Corridor.

Table 14
**Summary Of Traffic At "2 to 1"**
**Locations Located On Central Corridor**

| Item (1) | Tons (2) | Percent (3) |
|---|---|---|
| 1. Total Traffic | 24,452,602 | 100.0% |
| 2. UP or SP Control Both Terminals | | |
| **BNSF Settlement Agreement** | | |
| 3. BNSF Has Access to "2 to 1" Point and Controls Other Terminal | | |
| 4. BNSF Has Access to "2 to 1" Point and Other Terminal Is Not UP, SP or BNSF | | |
| 5. Probable BNSF Traffic[1/] | | |

Source: 1994 ICC Waybill Tape.
[1/] (Line 3 x 90%) + (Line 4 x 50%).

Traffic controlled by UP/SP at both ends of the movement was designated as not available to BNSF. Following the Peterson formula I have designated 90 percent of traffic which originates or terminates from or to an exclusion BNSF location and 50 percent of traffic to or from a competitive location or gateway as divertible to BNSF. The results of this analysis is shown as "Traffic From "2-to-1" locations. In 1994, BN could divert tons.

UP/SP-BNSF settlement agreement provides that BNSF will be allowed to interchange with any non-Class I carrier which currently interchanges exclusively with UP and SP. Shortline

traffic from the 1994 ICC Costed Waybill Sample Study was analyzed using the same procedures summarized above. The result of this analysis is shown as "Traffic From Shortlines". For the Central Corridor, no short line traffic is divertable.

Table 15 below summarizes my findings.

Table 15
**Summary Of Traffic Available To BNSF**
**(Central Corridor Trackage Rights)**

| Item | Amount |
|---|---|
| (1) | (2) |
| 1. Annual Tons For Traffic Available To BNSF[1/] | |
| a. Reroute Of BNSF To Trackage Rights | |
| b. Traffic From "2 to 1" Locations | |
| c. Traffic From Shortlines | |
| d. Total | 2,224,458 |
| 2. Average Tons Per Car | 74.9 |
| 3. Average Loaded Cars Per Year (L1d ÷ L2) | 29,699 |
| 4. Average Cars Per Train | 75 |
| 5. Average Loaded Trains Per Day (L3 ÷ L4 ÷ 365 Days) | 1.08 |

1/ 1994 ICC Costed Waybill Sample.

The BNSF will be able to divert 2.2 million tons over the Central Corridor. This volume will support 1.08 loaded trains per day.

**2. Operational Issues**

Three operating problems exist over the Central Corridor. Each is discussed below:

a. **Routing** -- The UP/SP-BNSF settlement agreement specifies that BNSF trackage rights are granted over the current SP route between Denver, Colorado and Ogden, Utah and over the UP or SP lines to Stockton/Oakland, CA. However, in selecting its own single line route between Denver and Ogden, UP/SP has elected to use the current UP route. The rationale underlying UP/SP's choice is made evident in the Operating Plan testimony of Messrs. King and Ongerth when it is stated that "UP has a superior route between Chicago and Ogden by any measure: mileage, grades, curvature or capacity", and further that, "The SP route via Kansas City and Pueblo is slow and circuitous in spite of the excellent SP route west of Ogden, Utah." (Application, Volume 3, page 116).

Thus, BNSF trackage rights over a substantial portion of the Central Corridor involves a route which is admittedly significantly inferior to that which will used by BNSF's primary "competitor" for traffic volumes moving to and from the Bay and California Valley areas. When the physical disabilities which BNSF would sustain over the route are considered in conjunction with BNSF's trackage rights compensation disadvantage, it becomes apparent that BNSF would provide little or

no intrinsic competition to UP/SP in vying for traffic which either carrier could transport over the lines in question.

b. Management and Crew Manning -- The proposed BNSF trackage rights operations over the Central Corridor would require BNSF to control and implement movements which would be hundreds of miles distant from the nearest existing BN facilities. (The approximate mid-point on the Central Corridor trackage rights line is some 700 miles from the nearest BNSF interchange point). BNSF would be required to install a substantial number of facilities and undertake a substantial management, control maintenance and train manning project in order to implement even the minimal 1.0 trains per day service which my traffic study indicates BNSF could capture.

BNSF's witness Owen projects that each one way transit of the Central Corri will require six crews. No explanation is provided regarding either the sourc this manpower requirement or the control and communications which must b place in order to manage the crews.

c. Moffat Tunnel -- The Moffat Tunnel is located on the current SP Line w Denver. According to the SP Denver Division Timetable[24/] operation throu in proximity to the tunnel involves a number of procedures which would s otherwise impede train movements.

24/ Southern Pacific Lines, Denver Division Tatable 1, Effective April 10, 1994, page 18.

Only one train at a time is permitted to occupy track in the tunnel. Trains may not proceed into the tunnel unless a ventilation gate is raised. If the gate is closed, the dispatcher must be notified immediately. The potential exhaust problem in the tunnel is sufficient to require a number of refuges throughout it.

SP has long recognized that the Moffat Tunnel requires special locomotives. In ICC Docket No. 37226, Incentive Rate on Coal - Axial, Colorado to Coleto Creek, Texas Denver and Rio Grande Western Railroad Company witness Adolph H. Nance states that: "In addition to its tonnage handling capabilities, the tunnel modification on this locomotive type has made it possible to operate over heavy grades and through tunnels on these grades without overheating of the locomotive cooling system" (Nance, page 31). And further, "The SD-40-T-2 modifications are relatively trouble free and essential to locomotive cooling for the Moffat Tunnel (Nance, page 32).

To the best of my knowledge, BNSF does not have any locomotives appropriate for use in the tunnel. BNSF cannot operate through the tunnel because of overheating problems with standard locomotives. Instead, specially designed or retrofitted units must be used. Thus, trackage rights operations over the SP route would require that BNSF acquire such locomotives.

### 3. BNSF Cost to Install Infrastructure

As is discussed previously, the traffic volume capturable by BNSF for future transport the Central Corridor translates to only 1.08 loaded trains per day. As with the Hou Memphis Corridors, BNSF has failed to quantify the BNSF's infrastructure requirements the absence of this data I have estimated the infrastructure requirements for BNSF above track operations and estimated the costs necessary to implement these requirements. As a for the identification of infrastructure and expense requirements I have employed the elements which are analyzed above for Houston-Memphis Corridor.

In developing these estimates I have taken into account BNSF Witness Owen's li outline of projected BNSF operations, proximity and availability of current BN opera support facilities and the length of the route. I have also considered the reduction in th train frequencies as determined in the preceding section of this statement.

The infrastructure investments summarized in Table 16 were estimated on the foll bases:

(1) Units Costs: Unit costs are the same as shown in Column (2) of Ta above.

(2) Locomotives, Through Train: The number of locomotives equal 3.3 pe with cycle time one way of 58.7 hours. The total locomotives equal 19

25/ 1.08 trains per day x 3.3 locomotives per train x 2.0 loaded/empty ratio x 58.7 hours ÷ 24 hours 1.10 spare margin factor.

(3) Locomotives, Switching: Yard locomotives will be required at each crew change location. BNSF's witness Owen has identified crew change points at Denver, CO; Glenwood, CO; Helper, UT; Salt Lake City, UT; Elko, NV; Reno, NV; and, Richmond/Stockton, CA. I have allowed for 2 yard locomotives at each location or a total of 14 locomotives. I have also allowed for 2 spare locomotives.

(4) Locomotive Maintenance Facilities: Because of the extended distance, BNSF will need 2 locomotive maintenance facilities.

(5) Car Shops: Because of the extended distance, BNSF will require car shops at Salt Lake and Reno. The cost per shop is based upon estimated building and equipment and storage requirements.

(6) Fueling Servicing Facilities: New fueling facilities will be required to support through and local trains at Salt Lake City, Weso and Reno.

(7) Connections: Connections to BNSF will be required at Denver, Richmond and Stockton.

(8) General Management: Buildings will be required at each of the 5 new crew change points.

(9) New Computer Applications: As with the Houston-Memphis Corridor, th of computer investment was applied on a mileage basis ($43.3 million ÷ 3 UP/SP miles x 1,786 miles for the Central Corridor).

(10) Terminal Expansion: Terminal expansion is required to handle the trains 7 yard locations discussed above.

(11) Communication: Pro-rated according to the Central Corridor mileage.

Table 16
**BNSF Infrastructural Cost For**
**Implementation Of Operations -- Central Corridor**

| Item | Unit Cost | Number Required | Investment Cost (000) | Annual Cost (000)[1/] |
|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) |
| 1. Locomotive Investment | | | | |
| a. Through Train | $2,000,000 | 19 | $38,000 | $7,398 |
| b. Switching | 318,000 | 16 | 5,088 | 991 |
| 2. Locomotive Maintenance Facility | 5,200,000 | 2 | 10,400 | 2,025 |
| 3. Car Shop | 14,700,000 | 2 | 29,400 | 5,724 |
| 4. Fuel Servicing Facility | 2,400,000 | 3 | 7,200 | 1,402 |
| 5. Connections | 2,300,000 | 3 | 6,900 | 1,343 |
| 6. General Management Building | 1,500,000 | 5 | 7,500 | 1,460 |
| 7. New Computer Applications | 2,478,000 | 1 | 2,478 | 482 |
| 8. Terminal Expansions | 10,300,000 | 7 | 72,100 | 14,036 |
| 9. Communications | 6,500,000 | 1 | 6,500 | 1,265 |
| 10. Total | | | $183,566 | $36,126 |

[1/] Annual investment costs are based on an annuity of 15 year life on a cost of capital of 17.8 percent.

The BNSF aggregate investment in infrastructure for $183.6 million. The annual cost equals $36.1 million.

**4. BNSF Cost Disadvantage**

The BNSF will not enjoy costs which are as low as those of the UP. I have costed each carrier for over the Central Corridor route. The BNSF costs are based on the mileage over the

trackage rights (1,376.4 miles). For UP, I have costed the movement over UP's lines over the Central Corridor, which follow the UP's current route through Cheyenne, Wyoming (1,535.4 miles). My development of variable costs are shown in Exhibit__(TDC-13) and summarized in Table 17 below:

Table 17
**Summary of Variable Costs**
**of Central Corridor--4O95**

| Railroad (1) | Cost Per Ton (2) |
|---|---|
| 1. BNSF | $23.62 |
| 2. UP | $20.09 |

BNSF's variable costs equal $23.62 per ton including the trackage rights payments. UP's variable costs equal $20.09 per ton. Therefore, BNSF will be at a cost disadvanta cannot price at comparable levels with UP.

## F. COMPENSATION FOR BNSF TRACKAGE RIGHTS

In the event that the UP/SP merger is consummated, the access provided to the al is designed to do no more than return shippers to the pre-merger competitive status. has acknowledged that the trackage rights compensation was meant to "place both a level playing field" (Rebensdorf, page 301). Therefore, compensation to the me entity should be limited to the reimbursement of UP/SP's costs, including a return o

based on the current cost of capital.[26/] The use of cost-based trackage rights payments is common in the railroad industry. Also, the proper adjustment mechanism for the compensation should be based on actual cost changes or a method that approximates, as closely as possible, the cost changes. Each issue is discussed below under the following topics:

1. Compensation in the UP/SP-BNSF Agreement
2. Other UP/SP Agreements
3. Adjustment Mechanism

## 1. Compensation in the UP/SP-BNSF Agreement

The level of the trackage rights compensation included in the UP/SP agreement with BNSF provides a substantial profit to UP/SP when the BNSF utilizes the UP/SP's line segments. For purposes of this analysis, profit refers to compensation in excess of UP/SP's operating costs, depreciation, rents, and a return on investment at the current cost of capital. Compensation at a level higher than the cost incurred provides UP/SP a monopoly rent. Stated differently, the compensation level stated in the UP/SP-BNSF settlement agreement rewards UP/SP for the problems created by UP's and SP's decision to merge. In order to avoid providing UP/SP a monopoly rent, variable costs should utilize the original cost less depreciation of the railroads' assets. This is the actual cost incurred by UP/SP. The proper level for determining costs in this proceeding are the combined UP/SP URCS costs for 1994 indexed to fourth quarter 1995 ("4Q95") wage and price levels. Trackage rights at this level reflect a maximum change because

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26/ For instances where the BNSF will utilize haulage services, those charges should also be based on variable cost of service (including return based on the current cost of capital). The UP/SP settlement agreement does not specify the level of charges for haulage service.

the variable costs do not include the cost savings projected by UP/SP as one of the benefits of the merger.

