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The Impact of the 4-R Act Railroad Ratemaking Provisions

A Report to Congress
as Directed by Section 202
of the Railroad Revitalization
and Regulatory Reform Act of 1976

Interstate Commerce Commission October 5, 1977

Interstate Commerce Commission

Washington, D.C. 20423

OFFICE OF THE CHAIRMAN

October 5, 1977

To the President of the Senate and
The Speaker of the House of Representatives

Dear Honorable Sirs:

It is my pleasure to transmit to you a report of the Interstate Commerce Commission entitled, The Impact of the 4-R Act Railroad Ratemaking Provisions, prepared in accordance with the requirements of section 202(g) of P.L. 94-210, The Railroad Revitalization and Regulatory Reform Act of 1976 (February 5, 1976).

Section 202(g) directs the Interstate Commerce Commission to study the effects of amendments to railroad ratemaking provisions of the Interstate Commerce Act on the development of an efficient and financially stable railway system and to transmit the results of its study to each House of Congress within 20 months of enactment of P.L. 94-210.

This study and a separate one by the Secretary of Transportation are required to include an analysis of the effect of such amendments on shippers and carriers of all modes and to provide proposals for further regulatory and legislative changes, if necessary.

Sincerely yours,

A. Daniel O'Neal
Chairman

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I - EXECUTIVE SUMMARY

INTRODUCTION

On February 5, 1976, Congress enacted Public Law 94-210, the Railroad Revitalization and Regulatory Reform Act of 1976(4-R Act). Among the more important objectives of this Act were the implementation of the USRA Final System Plan, the continuation of local rail service, the Northeast Corridor Project, railroad mergers and consolidations, rehabilitation and improvement financing, and ICC reform and revision of rail ratemaking. It is this last purpose of the Act, specifically section 202, to which this study is directed.

Section 202(g) directs the Interstate Commerce Commission and the Secretary of Transportation separately to study the changes in rate regulations made by section 202 on the development of an efficient and financially stable railway system in the United States. The studies are to include an analyses of the effects on shippers and carriers in all modes of transportation and proposals for further regulatory and legislative changes, if necessary.* This report represents the Commission's response to that directive.

SECTION 202 PROVISIONS

Section 202 contains a number of major provisions which represent the mechanism by which the focus of rate regulation could be readjusted. It amends Part I of the Interstate Commerce Act to provide for greater ratemaking flexibility. It establishes new standards for determining when the justness and reasonableness of a rate may be questioned. Under these new standards, no proposed railroad rate can be found to be too low if it contributes to the going concern value of the railroad proposing it and if it does not violate any other section of the Act. In addition, no rate can be found to be unjustly or unreasonably high unless the Commission finds that the proponent carrier has market dominance over the service involved; market dominance means the absence of effective competition for the traffic or movement to which the rate applies. Unless the Commission finds market dominance to exist under the Seven Percentum Provision or the likelihood of its existence under normal procedures, the Commission has no power to suspend any rate on the ground that it may be unjustly or unreasonably high. These changes are intended to encourage more competitive pricing in rail transportation, but they are not intended to authorize monopolistic abuse or violation of sections 2, 3, and 4 of the IC Act.

Under these new provisions, the Commission may suspend a rate for a period of 7 months beyond the time when it would otherwise go into effect or 10 months if the Commission makes a report to Congress. For a protested rate to be suspended, the protestant must present specific facts in a verified protest which shows (1) that if the challenged rate were to go into effect the failure to suspend would cause substantial injury to the protestant and (2) that the protestant is likely to prevail on the merits. Further, section 202(e) provides for a 2-year period after the date of enactment during which the Commission may not suspend for any period a proposed rate which does not represent more than a 7-percent per year increase or decrease over the existing rate unless:

*Section 202(g) states:

The Secretary and the Commission shall separately study the effects of the amendments made by this section on the development of an efficient and financially stable railway system in the United States. Such studies shall include (1) an analysis of the effect of such provisions upon shippers and upon carriers in all modes of transportation and (2) proposals for further regulatory and legislative changes, if necessary. The Commission shall gather all data relating to such studies as requested by the Secretary and shall make such data available to the Secretary. The Secretary and the Commission shall transmit the results of their respective studies to each House of Congress within 20 months after the date of enactment of this Act.

1. A finding of market dominance is made by the Commission, or

2. The rate appears to be unlawful under section 2, 3, or 4 of the Interstate Commerce Act, or

3. The rate would represent a competitive practice that is unfair, destructive, predatory, or otherwise undermines competition which is necessary in the public interest.

Having established a general framework for rate reform, the section requires the Commission to establish specific rules and standards through which the intent of Congress is to be implemented. Section 202(b) requires the Commission to establish "by rule, standards, and procedures" whether and when a carrier possesses market dominance over a service rendered or to be rendered at a particular rate or rates. The Act further states that "such rules shall be designed to provide for a practical determination without administrative delay."

Section 202(d) requires the Commission to promulgate rules and standards for the establishment of railroad rates based on seasonal, regional, or peak period demand and to establish by rule expeditious procedures permitting the filing of separate rates for distinct rail services.

INTERPRETATIONS OF THE RATEMAKING PROVISIONS

Since the section 202 ratemaking provisions of the 4-R Act and the ICC proceedings (Ex Parte Nos. 320, 324 and 331) in response to the Act are so new, interpretations of the various provisions are warranted. While separate rates for distinct services and peak, seasonal, and regional rates required implementation of provisions for procedural changes in the existing regulatory framework, market dominance significantly affected the procedures for filing protests under section I of the IC Act. The implications of each of these provisions is discussed below.

(a) Market Dominance Interpretation

The 4-R Act defines market dominance as "an absence of effective competition from other carriers or modes of transportation, for the traffic or movement to which a rate applies." In the absence of market dominance, rail carriers are now allowed certain rate freedom to increase rates without Commission suspension on the grounds that a rate is unjustly or unreasonably high. The 4-R Act directs the Commission to establish standards and procedures for determining "whether and when a carrier possesses market dominance over a service rendered at a particular rate or rates." This was accomplished in Ex Parte No. 320.

Three rebuttable presumptions are stated in section 1109.1(g) of the final order. Market dominance will be presumed where one of the following three threshold tests is met:

1. The proponent carrier or carriers have a market share greater than or equal to 70 percent of the relevant market. If the rate was collectively made, the market shares of all carriers involved in the discussions or of carriers which joined in the publication of the same rates are to be combined in the market share calculation, or

2. The rate equals or exceeds 160 percent of variable costs, or

3. Shippers or consignees have made a substantial investment in rail-related equipment or facilities which prevents or makes impractical the use of another carrier or mode.

The three presumptions of market dominance can be countered with any evidence that is relevant.

The burden of proof of market dominance at the suspension level is initially on the protestant of the rate in issue. The protestant must, in his formal verified protest (filed within 12 days of the effective date of the tariff), include "evidence upon which the Commission may base a determination with regard to market dominance." Replies must be filed not later than 4 working days prior to the scheduled effective date. The Commission may institute an investigation on its own initiative within 20 days from the service date of the order. In this case, replies must be filed within 20 days. Where a finding of market dominance must be made in any proceeding other than at the suspension level, the burden of proof on the market dominance issue lies with the party having the burden of proof on the overall issue of justness and reasonableness.

For rate increases, the likelihood of market dominance must be shown before a rate can be suspended on the ground that it exceeds a just and reasonable maximum. Following suspension, the Commission has 90 days to make a finding of market dominance. If rail market dominance is not shown, the rate cannot be found to be unjust and unreasonable under this provision. Moreover, the question of market dominance can only be resolved if that issue is addressed in the protestant's original complaint or if the Commission investigates on its own initiative.

For rate decreases, a rate is just and reasonable as long as it contributes to the going concern value of the railroads. At this point, the "going concern value" has not been formally defined, although the 4-R Act suggests that any rate which covers the variable cost of supplying the rail service will be considered to contribute to the going concern value of the railroads.

Rates which do not make a contribution over the going concern value of the railroad can be raised to a level where they do contribute without regard to market dominance.

The 4-R Act has defined a market as "the traffic or movement to which a rate applies." The Commission has interpreted the word "rate" in the 4-R Act definition as encompassing the points and rates in the tariff at issue. While sometimes synonymous, a tariff can apply to a much broader range of commodities and regions than a single rate. However, this definition is of necessity somewhat general, since rate tariffs vary from point-to-point tariffs, to mileage tariffs, to regional (territory-wide) tariffs. Thus, the definition of market will vary by case. Moreover, the railroads have control over the definitions of market since they design, publish, and file the tariffs which describe the market.

The 4-R Act market dominance provisions, as interpreted by the Commission, provide for certain new approaches to reviewing rates prior to their taking effect. If there is a substantial shipper investment in rail oriented facilities associated with the rate change, market dominance may be found. The existence of substantial investment is to be determined on a case-by-case basis. In the final order, the Commission described it to include "shipper investment in loading and unloading facilities, railcars, rail sidings, loop tracks, and other facilities which are dedicated to rail transportation," provided these investments make the switch to another carrier or mode impossible or impractical.

Finally, the Commission stressed "that the presumptions adopted herein (Ex Parte No. 320) are not the exclusive means of proving market dominance." Any further relevant evidence may be presented by either party.

(b) Seven Percentum Provision Interpretations

The Seven Percentum Provision of the 4-R Act allows rail carriers to raise or lower rates by 7 percent annually for a 2-year period. Rate reductions cannot be suspended under this provision unless the proposed rate appears to be in violation of sections 2, 3, or 4, or represents a competitive practice which is unfair, destructive, predatory, or otherwise undermines competition which is necessary in the public interest.

Although a rate increase under the Seven Percentum Provision may be suspended if market dominance is found, the actual level of increase has little significance in anything other than a procedural sense. If the proposed new rate is filed under the Seven Percentum Provision, a finding of market dominance and substantial injury must be made prior to Commission suspension. If the proposed new rate represents a change not covered by this section, the protestant will need to show only a "likelihood" of market dominance in addition to substantial injury. Furthermore, the carrier that invokes the Seven Percentum Provision must provide available evidence concerning market dominance at the time the rate is filed.

(c) Separate Rates For Distinct Services Interpretations

A number of procedural changes were introduced in the separate rates area as a consequence of Ex Parte No. 331. These changes can be grouped into the five categories listed below:

- Labeling of significant documents
- Submission of justification statements
- Handling of protests and investigation
- Preparation of initial statement
- Reporting on effectiveness of rates

The labeling requirement specifies a uniform means for identifying the presence of a separate rates proposal. The provision on justification statements makes it possible to file such a statement at the time of initial tariff filing, but does not make it mandatory.

In the event of investigation or suspension, the handling provisions state that these proceedings will be given priority and that "modified procedures" will be followed to the extent feasible. Once these proceedings have been instituted, the new regulations specify a particular format for the railroad's initial statement. The initial statement would provide the Commission with information in the following categories:

- Railroad cash outlays
- Demand estimates
- Market dominance status
- Revenue estimates
- Service outputs
- Revenue-to-cost ratios
- Effect of proposed rate

In several instances these terms are new to the rail industry, and the data required differ somewhat from what might have been utilized under prior procedures.