Trackage rights compensation in the UP/SP-BNSF settlement agreement is based on a payment per gross ton-mile. The payment reflects all gross ton-miles of the tenant (i.e., loaded and empty) and the charge is also applicable to gross ton-miles generated by the locomotives of the tenant (BNSF). Table 18 below summarizes the compensation in the UP/SP-BNSF settlement agreement.[27/]

Table 18
**Summary of BNSF**
**Compensation For Trackage Rights**
**(Mills Per Gross Ton-Mile)**

| Traffic (1) | Line Segment: Keddie-Stockton/ Richmond (2) | Line Segment: All Other (3) |
|---|---|---|
| 1. Intermodal | 3.48 | 3.10 |
| 2. Carload | 3.48 | 3.10 |
| 3. Bulk (67 Cars or move of One Commodity) | 3.00 | 3.00 |

Based on data provided by UP/SP as part of its application, I have develo compensation level which covers the UP/SP's costs incurred (including a return on inv

27/ The agreement also provides UP/SP trackage rights over selected line segments owned by the BN compensation for these trackage rights also should be based on BNSF's variable costs.

The detailed procedures developing the variable costs caused by BNSF running over UP/SP's tracks are shown on Exhibit__(TDC-5). Because the costs are generated on a gross ton-mile basis, the costs are equal for all line segments and train sizes. Table 19 below summarizes the trackage rights charge restated to reflect UP/SP's costs incurred:

**Table 19**
**Summary of BNSF Trackage Rights**
**Charges Based on Costs -- 4Q95**
**(Mills Per Gross Ton-Mile)**

| Traffic (1) | Line Segment: Keddie-Stockton/ Richmond (2) | Line Segment: All Other (3) |
|---|---|---|
| 1. Intermodal | 1.48 | 1.48 |
| 2. Carload | 1.48 | 1.48 |
| 3. Bulk (67 Cars or move of One Commodity) | 1.48 | 1.48 |

Source: Exhibit__(TDC-5).

Based on the costs incurred by UP/SP, the STB should impose a condition of the merger that trackage rights payment equal 1.48 mills per gross ton-mile.

## 2. Other UP/SP Trackage Rights Agreements

Another way to test the reasonableness of the UP/SP's proposed trackage rights fee per gross ton-mile is to compare the proposed fee to trackage rights fees in other existing UP/SP trackage rights agreements. As part of the discovery process, UP/SP provided me with the access to a number of trackage rights agreements. I have reviewed these agreements and identified the parties to the joint facility and the level of compensation. For those agreements where compensation is determined by the costs over the line segment, I have developed the mills per gross ton-mile, based on 1994 UP and SP URCS, for those components of the costs related to the trackage rights payments.[28/]

[28/] The UP/SP did not provide any of the actual bills upon which the costs are divided.

Table 20
**Summary of Compensation Included**
**in Other UP/SP Trackage Rights Agreements**

| Segment | Contract Number | Ownership | | Contract Year | Mills Per GTM |
|---|---|---|---|---|---|
| | | Landlord | Tenant | | |
| (1) | (2) | (3) | (4) | (5) | (6) |
| Salt Lake-Ogden | | | | | |
| Provo-Salt Lake | | | | | |
| Ogden | | | | | |
| Freeport Center | | | | | |
| Amalgamated Sugar | | | | | |
| Salt Lake City | | | | | |
| North Salt Lake | | | | | |
| Salt Lake | | | | | |
| Salt Lake Industrial Center | | | | | |

For trackage rights agreements based on costs, the trackage rights compensation ranges between nills per gross ton-mile and mills per gross ton-mile. For all of these trackage rights agreements, the adjustment mechanism is based on cost changes, not an index.

### 3. Adjustment Mechanism

The UP/SP agreement with BNSF provides for future adjustment to the trackage rights charges. The agreement calls for charges to be adjusted based on a price index reflecting 70 percent of the change in the STB's Rail Cost Adjustment Factor, excluding productivity ("70% RCAFU"). UP's witness Rebensdorf claims that "the 70% factor shares some productivity gains with BN/Santa Fe..." (Rebensdorf, page 308).

The use of 70% RCAFU to adjust trackage rights charges will increase the UP/SP profits over time because the charges are based on a price index, not a cost index. The difference in the two indexes is productivity. The UP/SP will not be "sharing" productivity, but instead, will be increasing profits.

The Interstate Commerce Commission ("ICC") recognized in Ex Parte 290 (Sub-No. 4) Railroad Cost Recovery Procedures - Productivity Adjustment that productivity must be part the index to adjust rates and charges if cost changes are to be recognized. Specifically the I stated:

> We will implement this decision by use of two indices, the RCAF (Unadjusted), an index reflecting input prices which will continue to be filed by the AAR, and the RCAF (Adjusted), an index that reflects output (productivity-adjusted) costs. 5 I.C.C.2d 434,437

The ICC's decision recognized the shippers view on productivity which the ICC summ as follows:

> These shippers argue that, even during the periods when wages or material prices have been rising, their rise has been moderated or offset by increasing productivity, and

by ignoring the productivity gains, the present input index allows rates to rise faster than the actual cost of providing service. (Decision served November 17, 1988, Unprinted).

To demonstrate how an adjustment mechanism based on 70% RCAFU will overstate cost changes, I have compared the cumulative change in 70% RCAFU with UP and SP's actual costs changes for the 1990-1994 time period.[29/] In addition, I have compared the actual cost changes to the change in the ICC's Raii Cost Adjustment Factor, including productivity ("RCAFA") over the same 1990-1994 time period.

The changes in the indexes and cost are shown in Exhibit__(TDC-6) and summarized in Table 21 below:

Table 21
**Comparison of Change In**
**70% RCAFU and RCAFA With**
**UP/SP Actual Cost Changes -- 1990-1994**

| Item | Cumulative Percent Change |
|---|---|
| (1) | (2) |
| 1. 70% RCAFU | +9.0% |
| 2. RCAFA | (-)5.1% |
| 3. Actual Cost Change Per Gross Ton-Mile | |
| a. UP | (-)10.9% |
| b. SP | (-)12.8% |

[29/] The cost changes measured here reflect the same components shown in Exhibit__(TDC-5), i.e., the below-the-wheel costs.

Over the 1990 through 1994 time period, 70% RCAFU increased 9.0 percent (Table 21, Line 1). The RCAFA decreased 5.1 percent over the 1990 through 1994 time period (Table 21, Line 2). Finally, the UP's and SP's cost per gross ton-mile decreased 10.9 percent and 12.8 percent, respectively (Table 21, Line 3). The annual changes in these indexes and UP/SP's costs are graphically depicted in Exhibit__(TDC-7).

The only proper measure of the level of the trackage rights compensation is the variable cost of service. The proper measure for the adjustment mechanism is cost changes. The adjustment mechanism applicable to the UP/SP-BNSF settlement agreement, which is calculated annually, should be based on the change in costs following the procedures shown in Exhibit__(TDC-5). The adjustment should reflect a 1-year lag so that the 1997 adjustment would be based on the change in costs between 1995 and 1996. Alternatively, if actual costs are not used, then the adjustment should be based on the changes in the RCAFA.

As shown above, the recognition of actual cost changes is not uncommon to trackage right agreements and, in fact, is reflected in the UP/SP-BNSF agreement. Section 12 of the agreement provides that the parties can "review the operations of the adjustment mechanism" renegotiate its application "every fifth year." The UP/SP and BNSF agreed that the rest trackage rights charges reflect the same "relationship to operating costs as upon execution" the agreement. In my opinion, this further shows that cost changes are the proper measu the adjustment mechanism, not price index changes.

In addition, in the merger between the BN and ATSF, the ICC recognized that the renegotiation of trackage rights charges "to take into account the cost basis of potential future changes in traffic volumes... is reasonable" (BN/ATSF Decision, page 92, Unprinted). The BN/ATSF decision rejected a provision to increase the trackage rights fee paid by SP if SP were purchased by UP because the ICC was not convinced that this increase was cost based (BN/ATSF Decision, page 92, Unprinted).

## G. UP/SP AGREEMENT WITH UTAH RAILROAD IS DEPENDENT ON AGREEMENT WITH BNSF

Since the filing of their merger application the UP/SP has entered into an agreement with the Utah Railway ("UTAH") which potentially impacts rail competition if the merger is approved. The agreement between UP/SP and UTAH provides the UTAH with overhead traffic trackage rights across the SP's line between Utah Railway Junction, UT and Grand Junction, CO. In addition, Utah Railway gained access to the Savage Coal Terminal near, Price, UT and Cyprus Amax's proposed Willow Creek Mine near Castle Gate, UT.

By combining the UP/SP-BNSF agreement with the UP/SP UTAH agreement, rail competition is theoretically restored at five (5) mines[30/], i.e., Pinnacle & Aberdeen and Crandall Canyon on the UTAH and Cottonwood, Trail Mountain and Deer Creek on the CV Spur.

The UP/SP-UTAH agreement does not solve the loss of rail competition in the Colorado and Utah coal field. There are three specific reasons why the UP/SP-UTAH agreement does not provide effective competition and each is discussed below under the following headings:

30/ BNSF and UTAH also will have access to the Willow Creek mine when it opens.

1. The UP/SP-BNSF Agreement Will Not Allow BNSF To Be Effective On The Central Corridor.

2. The Universe Of Available Mines With Rail Competition Has Shrunk To Five

3. Two Railroad Profits Versus One Railroad Profit

**1. The UP/SP-BNSF Agreement Will Not Allow BNSF To Be Effective On The Central Corridor**

In previous parts of my testimony, I explained in detail the problems with UP/SP-BNSF agreement. The net result of this research is that BNSF will not be an effective competitor on the central corridor. There are three reasons why BNSF will not be an effective competitor, or a competitor at all, on the central corridor. These reasons are:

a. There is limited traffic available to BNSF for movement across the central corridor.

b. BNSF does not have an operating plan or infrastructure in place to operate in The Central Corridor.

c. The economic rents that BNSF will have to pay UP/SP to operate on the C Corridor will place them at an economic disadvantage.

The UP/SP-UTAH agreement is meaningless unless the BNSF is a viable, effec competitor on the central corridor. Without BNSF, UTAH interchanges its coal traffic the merged UP/SP.

### 2. The Universe Of Available Mines With Rail Competition Has Shrunk To Five

The SP has access to 13 mines in the Uinta Basin and 5 mines in the Green River Basin plus access to the mines on the UTAH. The UP has access to 7 mines in the Uinta, Hanna and Green River Basins plus access to the mines on the UTAH. This constitutes a universe of 25 mines where shippers can purchase coal and competitive rail transportation.

If the merger is approved, and if BNSF is considered a viable competitive rail alternative, shippers will only have access to the five mines served by the UTAH, i.e., Pinnacle and Aberdeen, Crandall Canyon, Cottonwood, Trail Mountain and Deer Creek. A change in a universe of available mines from 25 to 5 is devastating to the long run ability to purchase and transport competitive coals.

### 3. Two Railroad Profits Versus One Railroad Profit

Another economic disadvantage of having the UTAH-BNSF as the rail competitive alternative to UP or SP is the fact that two railroads cost and profit expectations have to be considered when setting the rate.

The combination of UTAH's average rate and BNSF's variable costs (including trackage rights payments at 3.0 mills per gross ton-mile) result in a value that is equal to a competitive rate from SP for coal. Obviously, BNSF would not handle coal traffic at its variable cost of service level. However, any profit additive included by BNSF only exaggerates the difference between a UTAH-BNSF rate after the merger and an SP competitive rate before the merger.

## V. SP'S STATUS AS A VIABLE RAILROAD

A theme underlying the UP's desire to merge with the SP is the long-term viability of the SP as an independent railroad. The SP's lack of strength is summarized in the UP/SP application as represented in the following statements:

1. "SP's service has not kept pace with the service offered by our competitors. Our relatively lower service quality does not meet the expectations of our existing customer base and limits our ability to attract new customers." (V.S. Gray, p. 209)

2. "Many of SP's operating inefficiencies and service problems increase its costs. ... The characteristics of SP's structure also contribute to SP's costs as a percentage of revenues being significantly higher than those of our competitors." (V.S. Gray, p. 228)

3. "Given this effort and the strengths of SP's franchise, and the economic growth in the geographic regions and economic sectors we serve, we have continued to see modest traffic growth. (V.S. Gray, p. 232)

These types of statements are also contained in SP's Third Quarter 1995 ("3Q95") submission to the Securities and Exchange Commission. The 3Q95 10-Q states that the operations "did not produce sufficient cash flows to meet its [SP] capital expenditure service and other cash needs." (SP 3Q95 10-Q,, Volume 7 of UP/SP Application, pa

In summary, the SP has claimed in the UP/SP Application and recent SEC filings that its viability is questionable because of low service quality, higher costs, modest traffic growth, lack of capital investment and cash flow problems. While the SP may not have the traffic base of the UP and BNSF, the SP is much stronger than portrayed in the UP/SP Application and the current position is a radical change from SP financial statements published prior to the UP/SP announcement of plans to merge. My discussion of SP viability is summarized under the following topics:

A SP Viability in Proposed ATSF/SP Merger

B. SP Statements Prior to UP/SP Merger Announcement

## A. SP VIABILITY IN PROPOSED ATSF/SP MERGER

In the 1986 proposed merger between SP and ATSF,[31] the question of SP's viability was raised. ATSF/SP claimed that SP's financial condition was "so desperate that the Commission should approve the merger ..." and that the "failing firm" doctrine should be applied (2 I.C.C. 2d, 828).

In that proposed merger, the SP claimed that it needed: 1) capital improvements; 2) operational improvements; and, 3) an increase in cash. (2 I.C.C. 2d 829)

[31] I.C.C. Finance Docket 30400, Santa Fe Southern Pacific Corporation -- Control -- Southern Pacific Transportation Company, 2 I.C.C. 2d 709.

The ICC rejected the argument put forth by ATSF/SP regarding SP's poor financial health noting, in part, that the SP 18 months earlier claimed it was "a significant and financially viable business" and "in good financial health" (2 I.C.C. 2d 829)

Also, in the ATSF/SP proposed merger, Morgan, Stanley & Co. (SP's financial advisor), stated that SP would be viable over the next several years and the SP's evidence in the merger showed improvements in operations. (2 I.C.C. 2d 830) The ICC, in summary, found that SP "is a marginal railroad, and has been for some years" but declined to accept that the SP would not be viable. (2 I.C.C. 2d 833)

## B. SP STATEMENTS PRIOR TO UP/SP MERGER ANNOUNCEMENT

When the merger application was filed on November 30, 1995 the question of SP's viabili was raised again. As with the proposed ATSF/SP merger, the projected demise of the S appears contrary to recent SP statements prior to the UP/SP merger. The following comments from the 1994 Report to Stockholders (dated March 10, 1995)[32/] and the February 1995 "Rating Agency Update"[33/] provided by SP to Moody's Investor Service and Standard Poor's Corporation respond, by topic, to each of the SP's viability concerns in the m Application:

1. Low Service Quality -- "Our franchise is strong, and we will continue to u efficiently to achieve higher levels of customers satisfaction" (Annual Report;

32/ The Annual Report is filed in the Application, Volume 7, pages 686-732.
33/ Bates No. HC34-100001 through HC34-100033.

Since 1993, SP "has moved aggressively, to modernize its facilities and consolidate operations so that it can provide more efficient and responsive service to its shippers." (Annual Report, page 1)

2. Revenue Cost Ratios -- The 1994 operating ratios equalled

3. Modest Traffic Growth -- In 1994 SP "achieved a higher percentage of volume increase than any other Class I railroad (Annual Report, page 3). SP's "unparalleled franchise puts SP where the growth is ..." (Annual Report, page 6)

4. Lack of Capital Investment -- SP's current program to upgrade its locomotive fleet is the largest such investment in its history" (Annual Report, page 1). "SP is continually improving track capacity" (Annual Report, page 5). Finally, the total 1995 approved capital budget equalled

5. Cash Flow -- During 1994, SP "improved it's liquidity and debt-to-capitalization ratio" (Annual Report, page 2). Cash flow is projected to

In conclusion, in all areas where SP's viability is of concern, data exists to show that SP is financially improving and not expected to be eliminated as a competitor.

## VI. COMPETITIVE IMPACT OF PROPOSED MERGER ON TRANSPORTATION RATES

After the UP/SP merger, the vast majority of traffic originated in the Western United States will be controlled by the UP/SP of BNSF. Table 22 below summarizes the percentage distribution by railroad.

Table 22
**Distribution Of Tonnage**
**In Western United States -- 1994**

| Railroad (1) | Tons (Millions) (2) | Distribution (3) |
|---|---|---|
| 1. Western Railroads | 731.1 | 100% |
| 2. UP[1/] | 210.2 | 29% |
| 3. SP | 103.9 | 14% |
| 4. Subtotal (UP/SP) | 314.1 | 43% |
| 5. BNSF | 365.9 | 50% |
| 6. Subtotal (UP/SP-BNSF) | 680.1 | 93% |
| 7. Other Railroads (L1-L5) | 51.0 | 7% |

Source: Analysis of Class I statistics.
[1/] Includes CNW.

As shown in Table 22 above, after the merger UP/SP and BNSF will control 93 perce the origination in the Western United States (Table 22, line 6). While this distribution be UP/SP and BNSF may change, the UP/SP-BNSF settlement agreement related to the merg not impact this overall concentration of traffic. The problem exists that this high concen

of market power may result in higher rates to shippers due to a lessening of competition. My analysis of the potential harm to shipper is discussed under the following topics:

A. Concerns In ATSF/SP Merger

B. BNSF As An Effective Competitor

C. Impact on Market Conditions

## A. CONCERNS IN ATSF/SP MERGER

In the proposed merger between ATSF and SP, the ICC expressed concerns that market concentration would decrease competition. The ICC also did not believe that haulage rights for the benefit of a competitor to the ATSF/SP would provide the same level of competition as currently existed between ATSF and SP. Specifically, the ICC had the following concerns regarding ATSF/SP's proposed settlement with BN:

1. BN's service could "never be better than or competitive with SPSF's" because of disadvantages in scheduling, transit time, accessorial services, new or improved inter-modal facilities. or service to new shipper facilities", (2 I.C.C. 2d, 811);

2. BN could not offer "full commodity or territorial service" (2 I.C.C. 2d, 811);

3. The cost to BN of transporting the covered traffic would be greater than SP, (2 I.C.C. 2d, 810), and SP would have knowledge of BN's costs;

4. The limited access to movements or commodities "would threaten to deprive the competing carrier [BN] of the traffic density needed to maintain effective competition", (2 I.C.C. 2d, 817).

The ICC, in rejecting the ATSF/SP merger, was concerned not only with "the ability of the merged carriers to raise rates substantially for a continuing period of time" but also that the merged carriers would "be in a position to reduce the quality of its service", (2 I.C.C. 2d, 817).

## B. BNSF AS AN EFFECTIVE COMPETITOR

The same problems as were apparent in the ATSF proposed merger exist in this proceeding. The UP/SP-BNSF settlement agreement will not allow pure head-to-head competition. The following summarizes how the operation of the agreement will harm competition:

1. UP/SP will know the exact amount of traffic lost to BNSF because of the trackage right payments;

2. UP/SP will control the operation of BNSF trains thus preventing BNSF service from being superior and possibly make the service inferior;

3. UP/SP will have specific knowledge of a substantial portion of the costs incurred BNSF (i.e., the trackage rights payments);

4. On the Houston-Memphis line and Central Corridor, BNSF will have only limited access to the traffic which will prevent the densities required to be efficient;

In summary, the UP/SP and BNSF will not compete with each other as strongly as the current configuration of BNSF, UP and SP.

## C. IMPACT OF MARKET CONCENTRATION

From an economic perspective, markets which are highly concentrated exhibit less competition. The seller (i.e., western railroads) can take various actions to avoid competition in a highly concentrated market. The avoidance of competition can take several forms: overt collusion, conscious parallelism or mere recognition of oligopolistic interdependence. Simply stated, the UP/SP merger will not increase competition and, on all probability will lead to the avoidance of price competition.

A real chance exists that with only two major railroads in the west, and BNSF an ineffective surrogate for the SP at competitive locations, transportation rates will increase. The UP/SP have stated that it feels the merger is required to counteract the BN/ATSF merger, but the potential exists that without a third carrier, UP/SP and BNSF will be less aggressive.

## VERIFICATION

COMMONWEALTH OF VIRGINIA )
)
CITY OF ALEXANDRIA )

THOMAS D. CROWLEY, being duly sworn, deposes and says that he has read the foregoing statement, knows the contents thereof and that the same are true as stated.

Thomas D. Crowley

Sworn to and subscribed
before me this 27th day
of March, 1996.

Witness my hand and official seal.

Kimberly D. Cornell/Boyd
My Commission Expires July 31, 1998

## STATEMENT OF QUALIFICATIONS

My name is Thomas D. Crowley. I am an economist and President of the economic consulting firm of L. E. Peabody & Associates, Inc. The firm's offices are located at 1321 Cameron Street, Alexandria, Virginia 22314.

I am a graduate of the University of Maine from which I obtained a Bachelor of Science degree in Economics. I have also taken graduate courses in transportation at George Washington University in Washington, D.C. I spent three years in the United States Army and since February 1971 have been employed by L. E. Peabody & Associates, Inc.

I am a member of the American Economic Association, the Transportation Research Forum, and the American Railway Engineering Association.

The firm of L. E. Peabody & Associates, Inc. specializes in solving economic, marketing and transportation problems. As an economic consultant, I have organized and directed economic studies and prepared reports for railroads, freight forwarders and other carriers, for shippers, for associations and for state governments and other public bodies dealing with transportation and related economic problems. Examples of studies I have participated in include organizing and directing traffic, operational and cost analyses in connection with multiple car movements, unit train operations for coal and other commodities, freight forwarder facilities, TOFC/COFC rail facilities, divisions of through rail rates, operating commuter passenger service, and other studies dealing with markets and the transportation by different modes of various commodities from both eastern and western origins to various destinations in the United

## STATEMENT OF QUALIFICATIONS

States. The nature of these studies enabled me to become familiar with the operating and accounting procedures utilized by railroads in the normal course of business.

Additionally, I have inspected both railroad terminal and line-haul facilities used in handling various commodities, and in particular unit train coal movements from the Powder River Basin to various utility destinations in the midwestern and western portion of the United States. These field trips were used as a basis for the determination of the traffic and operating characteristics for specific movements of coal, both inbound raw materials and outbound paper products to and from paper mills, crushed stone, soda ash, aluminum, fresh fruits and vegetables, TOFC/COFC traffic and numerous other commodities handled by rail.