The final item requires each railroad to report on the revenue derived from new separate rates introduced under the Ex Parte No. 331 provisions. This report would also contain an evaluation of the effectiveness of the rate and a statement of the railroads' intentions to change the rate level in the future.

(d) Seasonal Rates Interpretations

Prior to the passage of the 4-R Act, there were two basic approaches to implementing peak and seasonal rates. First, the seasonal rate could be incorporated in a tariff which specified both the peak and off-peak rates and the date at which the shift from peak to off-peak was to occur. Such a tariff was intended to remain in force for a period of several years. Second, the railroad had the option of dealing with a sudden short-term increase or decrease in demand by filing for a temporary rate having a specific expiration date. This rate would be limited to the anticipated duration of the unusual demand condition. Both of these approaches were employed by the railroads over the years to a limited extent. Seasonal and peak rate filings were handled by the Commission in the same manner as any other new rate applications.

The two basic approaches to peak and seasonal ratemaking were not altered by section 202 of the 4-R Act. Significantly, however, the 4-R Act encourages peak and seasonal ratemaking and requires the establishment of expeditious procedures for Commission review of seasonal, peak, and regional rates as a replacement for the conventional procedures. Definitions for "peak," "seasonal," or "regional" are not provided; however, the goals of this special form of ratemaking are delineated. In effect, this provision constitutes a reemphasis of peak, seasonal, and regional rates and provides the Commission with an opportunity to encourage this innovative ratemaking with appropriately designed procedures to afford maximum flexibility.

Ex Parte No. 324 was the rulemaking instituted by the Commission for examining peak, seasonal, and regional rates leading to the promulgation of the new procedures dated February 4, 1977, and modified by order entered July 19, 1977. These procedures took into account two key considerations which surfaced in this investigation:

1. Shippers are protected from cancellation of peak, seasonal, and regional rates where they have made investments (in storage or similar facilities) so as to take advantage of these demand sensitive rates, provided the rate has been in effect 2 years or more or the railroad made representations to the shipper regarding the duration of the rate.

2. The railroads are protected by a "no suspension" rule which (a) permits a railroad to cancel an unsuccessful peak, seasonal, or regional rate on 30-days' notice any time during the first 3 years, without suspension, unless the consideration of shipper investment is raised in the case and (b) precludes Commission suspension of the expiration of a rate by its own terms within 3 years from the date of its publication--since bona fide shipper reliance on such a rate would be impossible.

Two features of the final order have been criticized by the railroad industry. The first is the 30-day notice requirement which the Commission chose to retain on the grounds that shippers require time to adjust to peak and off-peak rates. During the investigation the carriers argued that they should be allowed to file demand-sensitive rates on as little as 5-days' notice. In their criticism the railroads failed to recognize the Commission's standard policy of granting rate changes on short notice when, in fact, warranted. Rate changes on as little as 1-days' notice are possible.

In addition, the railroads expressed concern over the information requirements outlined in the final order. Although no supporting information is required at the time a rate is filed, a responding carrier must be able to provide supporting evidence in the event of a protest. One acceptable approach to supporting a demand sensitive rate was outlined in the final order. This approach calls for fairly detailed cost and revenue projections over a 1-year study period, evaluating cost and revenue levels both with and without the proposed rate. Recognizing that there might be difficulty in gathering the specific types of data called for in this approach, the Commission also indicated that other methods of justification could be used if these methods and procedures were fully explained.

OVERVIEW OF METHODOLOGY

The ideal study of the impact of the section 202 provisions would entail a careful evaluation and analysis of railroad ratemaking for an extended period of time after the Commission's rules have been in effect. The results of this analysis would then be compared with the goals presented in each element of the section. However, it is not possible to perform the ideal study due to a number of difficulties which reduce the accuracy of such a direct analysis.

One of these difficulties is short time periods between the statutory deadline for the issuance of previously stated orders and the date this study is to be submitted. Ex Parte No. 320, the first order, was issued October 1, 1976, giving the Commission less than a year to evaluate the impact of this provision. Ex Parte Nos. 324 and 331 were issued several months later, allowing even less time for comprehensive evaluation. Another difficulty is the seeming reluctance of the railroad industry to embrace the provisions. Their cautious approach to changing traditional ratemaking practices in the face of changed legal guidelines implies that even under optimal conditions, experience with these provisions would not be expected to be extensive. Conditions are not, however, optimal; Ex Parte No. 320 is being appealed in Federal Court;* petitions for reconsideration in Ex Parte No. 324 have been resolved, and petitions for reconsideration in Ex Parte No. 331 are currently pending. Consequently, there has been limited activity in these areas to date. Carriers and shippers are not yet fully conversant with the procedures set forth by the Commission.

Furthermore, a case by case evaluation of section 202 at this time is of limited value since it is highly unlikely that the transportation industry has achieved a state of equilibrium under the new rules. Realistically speaking, it will take several years of experience before the impact of section 202 can be fully understood.

Based on these considerations, the Commission elected to pursue a much broader approach in conducting this study. Generally, this study analyzes recent historical data and projects the impacts of the various provisions on transportation markets in the near term (2-5 years). The results of the statistical analyses are supplemented with shipper and carrier interviews and detailed reviews of all cases filed pursuant to these provisions up to July 31, 1977. Detailed descriptions of the approach used are given in each major section of the analyses.

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*Atchison, Topeka & Santa Fe Railway Company, et al., v. United States, Nos. 76-2048 and 76-2070 (D.C. CIR).

EVALUATION OF MARKET DOMINANCE PROVISIONS

The first area which this report evaluates is the impact of the market dominance provisions promulgated by the Commission on shippers and carriers. As noted earlier a preliminary finding of market dominance can be made where one of the three threshold tests are met.