I have presented evidence before the Interstate Commerce Commission ("ICC") in Ex Parte No. 347 (Sub-No. 1), Coal Rate Guidelines - Nationwide which is the proceeding that established the methodology for developing a maximum rail rate based on stand-alone costs. I have submitted evidence applying the ICC's stand-alone cost procedures in "Coal Trading", "DP&L,"[2/] and "Westmoreland"[3/] along with other proceedings before the ICC.[4/]

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1/ ICC Docket No. 38301S, Coal Trading Corporation v. Baltimore & Ohio Railroad, et al., ("Coal Trading").

2/ ICC Docket No. 38025S, The Dayton Power and Light Company v. Louisville and Nashville Railroad Company ("DP&L").

3/ ICC Docket No. 38301S (Sub-No. 1), Westmoreland Coal Sales Company v. Denver and Rio Grande Western Railroad Company, et al., ("Westmoreland").

4/ ICC Docket No. 40224, Iowa Public Power and Light Company v. Burlington Northern Railroad Co.; ICC Docket No. 37029, Iowa Public Service Company v. Burlington Northern, Inc.; ICC Docket No. 39[illegible] Kansas Power and Light Company v. Burlington Northern Railroad Company and Union Pacific Railroad Co.; ICC Docket No. 38783, Omaha Public Power District v. Burlington Northern Railroad Company; Docket No. 36180, San Antonio, Texas, Acting By and Through Its City Public Service Board v. Burlington Northern Company, et al.

## STATEMENT OF QUALIFICATIONS

Moreover, I have developed numerous variable cost calculations utilizing the various formulas employed by the ICC for the development of variable costs for common carriers, including Burlington Northern Railroad Company,[5/] with particular emphasis on the basis and use of Rail Form A. I have utilized Rail Form A costing principles since the beginning of my career with L. E. Peabody & Associates Inc. in 1971.[6/]

I have also analyzed in detail, the Uniform Railroad Costing System ("URCS") and presented the results of my findings to the ICC in Ex Parte No. 431, *Adoption of the Uniform Railroad Costing System for Determining Variable Costs for the Purposes of Surcharge and Jurisdictional Threshold Calculations*. I have been involved in the URCS process, either directly

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5/ The following two (2) cases are examples of litigation before the ICC where I developed and presented Burlington Northern Railroad Company's variable costs of handling unit coal trains. These two cases involve the most detailed examination of the variable cost of moving coal in unit train service of any proceeding thus far brought before the ICC. The first example involved the variable cost of service evidence I presented on behalf of the City of San Antonio, Texas in ICC Docket No. 36180, *San Antonio, Texas, Acting By and Through its City Public Service Board v. Burlington Northern Railroad Company, et al.*, 1 I.C.C. 2d 561 (1986) ("San Antonio"). In that case, the ICC extensively analyzed the variable costs for a unit train movement of coal on the Burlington Northern Railroad Company from the Powder River Basin, Wyoming to San Antonio, Texas. Also I presented the variable cost of service evidence in ICC Docket No. 38783, *Omaha Public Power District v. Burlington Northern Railroad Company* 3 I.C.C. 2d 123 (1986) ("OPPD"), in which the ICC developed the variable costs for the unit train movement of coal from the Powder River Basin, Wyoming to Arbor, Nebraska on the Burlington Northern Railroad Company. In San Antonio, the ICC found that the variable cost of service as of the first quarter of 1984 was $12.62 per ton, just 46 cents higher than my cost calculation of $12.16 per ton and substantially lower than Burlington Northern Railroad Company's calculation of $17.54 per ton. In OPPD, the ICC determined variable cost for the first quarter of 1985 was $5.31 per ton, just 11 cents higher than my calculation of $5.20 per ton, and substantially lower than Burlington Northern Railroad Company's calculations of $6.53 per ton.

6/ Rail cost finding has been the cornerstone of this firm. Dr. Ford K. Edwards the senior partner of the firm Edwards & Peabody*, was the major architect in the development of Rail Form A. Mr. Peabody carried on this tradition of innovative cost finding until his retirement in 1983. Mr. Peabody's work included participation in the Tennessee Valley Authority's ("TVA") computerization of Rail Form A. Mr. Peabody was a member of a committee of transportation consultants which was organized to assess the TVA procedure in order to make available more complete and simplified input data for the Rail Form A computer program.

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* Subsequent to the retirement of Dr. Edwards in 1965, the firm name was changed to L. E. Peabody & Associates, Inc.

## STATEMENT OF QUALIFICATIONS

or indirectly, since the first interim report of the contractors was released. Throughout this process, I have consistently asked for and reviewed the support and workpapers underlying the different developmental stages of the formula. I received and presented comments in February 1982 on the ICC's *Preliminary 1979 Rail Cost Study*. In December 1982, the ICC released the *Uniform Rail Costing System, 1980 Railroad Cost Study* which I reviewed along with the workpapers supporting that study and the entire developmental stage of URCS which was the basis for my Ex Parte No. 431 comments.

I have frequently presented both oral and written testimony before the Interstate Commerce Commission, Federal Energy Regulatory Commission, Railroad Accounting Principles Board, Postal Rate Commission and numerous state regulatory commissions, federal courts and state courts. This testimony was generally related to the development of variable cost of service calculations, fuel supply economics, contract interpretations, economic principles concerning maximum level of rates, implementation of maximum rate principles, and calculation of reparations, including interest. I have also presented testimony in a number of commercial arbitration proceedings concerning the level of rates and rate adjustment procedures in contracts.

I have participated in every major ICC rulemaking proceeding since the mid- including each phase of Ex Parte 290 (Sub-No. 2), (Sub-No. 4), (Sub-No. 5) and (S On a number of occasions my predecessor, L. E. Peabody, Jr., and I have submitt

## STATEMENT OF QUALIFICATIONS

to the Commission concerning the determination of the Rail Cost Adjustment Factor ("RCAF") and the need for a productivity adjustment to properly reflect the change in railroad costs.[2/]

Since the implementation of the *Staggers Rail Act of 1980*, which clarified that rail carriers could enter into transportation contracts with shippers, I have been actively involved in negotiating transportation contracts on behalf of coal shippers. Specifically, I have advised utilities concerning coal transportation rates based on market conditions and carrier competition, movement specific service commitments, specific cost-based rate adjustment provisions, contract reopeners that recognize changes in productivity and cost-based ancillary charges. In particular,

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[2/] L. E. Peabody, Jr.'s Verified Statement, Ex Parte No. 290 (Sub-No. 2), Railroad Cost Recovery Procedures, July 17, 1980; L. E. Peabody, Jr.'s Verified Statement, Ex Parte No. 290 (Sub-No.-2), Railroad Cost Recovery Procedures, August 20, 1980; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 2), Railroad Cost Recovery Procedures, January 9, 1981; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 2), Railroad Cost Recovery Procedures, July 9, 1982; L. E. Peabody, Jr.'s Verified Statement, Ex Parte No. 290 (Sub-No.4), Railroad Cost Recovery Procedures -- Productivity Adjustment, October 25, 1982; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 4), Railroad Cost Recovery Procedures -- Productivity Adjustment, February 11, 1985; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 4), Railroad Cost Recovery Procedures -- Productivity Adjustment, March 28, 1985; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 2) Railroad Cost Recovery Procedures, March 12, 1986; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 2) Railroad Cost Recovery Procedures, March 12, 1987; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 4), Railroad Cost Recovery Procedures -- Productivity Adjustment, December 16, 1988; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 4), Railroad Cost Recovery Procedures -- Productivity Adjustment, January 17, 1989; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 7), Productivity Adjustment-Implementation, May 26, 1989; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 4) and Ex Parte No. 290 (Sub-No. 7), Railroad Cost Recovery Procedures -- Productivity Adjustment, June 1, 1989; Thomas D. Crowley's Verified Statement, Ex parte No. 290 (Sub-No. 5) (89-3), Quarterly Rail Cost Adjustment Factor, June 13, 1989; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 7), Productivity Adjustment -Implementation, June 26. 1989; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No.4), Railroad Cost Recovery Procedures - Productivity Adjustment, August 14, 1989; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No.4), Railroad Cost Recovery Procedures - Productivity Adjustment, August 29, 1989; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 5) Quarterly Rail Cost Adjustment Factor, September 18, 1989; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 7), Productivity Adjustment Implementation, April 5, 1991; Thomas D. Crowley's Verified Statement, Ex Parte 290 (Sub-No. 2) Railroad Cost Recovery Procedures, November 9, 1992; Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 2), Railroad Cost Recovery Procedures, November 30, 1992; and, Thomas D. Crowley's Verified Statement, Ex Parte No. 290 (Sub-No. 7) Productivity Adjustment - Implementation, January 7 1994.

## STATEMENT OF QUALIFICATIONS

I have advised utilities on the theory and application of different types of rate adjustment mechanisms for inclusion in coal transportation contracts.

I have been actively engaged in negotiating coal supply contracts for various users throughout the United States. In addition, I have analyzed the economic impact of buying out, brokering, and modifying existing coal supply agreements. My coal supply assignments have encompassed analyzing alternative coals to determine the impact on the delivered price of operating and maintenance costs, unloading costs, shrinkage factor and by-product savings.

I have been, or am currently, involved in the negotiation of transportation or coal supply contracts for over forty (40) utilities which burn coal or lignite produced in the west. These utilities purchase coal or lignite produced in Colorado, Illinois, Missouri, Montana, New Mexico, North Dakota, Oklahoma, Texas, Utah and Wyoming. Generating stations operated by these utilities are located in the following nineteen (19) states: Arizona, Arkansas, California, Colorado, Illinois, Iowa, Kansas, Louisiana, Minnesota, Mississippi, Missouri, Nebraska, Nevada, North Dakota, Oklahoma, Oregon, Texas, Wisconsin, and Wyoming.

As a result of assisting coal users in the eastern and western portions of the United States, I have become familiar with operations and practices of the rail carriers that move coal over major coal routes in the United States as well as their cost and pricing practices.

I have developed different economic analyses for over sixty (60) electric utility companies located in all parts of the United States, and for major associations, including American Gas Association, American Petroleum Institute, Chemical Manufacturers Association, Coal

## STATEMENT OF QUALIFICATIONS

Association, Edison Electric Institute, Mail Order Association of America, National Coal Association, National Industrial Transportation League, the Fertilizer Institute and Western Coal Traffic League. In addition, I have assisted numerous government agencies, major industries and major railroad companies in solving various economic problems.

I have participated in various proceedings involved with the division of through rates. For example, I participated in ICC Docket No. 35585, *Akron, Canton & Youngstown Railroad Company, et al. v. Aberdeen and Rockfish Railroad Company, et al*. which was a complaint filed by the northern and midwestern rail lines to change the primary north-south divisions. I was personally involved in all traffic, operating and cost aspects of this proceeding on behalf of the northern and midwestern rail lines. I was the lead witness on behalf of the Long Island Rail Road in ICC Docket No. 36874, *Notice of Intent to File Division Complaint by the Long Island Rail Road Company*.