Estimates of the percentage of rail traffic that would meet the threshold test for market dominance under each of the three presumptions and in total are developed. In addition, the impact on intermodal and intramodal competition, shippers, and rail profitability are assessed. The project does not include an evaluation of alternative recommended measures of market dominance, but is directed toward an evaluation of the existing measures as defined by the Commission.

Finally, it must be stressed "that the presumptions adopted herein (Ex Parte No. 320) are not the exclusive means of proving market dominance." Any further relevant evidence may be presented by either party. The percentage estimates used in this analysis do not reflect rebuttal evidence.

(a) Results of Individual Tests

The results for each of the three individual presumptive tests are shown in Exhibit 12. This section provides a discussion of those results plus additional observations developed during the course of the study.

The commodity groups used for these tests were developed by the Special Projects Counsel (SPC) of the Commission in the Ex Parte No. 270 proceedings. These 126 commodity groups (plus one for all others) are considered to be relatively homogenous for ratemaking purposes. Exhibit 1 provides a list of these 127 commodity groups. The basic geographic regions used were the 171 Bureau of Economic Analysis Regions (BEA regions) in the continental U.S. Exhibit 2 provides a map showing these regions.

Only traffic moving on interstate rates and traffic above the compensatory cost level as defined in this study were included in the calculation of market dominance. Noncompensatory traffic was excluded based on a preliminary interpretation of the applicability of the 4-R Act (in section 202).

(1) Market Share Test

As shown in Exhibit 12, the analysis concludes that 44.7 percent of current rail traffic would likely meet the threshold conditions of market dominance under the market share test.

This percentage is based on an aggregation of individual commodity and geographic markets (e.g., corn from Minneapolis region to Gulf Coast region). Each individual market was tested for a 70 percent rail modal share and classified as either "market dominant" or "not market dominant." The 44.7 percent estimate represents an aggregation of these individual markets and is relative to current traffic on the railroads. Thus, it may be interpreted as the percentage of current rail traffic that is likely to meet the threshold level for market dominance under the market share test. The analysis yielded the following observations:

1. Bulk commodities are significantly more rail market dominant than are manufactured goods.

2. The definition of the geographic and commodity markets greatly affects this test. As geographic regions or commodity groups are aggregated, rail modal share drops and thus rail market dominance under this test drops.

3. If railroads do not discuss the rate in bureau meetings (i.e., use independent notice before docketing), the recognized intramodal rail competition will significantly lower the estimate of rail market dominance.

4. In regions where barge competition is available, rail market dominance is lower.

5. Rail market dominance increases as the length of haul increases.

(2) Cost Test

In total, the analysis concludes that 11.1 percent of rail traffic (tonnage) would meet the threshold test for market dominance under the 160 percent cost presumption. Several observations can be made from the analysis:

1. The results are not highly sensitive to minor variations in the revenue/cost ratios chosen as a threshold test. Even using a test ratio of 150 percent, only 14.9 percent of rail traffic would meet the threshold test for market dominance. Using a test ratio of 170 percent, 8.6 percent of rail traffic would meet the test.

2. Approximately 29 percent of rail traffic based on the cost estimate developed for this study would be considered noncompensatory and thus not market dominant. This 29 percent estimate has been removed from all three presumptive tests of market dominance. However, this estimate may be overstated, particularly for coal, where unit train cost savings were not incorporated.

3. No TOFC (Trailer on Flat Car) traffic would meet the threshold test for market dominance under the cost test.

(3) Substantial Investment

The data indicate that 10.5 percent of rail tonnage moving in private cars is at least at compensatory levels. Approximately 15.1 percent of rail tonnage moving in multiple car shipments appears to be at or above compensatory levels. Eliminating the overlap, it is estimated that 24.7 percent of rail tonnage moves in either private cars or multiple car shipments that are at least at compensatory levels. Using these proxy measures for an estimate of rail market dominance, it is estimated that approximately one quarter of all rail tonnage would meet the threshold test for market dominance under the substantial investment presumption.

(b) Integration

The three individual presumptive tests were integrated to derive a low side estimate of total rail traffic which would trigger at least one presumptive test. This was accomplished by selecting the largest market dominance estimate from the three tests for each of the 127 commodities and aggregating over commodities. This approach assumes that there is complete overlap in the three tests. The results of this exercise are shown in Exhibit 13. That exhibit shows the total interstate rail tonnage in the 1975 Waybill Sample, the estimate of noncompensatory and thus not market dominant traffic, the low side integrated estimate of market dominant traffic and the high side estimate of nonmarket dominant (but compensatory) traffic. In total, the estimates are shown in Table I-1.

Table I-1

Integrated Market Dominance Estimates*
(Unexpanded Waybill Sample)

	Total Waybill Tonnage	Percent
Market dominant	4,054,432	48.5
Nonmarket dominant	4,305,914	51.5
(Compensatory)	(1,857,520)	(22.2)
(Noncompensatory)	(2,448,394)	(29.3)
Total waybill tonnage	8,360,346	100.0

*Based exclusively on the presumptive tests.

The following observations can be made concerning these estimates:

1. Under the assumption of complete overlap among the three tests, the figures given in Exhibit 13 should be considered low side estimates of rail tonnage which meet the threshold conditions of market dominance. They are low side estimates only in the sense that it is unlikely that all three tests would correlate perfectly. However, in light of the fact that all three presumptive tests were designed to measure alternative aspects of market dominance, significant overlap may be expected. It must be stressed that the mere triggering of a presumption does not automatically imply market dominance. With due consideration for rebuttal it may be argued that on a case by case basis, the integrated figure overstates the actual degree of market dominance. Although this argument appears reasonable there are insufficient cases at this point in time which can be used to support or refute it.