# LISTING OF LOCATIONS SERVED BY UP AND SP JOINTLY – 1994

| | Station Name (1) | SPLC 1/ (2) |
|---|---|---|
| | **Arkansas** | |
| 1 | PARAGOULD | 600560 |
| 2 | FAIR OAKS | 605497 |
| 3 | FORREST CITY | 605770 |
| 4 | BALDWIN | 611842 |
| 5 | PINE BLUFF | 611860 |
| 6 | NORTH LITTLE ROCK | 612137 |
| 7 | PULASKI | 612143 |
| 8 | MAUMELLE | 612149 |
| 9 | LITTLE ROCK | 612200 |
| 10 | CAMDEN | 617450 |
| 11 | TEXARKANA | 619600 |
| | **California** | |
| 12 | HERLONG | 871156 |
| 13 | MARYSVILLE | 873274 |
| 14 | YUBA CITY | 873527 |
| 15 | WEST SACRAMENTO | 874645 |
| 16 | WOODLAND | 874670 |
| 17 | CANNON | 874761 |
| 18 | FRENCH CAMP | 875659 |
| 19 | LATHROP | 875670 |
| 20 | TRACY | 875694 |
| 21 | LYOTH | 875696 |
| 22 | TURLOCK | 875874 |
| 23 | MCAVOY | 876125 |
| 24 | NICHOLS | 876126 |
| 25 | EAST OAKLAND | 876431 |
| 26 | FRUITVALE | 876444 |
| 27 | MELROSE | 876446 |
| 28 | SAN LEANDRO | 876451 |
| 29 | ESTUDILLO | 876453 |
| 30 | HAYWARD | 876459 |
| 31 | TREVARNO | 876466 |
| 32 | LIVERMORE | 876467 |
| 33 | RADUM | 876471 |
| 34 | FREMONT | 876479 |
| 35 | DECOTO | 876486 |
| 36 | IRVINGTON | 876491 |
| 37 | NILES TOWER | 876493 |
| 38 | WARM SPRINGS | 876496 |
| 39 | MILPITAS | 876712 |
| 40 | SAN JOSE | 876740 |
| 41 | ONTARIO | 880295 |
| 42 | WALNUT | 883615 |
| 43 | CITY OF INDUSTRY | 883619 |
| 44 | SOUTH GATE | 883652 |
| 45 | PARAMOUNT | 883658 |
| 46 | LA HABRA | 887109 |
| | **Illinois** | |
| 47 | NILWOOD | 392918 |

| | Station Name (3) | SPLC 1/ (4) |
|---|---|---|
| | **Kansas** | |
| 48 | HERINGTON | 585570 |
| | **Louisiana** | |
| 49 | HARVEY | 646522 |
| 50 | MARRERO | 646524 |
| 51 | AVONDALE | 646528 |
| 52 | CROWLEY | 657570 |
| 53 | HARBOR | 658612 |
| | **Missouri** | |
| 54 | PLEASANT HILL | 569916 |
| 55 | DELTA | 574192 |
| 56 | ILLMO | 577211 |
| 57 | DEXTER | 577369 |
| | **Nevada** | |
| 58 | WELLS | 860140 |
| 59 | ALAZON | 860141 |
| 60 | TULASCO | 860142 |
| 61 | HALLECK | 860148 |
| 62 | ELBURZ | 860149 |
| 63 | OSINO | 860175 |
| 64 | PARDO | 860176 |
| 65 | ELKO | 860180 |
| 66 | HUNTER | 860182 |
| 67 | CARLIN | 860188 |
| 68 | RED HOUSE | 861151 |
| 69 | KNIGHT | 861152 |
| 70 | IRON POINT | 861153 |
| 71 | GOLCONDA | 861158 |
| 72 | WESO | 861164 |
| 73 | WINNEMUCCA | 861165 |
| 74 | ELLISON | 861192 |
| 75 | VALMY | 861194 |
| 76 | MOTE | 861196 |
| 77 | PALISADE | 862511 |
| 78 | BARTH | 862513 |
| 79 | BEOWAWE | 862516 |
| 80 | DUNPHY | 862518 |
| 81 | MOSEL | 863111 |
| 82 | ARGENTA | 863113 |
| 83 | KAMPOS | 863114 |
| 84 | RUSSELLS | 863115 |
| 85 | RENNOX | 863116 |
| 86 | BATTLE MOUNTAIN | 863119 |
| 87 | FLANIGAN | 864145 |
| 88 | RENO | 864170 |

1/ "Standard Point Location Code" determined from AAR's 1995 Centralized Station Master database.

## LISTING OF LOCATIONS SERVED BY UP AND SP JOINTLY – 1994

| | Station Name (1) | SPLC 1/ (2) |
|---|---|---|
| | **Texas** | |
| 89 | DEFENSE | 661136 |
| 90 | BIG SANDY | 665298 |
| 91 | TYLER | 666370 |
| 92 | GREAT SOUTHWEST | 668134 |
| 93 | WACO | 669750 |
| 94 | EAST WACO | 669754 |
| 95 | HEARNE | 682482 |
| 96 | BRYAN | 682840 |
| 97 | COLLEGE STA | 682860 |
| 98 | KERR | 683564 |
| 99 | ORANGE | 684150 |
| 100 | AMELIA | 684441 |
| 101 | EAST BAYTOWN | 684754 |
| 102 | BAYTOWN | 684771 |
| 103 | MCDONOUGH | 684780 |
| 104 | PIERCE JCT | 684782 |
| 105 | DUMONT | 684792 |
| 106 | GENOA | 684793 |
| 107 | OLCOTT | 684794 |
| 108 | WEBSTER | 684797 |
| 109 | FONDREN | 684798 |
| 110 | ELGIN | 685312 |
| 111 | MCNEIL | 685426 |
| 112 | AUSTIN | 685500 |
| 113 | LEAGUE CITY | 686134 |
| 114 | DICKINSON | 686136 |
| 115 | LAMARQUE | 686156 |
| 116 | SUGAR LAND | 686424 |
| 117 | SAN ANTONIO | 687500 |
| 118 | PLACEDO | 688257 |
| 119 | VICTORIA | 688260 |
| 120 | SINTON | 688840 |
| 121 | VIOLA | 689212 |
| 122 | HARLINGEN | 689844 |
| 123 | BROWNSVILLE | 689880 |
| 124 | MCALLEN | 689980 |
| 125 | SIERRA BLANCA | 696460 |
| 126 | MCNARY | 696484 |
| 127 | FORT HANCOCK | 696486 |
| 128 | TORNILLO | 696816 |
| 129 | FABENS | 696818 |
| 130 | CLINT | 696823 |
| 131 | BUFORD | 696826 |
| 132 | YSLETA | 696829 |

| | Station Name (3) | SPLC 1/ (4) |
|---|---|---|
| | **Utah** | |
| 133 | EVONA | 761534 |
| 134 | OGDEN | 761560 |
| 135 | OGDEN SUGAR WORKS | 761568 |
| 136 | LITTLE MOUNTAIN | 761578 |
| 137 | ROY | 761595 |
| 138 | CLEARFIELD | 762725 |
| 139 | LAYTON | 762733 |
| 140 | WOODS CROSS | 762793 |
| 141 | NORTH SALT LAKE | 762798 |
| 142 | SALT LAKE CITY | 762800 |
| 143 | BECKS | 762802 |
| 144 | GARFIELD | 762928 |
| 145 | MURRAY | 762952 |
| 146 | PALLAS | 762960 |
| 147 | MIDVALE | 762972 |
| 148 | AMERICAN FORK | 764325 |
| 149 | GENEVA | 764345 |
| 150 | PROVO | 764350 |
| 151 | IRONTON | 764359 |
| 152 | SPRINGVILLE | 764371 |
| 153 | SPANISH FORK | 764373 |
| 154 | PAYSON | 764385 |

1/ "Standard Point Location Code" determined from AAR's 1995 Centralized Station Master database.

## SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
## FOR LOCATIONS SERVED BY UP AND SP JOINTLY
## 1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 1 | 01129 | 39,680 | $1,723,240 |
| 2 | 01131 | 422,948 | 10,887,188 |
| 3 | 01132 | 2,597,062 | 78,818,836 |
| 4 | 01133 | 10,080 | 74,600 |
| 5 | 01134 | 62,816 | 1,114,824 |
| 6 | 01136 | 415,865 | 6,233,634 |
| 7 | 01137 | 1,044,937 | 17,491,909 |
| 8 | 01139 | 3,800 | 104,280 |
| 9 | 01141 | 155,728 | 4,135,388 |
| 10 | 01143 | 31,040 | 758,440 |
| 11 | 01144 | 578,840 | 13,748,919 |
| 12 | 01149 | 5,920 | 310,640 |
| 13 | 01159 | 17,840 | 1,131,520 |
| 14 | 01191 | 5,820 | 307,028 |
| 15 | 01195 | 27,720 | 1,184,440 |
| 16 | 01197 | 147,232 | 1,110,144 |
| 17 | 01229 | 520 | 28,720 |
| 18 | 01232 | 32,480 | 868,560 |
| 19 | 01294 | 2,600 | 124,240 |
| 20 | 01295 | 16,880 | 724,040 |
| 21 | 01299 | 800 | 42,160 |
| 22 | 01312 | 7,800 | 772,720 |
| 23 | 01318 | 720 | 23,920 |
| 24 | 01319 | 920 | 26,000 |
| 25 | 01331 | 1,840 | 117,880 |
| 26 | 01341 | 65,920 | 3,694,520 |
| 27 | 01343 | 3,960 | 139,920 |
| 28 | 01349 | 1,560 | 185,400 |
| 29 | 01919 | 920 | 33,640 |
| 30 | 08423 | 10,120 | 258,480 |
| 31 | 08611 | 2,320 | 314,960 |
| 32 | 09121 | 3,280 | 137,240 |
| 33 | 09122 | 680 | 26,920 |
| 34 | 09131 | 720 | 25,440 |
| 35 | 10111 | 260,898 | 2,228,268 |
| 36 | 10113 | 2,094,627 | 45,812,715 |
| 37 | 10212 | 424,476 | 8,771,164 |
| 38 | 10322 | 13,840 | 552,640 |
| 39 | 10511 | 15,400 | 581,400 |
| 40 | 10513 | 72,920 | 1,953,160 |
| 41 | 10514 | 920 | 19,440 |
| 42 | 10929 | 19,240 | 701,120 |
| 43 | 11112 | 960 | 52,320 |
| 44 | 11211 | 9,520 | 209,788 |
| 45 | 11212 | 26,990,880 | 413,093,262 |
| 46 | 13111 | 38,832 | 1,616,112 |
| 47 | 14211 | 20,012 | 230,692 |
| 48 | 14213 | 78,796 | 240,588 |
| 49 | 14219 | 5,711,400 | 47,168,474 |
| 50 | 14411 | 11,312 | 69,604 |
| 51 | 14412 | 62,256 | 664,928 |
| 52 | 14413 | 249,024 | 6,226,928 |
| 53 | 14516 | 3,680 | 153,920 |
| 54 | 14519 | 22,560 | 857,760 |
| 55 | 14711 | 268,016 | 10,985,172 |
| 56 | 14712 | 17,160 | 663,260 |
| 57 | 14715 | 10,000 | 228,760 |
| 58 | 14719 | 13,440 | 412,824 |
| 59 | 14911 | 5,700 | 93,936 |
| 60 | 14913 | 86,712 | 1,423,284 |

## SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
## FOR LOCATIONS SERVED BY UP AND SP JOINTLY
## 1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 61 | 14914 | 39,652 | $1,741,884 |
| 62 | 14915 | 3,800 | 309,280 |
| 63 | 14917 | 960 | 76,000 |
| 64 | 14918 | 97,200 | 7,131,600 |
| 65 | 14919 | 338,440 | 15,540,260 |
| 66 | 14922 | 6,360 | 215,480 |
| 67 | 19293 | 2,520 | 133,880 |
| 68 | 19311 | 12,960 | 630,080 |
| 69 | 20119 | 1,000 | 19,320 |
| 70 | 20121 | 2,920 | 71,400 |
| 71 | 20129 | 30,880 | 1,081,840 |
| 72 | 20131 | 3,040 | 86,000 |
| 73 | 20132 | 2,200 | 99,640 |
| 74 | 20139 | 3,000 | 149,920 |
| 75 | 20141 | 12,720 | 399,000 |
| 76 | 20143 | 9,800 | 615,680 |
| 77 | 20144 | 44,560 | 1,561,520 |
| 78 | 20161 | 16,440 | 718,280 |
| 79 | 20211 | 47,700 | 2,748,720 |
| 80 | 20231 | 48,480 | 2,639,720 |
| 81 | 20251 | 33,200 | 1,651,320 |
| 82 | 20259 | 32,240 | 1,266,320 |
| 83 | 20262 | 6,160 | 177,520 |
| 84 | 20311 | 800 | 26,000 |
| 85 | 20321 | 44,920 | 1,907,840 |
| 86 | 20323 | 2,160 | 167,000 |
| 87 | 20331 | 30,820 | 1,613,560 |
| 88 | 20332 | 63,960 | 3,618,940 |
| 89 | 20333 | 13,120 | 397,040 |
| 90 | 20334 | 24,720 | 1,219,680 |
| 91 | 20336 | 499,760 | 25,457,060 |
| 92 | 20338 | 800 | 82,000 |
| 93 | 20339 | 2,720 | 202,480 |
| 94 | 20341 | 18,440 | 1,323,720 |
| 95 | 20342 | 880 | 27,600 |
| 96 | 20343 | 15,760 | 936,240 |
| 97 | 20352 | 13,000 | 899,840 |
| 98 | 20359 | 12,480 | 469,640 |
| 99 | 20361 | 4,200 | 127,720 |
| 100 | 20371 | 31,440 | 1,968,560 |
| 101 | 20372 | 41,360 | 1,506,120 |
| 102 | 20373 | 81,040 | 5,471,960 |
| 103 | 20379 | 9,880 | 313,080 |
| 104 | 20381 | 27,320 | 1,804,240 |
| 105 | 20391 | 66,400 | 2,597,040 |
| 106 | 20411 | 358,656 | 11,362,932 |
| 107 | 20412 | 120,820 | 3,550,480 |
| 108 | 20413 | 34,200 | 1,581,360 |
| 109 | 20416 | 21,520 | 1,427,120 |
| 110 | 20418 | 14,160 | 484,040 |
| 111 | 20419 | 83,668 | 2,430,216 |
| 112 | 20421 | 144,300 | 5,807,056 |
| 113 | 20431 | 48,320 | 6,067,120 |
| 114 | 20432 | 400 | 29,360 |
| 115 | 20441 | 582,692 | 22,501,868 |
| 116 | 20442 | 5,440 | 129,760 |
| 117 | 20443 | 35,240 | 1,440,240 |
| 118 | 20452 | 4,960 | 203,280 |
| 119 | 20461 | 622,840 | 21,035,230 |
| 120 | 20462 | 35,760 | 1,194,400 |

## SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
## FOR LOCATIONS SERVED BY UP AND SP JOINTLY
1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 121 | 20465 | 17,648 | $697,176 |
| 122 | 20466 | 21,960 | 1,372,400 |
| 123 | 20469 | 3,080 | 249,440 |
| 124 | 20471 | 50,440 | 2,592,880 |
| 125 | 20472 | 9,000 | 349,280 |
| 126 | 20521 | 5,600 | 283,600 |
| 127 | 20529 | 10,120 | 498,040 |
| 128 | 20611 | 381,716 | 5,082,684 |
| 129 | 20616 | 19,320 | 409,720 |
| 130 | 20617 | 38,540 | 1,082,824 |
| 131 | 20619 | 55,900 | 1,819,416 |
| 132 | 20621 | 252,600 | 8,312,960 |
| 133 | 20622 | 13,800 | 305,680 |
| 134 | 20625 | 3,840 | 85,760 |
| 135 | 20629 | 8,400 | 414,720 |
| 136 | 20711 | 22,000 | 1,161,280 |
| 137 | 20712 | 2,560 | 121,520 |
| 138 | 20713 | 1,720 | 70,400 |
| 139 | 20714 | 600 | 73,520 |
| 140 | 20821 | 414,040 | 19,189,640 |
| 141 | 20823 | 32,040 | 1,413,400 |
| 142 | 20831 | 40,400 | 1,664,840 |
| 143 | 20841 | 65,880 | 2,728,140 |
| 144 | 20851 | 15,840 | 1,009,680 |
| 145 | 20859 | 26,400 | 1,039,200 |
| 146 | 20861 | 9,040 | 407,640 |
| 147 | 20871 | 4,040 | 277,080 |
| 148 | 20911 | 90,480 | 2,194,120 |
| 149 | 20914 | 69,360 | 1,219,576 |
| 150 | 20915 | 28,172 | 862,332 |
| 151 | 20921 | 233,820 | 10,670,508 |
| 152 | 20923 | 754,828 | 31,891,196 |
| 153 | 20931 | 3,160 | 147,560 |
| 154 | 20933 | 80,164 | 2,053,736 |
| 155 | 20939 | 21,360 | 1,083,440 |
| 156 | 20941 | 9,440 | 506,720 |
| 157 | 20942 | 20,160 | 1,200,720 |
| 158 | 20981 | 2,800 | 115,080 |
| 159 | 20992 | 960 | 58,720 |
| 160 | 20993 | 2,120 | 104,000 |
| 161 | 20994 | 2,600 | 152,240 |
| 162 | 20995 | 514,400 | 26,080,080 |
| 163 | 20997 | 3,360 | 116,320 |
| 164 | 20998 | 880 | 25,440 |
| 165 | 20999 | 61,480 | 2,110,640 |
| 166 | 21111 | 1,040 | 101,880 |
| 167 | 21211 | 880 | 78,440 |
| 168 | 22799 | 5,440 | 271,720 |
| 169 | 22911 | 440 | 66,000 |
| 170 | 22951 | 200 | 30,400 |
| 171 | 22999 | 5,800 | 301,120 |
| 172 | 23111 | 2,640 | 83,480 |
| 173 | 23812 | 520 | 72,960 |
| 174 | 23941 | 1,440 | 294,040 |
| 175 | 23949 | 200 | 28,280 |
| 176 | 23999 | 56,520 | 4,813,640 |
| 177 | 24111 | 28,976 | 818,336 |
| 178 | 24115 | 409,880 | 3,941,692 |
| 179 | 24211 | 1,286,920 | 62,368,560 |
| 180 | 24212 | 32,560 | 448,120 |

SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
FOR LOCATIONS SERVED BY UP AND SP JOINTLY
1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 181 | 24215 | 3,000 | $273,400 |
| 182 | 24219 | 3,000 | 132,000 |
| 183 | 24291 | 960 | 95,000 |
| 184 | 24299 | 920 | 37,440 |
| 185 | 24314 | 1,520 | 90,320 |
| 186 | 24316 | 920 | 78,800 |
| 187 | 24321 | 701,000 | 33,239,960 |
| 188 | 24391 | 27,720 | 1,415,240 |
| 189 | 24911 | 12,680 | 832,960 |
| 190 | 24912 | 128,748 | 898,860 |
| 191 | 24931 | 520 | 44,320 |
| 192 | 24992 | 1,880 | 94,760 |
| 193 | 24993 | 43,240 | 1,160,120 |
| 194 | 24996 | 705,360 | 29,091,280 |
| 195 | 24997 | 2,200 | 163,640 |
| 196 | 24999 | 31,200 | 1,250,760 |
| 197 | 25121 | 440 | 59,200 |
| 198 | 25151 | 3,120 | 172,440 |
| 199 | 25161 | 1,160 | 77,120 |
| 200 | 25171 | 4,960 | 269,760 |
| 201 | 25173 | 520 | 89,520 |
| 202 | 25174 | 840 | 28,720 |
| 203 | 25179 | 720 | 27,280 |
| 204 | 25199 | 28,520 | 2,062,480 |
| 205 | 25319 | 600 | 21,520 |
| 206 | 25411 | 560 | 64,320 |
| 207 | 25421 | 3,120 | 279,880 |
| 208 | 25911 | 640 | 67,840 |
| 209 | 25999 | 41,840 | 2,919,000 |
| 210 | 26111 | 86,640 | 4,574,280 |
| 211 | 26112 | 9,320 | 381,160 |
| 212 | 26211 | 363,500 | 17,429,860 |
| 213 | 26212 | 60,320 | 3,535,920 |
| 214 | 26213 | 268,760 | 12,605,400 |
| 215 | 26214 | 178,556 | 5,192,284 |
| 216 | 26217 | 3,400 | 179,040 |
| 217 | 26218 | 1,640 | 96,760 |
| 218 | 26219 | 30,520 | 1,333,960 |
| 219 | 26311 | 1,541,824 | 56,937,924 |
| 220 | 26431 | 6,360 | 272,560 |
| 221 | 26441 | 880 | 25,840 |
| 222 | 26469 | 1,880 | 78,920 |
| 223 | 26471 | 7,560 | 664,640 |
| 224 | 26472 | 560 | 32,560 |
| 225 | 26491 | 920 | 42,740 |
| 226 | 26492 | 840 | 32,000 |
| 227 | 26499 | 22,520 | 1,550,280 |
| 228 | 26511 | 10,040 | 473,200 |
| 229 | 26543 | 11,640 | 1,217,760 |
| 230 | 26549 | 400 | 27,080 |
| 231 | 26551 | 800 | 32,240 |
| 232 | 26613 | 21,680 | 1,276,520 |
| 233 | 26614 | 3,000 | 225,560 |
| 234 | 26619 | 5,560 | 47[illegible],640 |
| 235 | 27211 | 1,680 | 90,880 |
| 236 | 27311 | 4,360 | 251,240 |
| 237 | 27411 | 6,560 | 437,680 |
| 238 | 27417 | 720 | 50,400 |
| 239 | 27419 | 7,760 | 336,360 |
| 240 | 27711 | 600 | 143,880 |

## SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
## FOR LOCATIONS SERVED BY UP AND SP JOINTLY
1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 241 | 28112 | 1,280 | $103,040 |
| 242 | 28121 | 1,720 | 106,400 |
| 243 | 28123 | 553,120 | 16,360,708 |
| 244 | 28125 | 388,384 | 10,986,624 |
| 245 | 28126 | 74,608 | 3,242,176 |
| 246 | 28139 | 3,680 | 172,720 |
| 247 | 28141 | 1,720 | 91,44[illegible] |
| 248 | 28151 | 28,880 | 1,910,6[illegible]0 |
| 249 | 28161 | 19,760 | 1,691,6[illegible]0 |
| 250 | 28169 | 240 | 49,840 |
| 251 | 28181 | 39,040 | 865,640 |
| 252 | 28184 | 32,800 | 1,701,840 |
| 253 | 28185 | 55,720 | 3,383,560 |
| 254 | 28189 | 4,280 | 157,840 |
| 255 | 28191 | 62,040 | 1,934,280 |
| 256 | 28194 | 13,680 | 929,320 |
| 257 | 28195 | 4,840 | 236,760 |
| 258 | 28199 | 90,816 | 3,225,340 |
| 259 | 28211 | 3,480,880 | 132,954,560 |
| 260 | 28212 | 92,240 | 2,920,880 |
| 261 | 28213 | 4,080 | 331,320 |
| 262 | 28311 | 44,120 | 2,175,960 |
| 263 | 28419 | 85,320 | 3,897,440 |
| 264 | 28422 | 1,200 | 95,440 |
| 265 | 28423 | 800 | 28,720 |
| 266 | 28431 | 200 | 80 |
| 267 | 28441 | 22,280 | 1,123,200 |
| 268 | 28512 | 1,840 | 48,880 |
| 269 | 28519 | 18,720 | 1,107,920 |
| 270 | 28612 | 24,480 | 793,200 |
| 271 | 28712 | 128,720 | 3,553,052 |
| 272 | 28713 | 48,876 | 1,129,168 |
| 273 | 28714 | 36,680 | 1,114,320 |
| 274 | 28719 | 1,800 | 108,640 |
| 275 | 28799 | 8,800 | 761,080 |
| 276 | 28911 | 6,040 | 235,040 |
| 277 | 28991 | 738,048 | 13,690,364 |
| 278 | 28994 | 7,480 | 561,840 |
| 279 | 28996 | 74,560 | 3,628,000 |
| 280 | 28998 | 14,880 | 524,400 |
| 281 | 28999 | 50,120 | 1,885,400 |
| 282 | 29113 | 10,908 | 151,660 |
| 283 | 29114 | 411,300 | 11,290,940 |
| 284 | 29116 | 5,800 | 290,560 |
| 285 | 29117 | 180,376 | 7,357,756 |
| 286 | 29119 | 124,412 | 3,772,400 |
| 287 | 29121 | 2,800 | 237,680 |
| 288 | 29511 | 9,000 | 252,000 |
| 289 | 29521 | 51,040 | 1,504,800 |
| 290 | 29522 | 920 | 76,240 |
| 291 | 29523 | 28,280 | 680,640 |
| 292 | 29529 | 16,520 | 282,400 |
| 293 | 29911 | 2,160 | 62,660 |
| 294 | 29912 | 800 | 28,480 |
| 295 | 29913 | 489,428 | 11,001,032 |
| 296 | 29914 | 382,256 | 8,563,696 |
| 297 | 29919 | 42,080 | 1,017,960 |
| 298 | 30111 | 117,080 | 9,740,040 |
| 299 | 30114 | 2,560 | 190,640 |
| 300 | 30119 | 11,600 | 367,200 |

SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
FOR LOCATIONS SERVED BY UP AND SP JOINTLY
1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 301 | 30412 | 640 | $27,000 |
| 302 | 30711 | 8,520 | 722,680 |
| 303 | 30713 | 5,280 | 780,560 |
| 304 | 30714 | 19,560 | 670,360 |
| 305 | 30715 | 720 | 29,360 |
| 306 | 30716 | 41,960 | 3,769,720 |
| 307 | 30718 | 10,788 | 839,852 |
| 308 | 30719 | 21,080 | 1,648,120 |
| 309 | 30729 | 1,480 | 96,080 |
| 310 | 31411 | 15,120 | 775,440 |
| 311 | 31611 | 2,880 | 105,200 |
| 312 | 32119 | 3,400 | 289,320 |
| 313 | 32212 | 4,760 | 197,120 |
| 314 | 32219 | 1,520 | 43,040 |
| 315 | 32291 | 6,920 | 380,040 |
| 316 | 32292 | 3,760 | 391,600 |
| 317 | 32293 | 10,480 | 919,120 |
| 318 | 32294 | 200 | 23,920 |
| 319 | 32296 | 1,680 | 87,600 |
| 320 | 32299 | 29,800 | 699,920 |
| 321 | 32411 | 938,036 | 13,674,164 |
| 322 | 32412 | 1,880 | 139,440 |
| 323 | 32511 | 94,620 | 3,374,464 |
| 324 | 32512 | 3,440 | 165,800 |
| 325 | 32551 | 16,040 | 610,240 |
| 326 | 32552 | 9,000 | 401,640 |
| 327 | 32611 | 760 | 47,360 |
| 328 | 32621 | 800 | 66,800 |
| 329 | 32719 | 20,072 | 1,319,440 |
| 330 | 32741 | 419,860 | 6,818,920 |
| 331 | 32752 | 147,528 | 2,125,960 |
| 332 | 32753 | 6,520 | 148,240 |
| 333 | 32754 | 67,280 | 1,445,640 |
| 334 | 32924 | 3,280 | 124,600 |
| 335 | 32932 | 720 | 28,720 |
| 336 | 32952 | 197,060 | 9,694,392 |
| 337 | 32953 | 28,320 | 1,620,680 |
| 338 | 32955 | 3,440 | 241,640 |
| 339 | 32959 | 890,480 | 26,851,640 |
| 340 | 32961 | 240 | 43,200 |
| 341 | 32996 | 5,560 | 288,840 |
| 342 | 33111 | 3,920 | 208,600 |
| 343 | 33121 | 39,400 | 1,082,400 |
| 344 | 33122 | 351,516 | 11,051,404 |
| 345 | 33123 | 940,600 | 28,782,812 |
| 346 | 33124 | 301,044 | 8,752,712 |
| 347 | 33125 | 132,724 | 5,392,484 |
| 348 | 33126 | 130,960 | 5,259,440 |
| 349 | 33127 | 25,240 | 1,415,880 |
| 350 | 33128 | 79,960 | 1,712,088 |
| 351 | 33131 | 4,000 | 129,360 |
| 352 | 33134 | 8,480 | 269,200 |
| 353 | 33135 | 11,640 | 572,480 |
| 354 | 33151 | 1,280 | 90,560 |
| 355 | 33152 | 10,560 | 412,840 |
| 356 | 33211 | 1,320 | 77,760 |
| 357 | 33219 | 9,040 | 442,680 |
| 358 | 33311 | 137,040 | 3,065,400 |
| 359 | 33321 | 20,000 | 912,040 |
| 360 | 33331 | 16,600 | 663,280 |

## SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
## FOR LOCATIONS SERVED BY UP AND SP JOINTLY
1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 361 | 33332 | 3,000 | $96,280 |
| 362 | 33341 | 57,680 | 2,345,120 |
| 363 | 33399 | 1,960 | 126,000 |
| 364 | 33511 | 48,120 | 2,133,800 |
| 365 | 33513 | 2,440 | 124,240 |
| 366 | 33521 | 1,760 | 47,360 |
| 367 | 33573 | 5,800 | 236,800 |
| 368 | 33574 | 800 | 42,200 |
| 369 | 33612 | 3,600 | 198,920 |
| 370 | 33693 | 880 | 29,000 |
| 371 | 33999 | 76,928 | 1,588,024 |
| 372 | 34111 | 4,960 | 211,640 |
| 373 | 34215 | 1,440 | 178,240 |
| 374 | 34239 | 4,080 | 218,040 |
| 375 | 34281 | 880 | 41,000 |
| 376 | 34298 | 14,600 | 456,640 |
| 377 | 34311 | 720 | 27,280 |
| 378 | 34312 | 1,840 | 54,480 |
| 379 | 34339 | 880 | 40,000 |
| 380 | 34411 | 6,800 | 464,360 |
| 381 | 34412 | 760 | 50,000 |
| 382 | 34423 | 3,400 | 372,640 |
| 383 | 34433 | 4,720 | 404,000 |
| 384 | 34445 | 400 | 55,200 |
| 385 | 34446 | 4,120 | 211,800 |
| 386 | 34499 | 2,560 | 87,120 |
| 387 | 34529 | 5,200 | 172,760 |
| 388 | 34614 | 6,040 | 220,720 |
| 389 | 34619 | 6,240 | 303,280 |
| 390 | 34812 | 720 | 25,440 |
| 391 | 34813 | 4,840 | 256,080 |
| 392 | 34819 | 400 | 44,760 |
| 393 | 34912 | 800 | 27,280 |
| 394 | 34931 | 1,840 | 80,200 |
| 395 | 34943 | 3,680 | 139,720 |
| 396 | 34996 | 280 | 132,160 |
| 397 | 34997 | 10,604 | 1,190,624 |
| 398 | 34998 | 17,000 | 558,800 |
| 399 | 34999 | 3,720 | 187,120 |
| 400 | 35222 | 6,920 | 754,600 |
| 401 | 35225 | 1,200 | 67,240 |
| 402 | 35229 | 1,160 | 380,080 |
| 403 | 35241 | 16,320 | 1,344,680 |
| 404 | 35313 | 5,000 | 213,200 |
| 405 | 35319 | 4,400 | 394,000 |
| 406 | 35331 | 920 | 24,000 |
| 407 | 35351 | 1,320 | 99,040 |
| 408 | 35371 | 15,040 | 536,000 |
| 409 | 35489 | 1,720 | 98,240 |
| 410 | 35611 | 560 | 93,600 |
| 411 | 35619 | 840 | 77,280 |
| 412 | 35621 | 1,600 | 143,920 |
| 413 | 35642 | 5,880 | 775,720 |
| 414 | 35669 | 3,320 | 372,520 |
| 415 | 35741 | 400 | 66,040 |
| 416 | 35791 | 800 | 47,840 |
| 417 | 35811 | 600 | 75,280 |
| 418 | 35853 | 1,160 | 157,840 |
| 419 | 35857 | 3,920 | 231,680 |
| 420 | 35859 | 280 | 28,600 |

## SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
## FOR LOCATIONS SERVED BY UP AND SP JOINTLY
## 1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 421 | 35891 | 800 | $155,560 |
| 422 | 35999 | 9,360 | 416,040 |
| 423 | 36111 | 760 | 48,000 |
| 424 | 36121 | 11,320 | 860,760 |
| 425 | 36129 | 2,680 | 578,760 |
| 426 | 36311 | 12,760 | 1,193,160 |
| 427 | 36321 | 49,520 | 11,402,080 |
| 428 | 36331 | 17,920 | 1,773,320 |
| 429 | 36343 | 25,120 | 2,633,200 |
| 430 | 36349 | 240 | 46,800 |
| 431 | 36392 | 1,680 | 179,520 |
| 432 | 36393 | 7,760 | 1,596,840 |
| 433 | 36399 | 24,640 | 3,614,640 |
| 434 | 36411 | 320 | 15,280 |
| 435 | 36421 | 11,880 | 912,800 |
| 436 | 36429 | 240 | 58,240 |
| 437 | 36439 | 3,240 | 410,400 |
| 438 | 36441 | 5,136 | 196,916 |
| 439 | 36442 | 19,200 | 1,047,080 |
| 440 | 36449 | 400 | 88,480 |
| 441 | 36511 | 9,800 | 533,400 |
| 442 | 36512 | 16,520 | 1,337,120 |
| 443 | 36612 | 920 | 41,000 |
| 444 | 36621 | 5,080 | 801,800 |
| 445 | 36711 | 1,040 | 187,200 |
| 446 | 36741 | 800 | 25,240 |
| 447 | 36791 | 1,840 | 64,480 |
| 448 | 36921 | 560 | 25,440 |
| 449 | 37111 | 988,176 | 221,275,824 |
| 450 | 37112 | 568,040 | 101,449,080 |
| 451 | 37119 | 1,760 | 422,960 |
| 452 | 37142 | 12,800 | 476,840 |
| 453 | 37144 | 29,000 | 1,355,360 |
| 454 | 37145 | 1,680 | 51,680 |
| 455 | 37147 | 1,960 | 368,400 |
| 456 | 37148 | 760 | 27,280 |
| 457 | 37149 | 229,440 | 30,766,720 |
| 458 | 37151 | 80,816 | 4,054,376 |
| 459 | 37299 | 3,180 | 2,541,528 |
| 460 | 37411 | 11,720 | 141,360 |
| 461 | 37422 | 113,655 | 1,652,616 |
| 462 | 37424 | 2,440 | 203,680 |
| 463 | 37426 | 17,040 | 344,640 |
| 464 | 37428 | 6,000 | 368,760 |
| 465 | 37511 | 440 | 28,280 |
| 466 | 37513 | 920 | 27,280 |
| 467 | 37691 | 1,600 | 328,240 |
| 468 | 37994 | 2,400 | 217,440 |
| 469 | 38411 | 7,400 | 433,960 |
| 470 | 38421 | 9,120 | 758,120 |
| 471 | 38613 | 2,400 | 111,920 |
| 472 | 39319 | 1,720 | 47,840 |
| 473 | 39411 | 19,600 | 2,467,640 |
| 474 | 39497 | 14,800 | 1,410,560 |
| 475 | 39499 | 3,960 | 559,360 |
| 476 | 39911 | 2,720 | 429,440 |
| 477 | 39921 | 8,000 | 386,200 |
| 478 | 39996 | 3,640 | 375,800 |
| 479 | 39998 | 6,840 | 313,000 |
| 480 | 39999 | 31,960 | 1,568,480 |

## SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
## FOR LOCATIONS SERVED BY UP AND SP JOINTLY
1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 481 | 40112 | 88,160 | $2,260,040 |
| 482 | 40211 | 669,344 | 14,656,824 |
| 483 | 40212 | 5,360 | 191,880 |
| 484 | 40213 | 3,040 | 129,440 |
| 485 | 40214 | 37,240 | 2,313,080 |
| 486 | 40219 | 19,160 | 765,400 |
| 487 | 40221 | 8,520 | 373,960 |
| 488 | 40231 | 5,680 | 35,960 |
| 489 | 40241 | 600,340 | 15,320,280 |
| 490 | 40251 | 2,760 | 392,920 |
| 491 | 40261 | 16,120 | 769,700 |
| 492 | 40291 | 704,680 | 18,151,929 |
| 493 | 41111 | 4,680 | 284,280 |
| 494 | 41112 | 280 | 37,560 |
| 495 | 41114 | 5,760 | 730,360 |
| 496 | 41115 | 4,200 | 159,400 |
| 497 | 41117 | 4,080 | 300,920 |
| 498 | 41118 | 100,280 | 15,649,280 |
| 499 | 41211 | 30,600 | 103,200 |
| 500 | 42111 | 4,240 | 187,680 |
| 501 | 42112 | 1,680 | 109,480 |
| 502 | 42211 | 251,808 | 8,414,088 |
| 503 | 43111 | 39,040 | 1,462,920 |
| 504 | 45111 | 47,520 | 2,053,680 |
| 505 | 46111 | 3,157,996 | 157,810,332 |
| 506 | 46211 | 236,280 | 16,951,680 |
| 507 | 47111 | 85,360 | 5,085,920 |
| 508 | 48091 | 680 | 38,000 |
| 509 | 48101 | 3,400 | 218,960 |
| 510 | 48105 | 19,280 | 1,505,800 |
| 511 | 48601 | 99,200 | 828,000 |
| 512 | 48606 | 2,440 | 71,520 |
| 513 | 48611 | 2,000 | 261,440 |
| 514 | 49012 | 37,032 | 3,373,412 |
| 515 | 49013 | 10,840 | 698,240 |
| 516 | 49018 | 15,144 | 883,068 |
| 517 | 49024 | 17,488 | 3,609,232 |
| 518 | 49025 | 8,600 | 1,742,800 |
| 519 | 49031 | 6,400 | 169,200 |
| 520 | 49042 | 120,700 | 5,699,204 |
| 521 | 49045 | 24,360 | 927,120 |
| 522 | 49048 | 1,000 | 776,560 |
| 523 | 49054 | 3,320 | 376,840 |
| 524 | 49055 | 3,120 | 409,800 |
| 525 | 49057 | 856,028 | 26,833,740 |
| 526 | 49064 | 6,040 | 336,920 |
| 527 | 49066 | 37,200 | 957,240 |
| 528 | 49072 | 98,280 | 4,882,600 |
| 529 | 49078 | 11,400 | 1,198,200 |
| 530 | 49081 | 72,480 | 3,458,840 |
| 531 | 49082 | 91,480 | 2,854,120 |
| 532 | 49091 | 98,560 | 4,637,760 |
| 533 | 49092 | 77,656 | 3,114,208 |
| 534 | 49093 | 45,084 | 2,585,096 |
| 535 | 49101 | 88,640 | 3,343,120 |
| 536 | 49102 | 22,640 | 729,600 |
| 537 | 49103 | 640 | 17,560 |
| 538 | 49104 | 6,240 | 835,320 |
| 539 | 49120 | 3,720 | 264,440 |
| 540 | 49122 | 16,840 | 629,840 |

## SUMMARY OF TONS AND REVENUES BY FIVE DIGIT STCC
## FOR LOCATIONS SERVED BY UP AND SP JOINTLY
### 1994

| | Five Digit STCC (1) | Total Tons Shipped (2) | Total Revenue (3) |
|---|---|---|---|
| 541 | 49123 | 11,880 | $345,280 |
| 542 | 49125 | 10,720 | 447,320 |
| 543 | 49126 | 13,600 | 291,000 |
| 544 | 49131 | 5,240 | 228,160 |
| 545 | 49141 | 45,640 | 1,487,680 |
| 546 | 49142 | 83,140 | 3,755,024 |
| 547 | 49143 | 800 | 29,320 |
| 548 | 49148 | 3,840 | 64,480 |
| 549 | 49151 | 18,516 | 324,432 |
| 550 | 49152 | 3,520 | 54,640 |
| 551 | 49153 | 3,040 | 27,720 |
| 552 | 49154 | 7,850 | 403,200 |
| 553 | 49155 | 2,960 | 125,760 |
| 554 | 49157 | 800 | 28,480 |
| 555 | 49163 | 3,000 | 185,960 |
| 556 | 49164 | 5,880 | 585,880 |
| 557 | 49174 | 8,016 | 172,084 |
| 558 | 49183 | 182,360 | 6,119,280 |
| 559 | 49184 | 1,680 | 105,840 |
| 560 | 49187 | 29,640 | 990,520 |
| 561 | 49188 | 27,960 | 515,680 |
| 562 | 49205 | 73,760 | 2,530,760 |
| 563 | 49214 | 1,680 | 40,240 |
| 564 | 49215 | 21,900 | 1,011,300 |
| 565 | 49232 | 72,720 | 3,381,520 |
| 566 | 49239 | 3,160 | 120,520 |
| 567 | 49251 | 38,356 | 2,870,332 |
| 568 | 49252 | 1,280 | 47,840 |
| 569 | 49270 | 11,240 | 869,280 |
| 570 | 49300 | 656,192 | 14,049,720 |
| 571 | 49302 | 126,400 | 4,816,920 |
| 572 | 49312 | 320 | 21,440 |
| 573 | 49313 | 1,600 | 83,360 |
| 574 | 49314 | 4,120 | 268,920 |
| 575 | 49323 | 12,560 | 477,920 |
| 576 | 49342 | 4,000 | 46,400 |
| 577 | 49352 | 160,160 | 5,668,600 |
| 578 | 49355 | 1,280 | 43,160 |
| 579 | 49356 | 360,136 | 17,283,460 |
| 580 | 49360 | 6,800 | 512,920 |
| 581 | 49361 | 760 | 51,320 |
| 582 | 49363 | 9,840 | 195,760 |
| 583 | 49365 | 17,360 | 676,880 |
| 584 | 49366 | 34,680 | 982,920 |
| 585 | 49411 | 375,600 | 10,115,796 |
| 586 | 49412 | 79,236 | 2,150,992 |
| 587 | 49457 | 6,120 | 276,004 |
| 588 | 49501 | 387,216 | 32,314,232 |
| 589 | 49601 | 87,552 | 2,770,736 |
| 590 | 49611 | 33,280 | 1,012,680 |
| 591 | 49623 | 240 | 55,200 |
| 592 | 49633 | 22,680 | 912,880 |
| 593 | 49638 | 2,040 | 72,720 |
| 594 | 49661 | 162,800 | 8,928,008 |
| 595 | 49663 | 129,532 | 3,157,704 |
| | TOTAL | 83,476,496 | $2,584,378,078 |

# SUMMARY OF TONS AND REVENUES AT POINTS SERVED BY UP AND SP JOINTLY BY ORIGINATING AND TERMINATING STATE – 1994

| | State (1) | Originating Tons (2) | Originating Revenue (3) | Terminating Tons (4) | Terminating Revenue (5) |
|---|---|---|---|---|---|
| | **United States** | | | | |
| 1 | AL | 280,440 | $16,505,160 | 315,080 | $11,095,920 |
| 2 | AR | 4,116,928 | 96,738,136 | 2,355,908 | 57,547,528 |
| 3 | AZ | 121,160 | 4,215,160 | 225,988 | 8,486,880 |
| 4 | CA | 7,200,888 | 390,257,358 | 18,575,781 | 781,483,836 |
| 5 | CO | 8,008,593 | 171,166,504 | 1,205,319 | 65,005,660 |
| 6 | CT | 2,000 | 131,200 | 41,500 | 2,261,300 |
| 7 | DE | 11,600 | 1,004,680 | 120,520 | 8,843,800 |
| 8 | FL | 69,920 | 3,881,800 | 381,480 | 27,190,460 |
| 9 | GA | 245,400 | 17,238,240 | 429,480 | 28,338,160 |
| 10 | IA | 1,067,721 | 40,187,325 | 642,040 | 17,156,180 |
| 11 | ID | 771,960 | 21,712,940 | 274,608 | 7,415,072 |
| 12 | IL | 3,147,624 | 180,740,130 | 5,414,827 | 177,180,082 |
| 13 | IN | 200,876 | 14,556,444 | 750,716 | 21,116,768 |
| 14 | KS | 1,653,071 | 62,378,129 | 362,300 | 20,059,752 |
| 15 | KY | 187,056 | 33,573,680 | 1,927,669 | 39,085,664 |
| 16 | LA | 2,224,860 | 82,559,388 | 1,849,884 | 51,232,724 |
| 17 | MA | 14,920 | 1,118,400 | 145,700 | 12,956,060 |
| 18 | MD | 7,040 | 700,320 | 94,080 | 13,884,960 |
| 19 | ME | 36,320 | 2,540,880 | 10,840 | 743,000 |
| 20 | MI | 300,864 | 42,816,764 | 266,592 | 15,783,564 |
| 21 | MN | 2,299,483 | 64,622,515 | 347,176 | 15,126,768 |
| 22 | MO | 912,802 | 42,724,946 | 2,250,008 | 57,996,353 |
| 23 | MS | 138,240 | 4,278,160 | 728,915 | 18,235,160 |
| 24 | MT | 461,156 | 14,479,732 | 31,080 | 1,920,520 |
| 25 | NC | 100,648 | 10,469,504 | 313,628 | 16,877,364 |
| 26 | ND | 62,444 | 3,395,520 | 12,160 | 798,400 |
| 27 | NE | 3,227,081 | 152,224,158 | 180,436 | 14,078,044 |
| 28 | NH | 0 | 0 | 30,560 | 1,453,640 |
| 29 | NJ | 13,740 | 1,727,824 | 330,640 | 27,003,160 |
| 30 | NM | 141,928 | 3,999,244 | 123,072 | 5,238,920 |
| 31 | NV | 1,091,696 | 36,331,100 | 4,724,091 | 138,627,874 |
| 32 | NY | 114,800 | 6,724,800 | 130,860 | 8,819,80[illegible] |
| 33 | OH | 199,520 | 28,561,600 | 499,208 | 25,867,69[illegible] |
| 34 | OK | 327,940 | 9,845,388 | 295,524 | 10,761,70[illegible] |
| 35 | OR | 2,198,848 | 95,190,288 | 1,218,325 | 35,422,365 |
| 36 | PA | 147,827 | 10,285,812 | 527,264 | 32,198,328 |
| 37 | RI | 0 | 0 | 27,400 | 1,791,000 |
| 38 | SC | 47,680 | 4,796,680 | 176,800 | 8,621,480 |
| 39 | SD | 2,520 | 110,600 | 10,480 | 437,600 |
| 40 | TN | 416,500 | 25,530,300 | 728,900 | 28,500,720 |
| 41 | TX | 13,469,041 | 311,705,206 | 19,740,237 | 410,154,83[illegible] |
| 42 | UT | 20,614,466 | 358,325,583 | 14,433,007 | 307,322,24[illegible] |
| 43 | VA | 60,000 | 3,924,040 | 176,000 | 10,946,36[illegible] |
| 44 | VT | 11,040 | 661,160 | 0 | |
| 45 | WA | 457,400 | 20,648,520 | 617,005 | 20,249,60[illegible] |
| 46 | WI | 172,520 | 8,075,120 | 261,188 | 11,764,7[illegible] |
| 47 | WV | 43,440 | 3,427,960 | 72,680 | 3,867,6[illegible] |
| 48 | WY | 6,439,071 | 119,502,644 | 56,652 | 1,195,[illegible] |
| | U. S. Total | 82,841,072 | $2,525,591,042 | 83,433,608 | $2,582,145,[illegible] |
| 49 | Canada | 635,424 | $58,787,036 | 30,848 | $1,573,[illegible] |
| 50 | Mexico | 0 | 0 | 12,040 | $659,[illegible] |
| | Grand Total | 83,476,496 | $2,584,378,078 | 83,476,496 | $2,584,37[illegible] |

Source: 1994 ICC Costed Waybill.