2. There is evidence to show that most noncompensatory traffic would meet the threshold conditions of market dominance by one of the other two tests if rates were raised to the variable cost level. This noncompensatory traffic is, however, composed of two elements: that which is truly noncompensatory and that which is compensatory but cannot be accurately costed. Traffic which falls into the first category should not be subject to the presumptive tests on the grounds that it would be inconsistent for a carrier to have market dominance (market power) and fail to recover variable costs. Such benevolent behavior is unrealistic.

3. Manufactured commodities will trigger a market dominance presumption far less often than bulk commodities. However, there is much more motor carrier competition for manufactured commodities, which will tend to hold rates down. With appropriately selected rate decreases for manufactured commodities, the railroads may be able to recapture some lost traffic (provided service improvements are also achieved) without fear of Commission suspension as long as the proposed rate contributes to the going concern value of the railroad.

(c) Protested Rate Increases Under Market Dominance

In the 10-month period following the promulgation of standards in Ex Parte No. 320 (October 1, 1976 - July 31, 1977) the Commission received protests against 39 tariff filings involving potential violations of section 1(5) of the IC Act as amended. Twenty-three of these cases could not be evaluated on the market dominance criteria on the grounds that the protest failed to conform with the rules and standards set forth in Ex Parte No. 320. The most common deficiencies among these protests were either a total failure to raise the issue of market dominance or a failure to support the allegation of market dominance with any type of evidence and often without even stating the grounds for the allegation.

Of the 16 protests which were in compliance with Ex Parte No. 320 there were two suspensions and five investigations. The remaining cases were not suspended or investigated on the grounds that the protestants failed to make a prima facie case of market dominance.

One suspension involved a coal movement while the other involved the movement of bricks. The finding of market dominance was based on the market share test in both cases. Among the investigations there were three protested switching cases, one coal case, and one case involving a routing change (resulting in higher rates) which affected fiberboard and pulpwood. Market dominance was found in three of the five cases under investigation. A final decision was deferred in the other two cases until the investigation was completed. Although the disproportionate number of cases involving services, particularly switching, makes comparisons with the statistical results impossible, it is felt that the percentage of investigations and suspensions is well within the expected limits.

EVALUATION OF SEPARATE RATES FOR DISTINCT RAIL SERVICES

This section was designed to evaluate the potential impact of separate pricing for distinct rail services contained in section 15, paragraph 18, of the Interstate Commerce Act as amended by the 4-R Act. The provisions of the Act in this regard were subsequently treated in Ex Parte No. 331.

The primary objective of the section is the assessment of the potential impact resulting from a concerted rail industry effort in the area of distinct services pricing, as implied by the Act. In pursuit of this objective, the study explored the origin and current rationale of the various services presently covered by separate rates and reviewed the types of services most likely to generate separate ratemaking activity in the future. An effort was also made to identify the rate/cost relationships on existing distinct services as an aid in projecting potential rate levels for distinct services pricing.

Eighteen present and prospective separate rail services were compiled in an effort to provide a uniform basis for obtaining data in this area. These services are listed in Tables I-2 and I-3. While there exist many other distinct services, these 18 are considered the most significant.

Table I-2

Selected Distinct Rail Services
Presently Covered by Separate Rates

1. Transit
2. Diversion
3. Reconsignment
4. Protective services (refrigeration, heating, and icing)
5. Demurrage
6. Shipper car allowances (negative charge)
7. Intraplant switching
8. Special car weighing
9. Car cleaning (to maintain classification)
10. Loading and unloading (using railroad crews and equipment)
11. Partial loading or unloading en route

Table I-3

Selected Distinct Rail Services:
Candidates for Separate Rate Treatment

1. Insurance on lading
2. Assigned cars
3. Customized cars
4. Expedited services
5. Car tracing
6. Inspection in transit
7. Movement of empty private cars *
8. Adjustment of shifted load
9. Car cleaning (to upgrade classification)

* The movement of empty private cars may not always constitute a distinct rail service. For example, in No. 35404, General American Transportation Corp. v. Indiana Harbor Belt RR. Co., ___ I.C.C. ___, (Decided By Division 2 on July 10, 1977) the Commission held that movements of privately owned cars to and from repair facilities for ordinary repairs does not constitute a distinct rail service and is necessary to the line-haul or switching movement.

(a) General Findings

For those services now carrying a separate charge, a substantial amount of data was obtained for each item. All of these services are widely used except the loading and unloading activities conducted by railroad crews and equipment, which is generally restricted to infrequent and highly specialized applications. Most of the sources consulted indicated that the following five services were the most applicable to this study in that they occur within the basic movement, as opposed to those which occur at either the beginning or the end of the movement and those which occur between movements. The services include:

- Transit
- Diversion
- Reconsignment
- Protective services
- Partial loading and unloading en route.

Although significant differences were encountered from road to road, in general, use of these services appears to be contracting slowly. However, they still account for a large proportion of all rail traffic and cut across a number of commodity groups. For the most part, the rates charged for these services are considered by the carriers to be nonrenumerative, although most acknowledge the difficulty in obtaining satisfactory cost data in these areas. This problem stems from both the nature of the rail industry's accounting system and the diverse circumstances under which these services are performed.

The listing of services with potential for separate rate treatment generated a number of diverse reactions, but some generalizations can be drawn from this information. Two of the services, car upgrading and load shifting, were universally considered to be an integral aspect of line-haul service and not readily chargeable to any specific shipper.

Two additional areas, the movement of empty private cars and expedited services, were likewise considered unlikely prospects, but for somewhat different reasons. In the case of the private cars, most participants felt that the recent introduction of an experimental tank car mileage equalization program represented a major advance in resolving many of the problems created by private car movements. Likewise in the case of expedited services, most felt that this was adequately covered by present tariff provisions. In this instance the provisions for special train service and for special terminal switching services were considered adequate to cover situations of this type.

For three of the services, assigned cars, customized cars, and car tracing, most participants felt that some type of special rate treatment might be appropriate, but there was no common understanding as to how this could be accomplished. The car tracing problem is perhaps the most vexing of the three, as evidenced by the fact that it has appeared on the dockets of various industry committees for many years, although no solid proposals have resulted from discussions. The basic problems in designing a separate charge rise from attempting to define the point at which the carrier has fulfilled its "basic" obligations on providing car location information or estimated delivery times and begins to provide an added service. Most shippers and some railroads believe that the need for car tracing is caused by

inadequate rail service and thus shippers should not be charged A second problem is determining that portion of car tracing system costs attributable to answering customer inquiries. Thirdly, no agreement exists on the proper form for such a charge (i.e., per shipment, per inquiry, per day).

On the other hand, the customized cars situation is the easiest to evaluate as the costs and risks borne by the carrier are most clearly defined. The lack of separate rate development in this area reflects intra-industry competition and the inability of the railroad industry to develop a rate format that would solve the basic problems presented by customizing. To date the most widely used techniques for handling these situations are informal amortization agreements and direct shipper investment in the modifications themselves.

The assigned cars issue is somewhat clouded by a lack of agreement within the rail industry itself on the costs and benefits derived from assigning cars to specific shippers. Some believe that assigned cars are basically illegal in spite of the ICC's prior rulings to the contrary, while others consider them to be an essential marketing tool. It was also questioned how assigned cars actually affected car utilization. Both carriers and shippers agree that improved utilization could result only if carriers levied some sort of charge (per shipment or per unit of time) to reflect the higher value of the assigned car over the most comparable standard car.

The two areas of inspection and insurance were widely recognized as appropriate for separate rate development. The inspection category is highly specialized in that it occurs primarily in grain shipments. In spite of this relatively limited application, however, the establishment of an inspection charge is expected to be very difficult. This is due to the strong objections of the shippers and the presence of the "Wichita Doctrine," which was established by the Supreme Court as an inspection charge proposal. This case held that a newly proposed line-haul rate separating a distinct service must show not only that the rate for the distinct service is just and reasonable, but also that the resulting line-haul rate with lesser service is not unreasonably high.* In Ex Parte No. 331, the Commission stated that it will view other evidence of this nature in considering filings under this provision.

The subject of insurance and the related topic of released value rates received the most active response during the interviewing process. While all of the persons interviewed expressed an interest in separating the cost of lading damage from the cost of transportation itself, most carriers were reluctant to offer insurance as a separate rail service. Most preferred to move the goods on a released value basis and leave the matter of insurance to either the shipper or a third party insurer. While many perceived that the historical, legal, and regulatory climate was not conducive to the establishment of released value rates on a widespread basis, there was optimism that this issue could be resolved either through policy changes within the ICC itself or through Congressional action.

In general, no substantial changes in either the number of separate rates offered or their general rate levels is perceived over the next 5 years. The three most commonly cited barriers to separate rates were:

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*The Wichita Doctrine has been eroded somewhat by the 4-R Act requirement that the Commission first find market dominance over the line-haul service before it can find the rate for that service unreasonably high, even if the railroad has market dominance over the distinct rail service.

In addition, the Commission is presently considering, in petitions now pending in Ex Parte No. 331, the impact the "Wichita Doctrine" may have on efforts to promote distinct rail services.

1. The traditional practice of restricting rate levels on separate services to mere cost pass-throughs.

2. The loss of the integrated services as a marketing tool in competitive markets.

3. Anticipated difficulties in establishing rates for distinct services due to the so called "Wichita Doctrine" which has been interpreted as requiring reductions in the line-haul rate commensurate with diminutions in service.

(b) Rate Requests Under Separate Rates for Distinct Rail Services

Rates filed under this provision, as well as under the peak, seasonal, and regional rates provisions (Ex Parte No. 324) and the Seven Percentum Provision were to be identified by the publishing agent. This was to be accomplished through the use of special earmarking symbols in the tariff publication and through specific references in the letter of transmittal.

As of July 31, 1977, the Commission has not received any rate actions formally identified under this provision. There has, however, been a significant amount of rate activity for several distinct services, particularly switching, under normal filing procedures. It should again be noted that the majority of protested rates under market dominance related to "distinct services." Although several of these protested rates were published prior to the service date of Ex Parte No. 331, they continued to be filed under normal procedures after Febraury 4, 1977.

EVALUATION OF SEASONAL, PEAK, AND REGIONAL RATES

The third section in this project was concerned with section 202 (d) of the Act which requires the Commission to promulgate expeditious rules and procedures for peak, seasonal, and regional rates. The Commission conducted an investigation of this matter in Ex Parte No. 324 and has established the expeditious procedures required by law.

The purposes of this section were to determine the nature and extent of peak, seasonal, and regional traffic; to explore possible strategies for implementing peak, seasonal, and regional rates; and to estimate the potential application of these rates and their impact on shippers, on the railroads, and on competitive modes.

(a) Determination Of Seasonal Markets

For purposes of this report, seasonal traffic was defined as traffic in which one or more weekly volume levels exceed a 20 percent variation from the average weekly level (excluding holiday weeks). Other levels of variation were included in the main analysis, but only the 20 percent level will be reported in this summary.

The results of this analysis indicated that between 25 percent and 30 percent of all railroad traffic could be defined as peaking or seasonal. This seasonal traffic was most concentrated in the Midwest and West where nearly 40 percent of the traffic is estimated to be seasonal. Every region of the country had at least some seasonal traffic.

In the initial stage of the analysis, 35 commodity groups were found to have some seasonality in their demand pattern. Of these, 17 had pronounced seasonality. Agriculture products were found to be the most severely seasonal. Nearly all the movements of the following commodities would be considered seasonal:

1. Soybeans
2. Corn
3. Wheat
4. Other grains
5. Other field crops
6. Fresh fruit
7. Fresh vegetables
8. Livestock
9. Poultry and products
10. Potash and phosphate rock (used for fertilizers)
11. Agricultural chemicals

In addition to these, copper and iron ore movements showed substantial seasonality.

Three commodities were found to have moderate seasonality. These were crushed stone, sand and gravel, and assembled automobiles. The first two commodities are most seasonal in the Northern States where construction activity is halted in the winter, but are also somewhat seasonal in the Southern States. Automobiles showed some seasonality as a result of annual model year cycles. The severity of this seasonality is low and a number of major markets failed to meet the seasonal traffic criterion described above.

When the severity of seasonal peaks and valleys was measured, field crops, other than grain, were found to be the most seasonal although grains, fresh fruit and vegetables, and copper ore were also highly seasonal.

(b) Market Responses To Peak, Seasonal, and Regional Pricing

Direct estimates of market responses to peak, seasonal, and regional rates were only used to evaluate the overall impact of peak load pricing on the national economy. In general, it was found that total acceptance of peak load pricing by the railroad industry would not adversely affect the economy.

(c) Implementation of Peak Load Pricing

If the carriers are able to select a feasible strategy and implement it effectively, there could be substantial benefits. Based on an analysis of market responses, it is estimated that peak period premium rates designed to equalize demand could yield over $100 million in additional revenues annually from grain, metallic ores, and construction aggregates industries. More importantly, the partial smoothing of demand which would result would make possible substantial equipment savings. Under best case assumptions, it is estimated that during the next 10 years, a capital expenditure of nearly $1 billion for new covered grain hoppers alone could be avoided by an effective peak load pricing strategy (a purchase saving of approximately 36,000 covered hoppers over the next 10 years at an average purchase price of $35,000). This estimate assumes that the ±20 percent variation level will be attained through pricing changes. This goal appears reasonable in light of the fact that annual volume rates have in the past successfully smoothed the demand for rail services.

(d) Determination of Regional Markets

For purposes of this study, regional rates were defined as those intended to balance the flow of a given type of car between two regions.

The analysis revealed two general types of regional imbalances. The first is the "extreme imbalance," where there are very large flows of traffic in one direction with little, or nothing, returning. It was found that a large percentage of gondola and hopper cars (20 percent and 50 percent respectively) were involved in "extreme imbalance" markets. Due to the nature of the commodities and geographic markets served, it was believed that no reasonable pricing strategy could correct these imbalances.

The second type of imbalance, "the moderate imbalance," was felt to be correctable. In such an instance, there is a large volume of traffic in both directions but is not completely balanced. In contrast with the "extreme imbalances," a small percentage of traffic was found to be affected by the "moderate imbalance." Depending on the car type, between 3 percent and 24 percent of car movements were identified as being involved in correctable imbalance. Over 16 percent of all rail tonnage moves in severely out-of-balance markets and 10 percent in "moderately" out-of-balance (or "correctable") markets.

(e) Implementation of Regional Pricing

The institutional constraints that apply to peak and seasonal pricing also block effective implementation of regional rates. Additionally, even in the so-called "correctable" imbalances, there are as many as 15 carriers participating in the traffic at one or both ends of the regional movement. Typically, the traffic is handled by various combinations of these carriers. Effective balancing of these markets would require the cooperation of all carriers plus a pooling of revenues in many cases. This appears to be an insurmountable difficulty.

Approximately 4 percent of total U.S. rail tonnage is susceptible to regional rates since a single carrier serves the two regions of origin and destination. For this reason, it is anticipated that regional rates will see extremely limited application and that the overall impacts will be negligible.

(f) Carrier Characteristics

Not all carriers are affected equally by seasonal, peak, and regional traffic. Roads which originate 50,000 carloads of traffic, or less, annually, are affected most severely by seasonal or periodic demand fluctuations. Their limited geographic territory makes them dependent on relatively few shippers and a few commodities. Some small Midwestern carriers have weekly peak period volumes nearly six times greater than their off-peak levels.

Among the larger carriers only the ore carriers have so much seasonal traffic that there are serious fluctuations in total traffic volume carried. Of the roads which originate over 1,500,000 carloads per year, i.e., the very large carriers, none has more than 25 percent seasonal traffic. Among this group, the Burlington Northern has the most seasonality with 22 percent seasonal traffic.

Among the medium to large carriers, originating from 500,000 to 1,500,000 carloads annually, those involved in moving the Midwestern grain harvest (i.e., Missouri Pacific, Santa Fe, Union Pacific, Milwaukee Road, and Chicago and North Western) have the highest percentage of seasonal traffic.

The coal roads are most affected by severe regional imbalances, followed by the grain carriers. In the markets with "correctable" imbalances, there is no clear pattern of carrier type except that most such markets are located in the Midwest and Northeast.

(g) Overlap of Seasonal and Regional Markets

Many markets that were examined proved to be both seasonal and regional in nature. This appeared to be particularly true of grain and perishable movements. The poor revenue to cost ratios found in much of this traffic suggest that the railroads are not being adequately compensated for the seasonal and regional demand impacts they incur.

(h) Rate Requests Under Seasonal, Peak, and Regional Rates

Only two applications for peak, seasonal, or regional rates have been received by the Commission as of July 31, 1977.* Both were seasonal rates involving decreases during the off-peak and appeared experimental in nature. Both requests were granted on 10-days' notice.

One case involved a request on short notice to publish off-peak volume rates on limestone. The justification for this change was to improve car supply and encourage shipment during the 5-month off-peak period.

The other case involved a request, again on short notice, for off-peak rates on grain to apply during the nonharvest period. For wheat this period includes August 16 through the next June 30, and on corn and soybeans the period includes December 1 through the next September 30. The rates were designed to improve car supply and to be competitive with truck rates.

EVALUATION OF SEVEN PERCENTUM PROVISION

The fourth section of the study involved an evaluation of rate structure, general rate changes, and selective rate change analyses.

(a) Rate Structure Analysis

The following observations can be made from Exhibit 25 which contains the rate structure and analysis for all commodity groups used in this study, both individually and collectively.

1. In total, nearly 35 percent of rail tonnage is estimated to be noncompensatory: 29 percent of interstate tonnage and 50 percent of intrastate tonnage.

2. It is estimated that 18.6 percent of rail revenue is derived from noncompensatory rates.

3. Revenue per ton mile is highly correlated with increasing revenue/cost relationships.

4. The average revenue per ton mile for intrastate traffic exceeds that of interstate traffic due to the short-haul nature of the intrastate market. Rates on a per mile basis are, however, lower for intrastate traffic.

5. Although intrastate traffic has a higher average revenue per ton mile (2.97 cents) than interstate traffic (2.45 cents), it is much less profitable for the railroads. This is due to the commodity mix, short-haul nature, and high fixed costs of intrastate traffic and the lower rate structure (rate per mile) of intrastate traffic.

(b) Rate Change Analysis

* Subsequent to the preparation of this report, the Southern Freight Association, on September 1977, filed a rate proposal which would establish a 20 percent seasonal premium on grain for movements to, from, and between points in the Southern territory, Indiana, and Illinois effective from September 5, 1977, to December 15, 1977. This proposal would, however, not apply to movements in privately owned cars.

On September 14, 1977, the Commission served an order (Number 36663) permitting the adjustments to become effective without suspension and investigation subject to weekly reporting by the respondent carriers.

The Southern Freight Association was, however, restrained from instituting the proposed seasonal increase by a September 14 stay by the U. S. Court of Appeals for the Eighth Circuit, St. Louis. The stay is opposed by the Commission.

Two types of rate changes were investigated in this analysis. The first study estimated the revenue and traffic volume impact if all noncompensatory rates, as estimated for the purpose of this study, were increased to the variable cost level. This involved no increase for some commodities and as much as a 200 percent increase for other commodities. The average increase was 35.7 percent. Revenue impacts were estimated by applying the demand elasticity for each commodity to the required rate increase for that commodity. The increases apply to all traffic, both interstate and intrastate.

The impact of major increases in noncompensatory rate levels is estimated to be marginal at best. At maximum, total revenues would be increased by 7.0 percent assuming no diversion. Assuming some diversion impacts, total revenue may increase up to 1.4 percent with a resulting traffic loss of 3.0 percent. If a more elastic demand is assumed (i.e., shippers are more price sensitive), a net revenue loss may occur. Naturally, there are some increases that would be so major as to divert all traffic of a particular commodity from rail. This is particularly true for fresh fruits and vegetables.

For illustrative purposes, the increased profitability derived from increasing noncompensatory rates was estimated. The impact on profitability, as measured by net revenue from railway operations, depends on both traffic diversion (shipper price sensitivity) and the percent of total costs assumed to be variable. The result of this exercise indicates that net revenue may decline by as much as 17.0 percent or increase by as much as 20.4 percent as a consequence of increasing rates on noncompensatory traffic to variable cost levels.

It must be recognized that these estimates are based on rough approximations of both costs and elasticities. Yet, the relatively wide range of potential impacts attests to the very risky nature of such action, depending upon the assumptions made.

The second rate change hypothesis investigated the impact of "across-the-board" rate increases and decreases on nonmarket dominant rail traffic.

The analysis shows that major rate changes translate into a relatively minor impact on total rail revenues. However, even these minor revenue increases could have a substantial impact on rail profitability.

A 7 percent increase in noncompensatory traffic could increase net revenue from railway operations by 11.2 percent assuming no diversion. However, given alternative assumptions concerning the elasticity of rail demand and cost variability, the impact may range from an 8 percent decrease to a 6 percent increase in net revenue from railway operations. Again, general rate actions are relatively risky depending upon actual conditions.

(c) Selective Rate Changes

Ideally, selective rate changes would provide a rail pricing strategy more attuned to the marketplace than the general rate increases. This strategy would be based on the shipper sensitivity (i.e., transport demand elasticity) to rate changes as perceived by the railroads. An analysis was undertaken to demonstrate the feasibility of the approach and the level of improvement over general rate changes that could be expected.

While this analysis was performed by individual commodity, the selected rate changes by commodity could not be presented since the demand elasticity faced by any carrier may differ significantly from those estimated in this study. For each commodity group, one of three rate actions was applied. These were a holddown on all rates, normal increases, or additional 7 percent increase. The weighted average increase for all rail traffic in this analysis was 0.3 percent. The results of this analysis suggest that selected rate actions under the new 4-R Act provisions could increase total rail revenues by 1.1 percent while not impairing volume growth on the remaining traffic.

The impact on profitability is estimated to range from a 3.0 percent to 5.9 percent increase, again depending on the assumed traffic diversion and percentage of total cost that is considered variable.

The primary conclusion to be drawn from this demonstration analysis is that the railroads may reduce their risk of traffic diversion by using selective rate increases rather than the general rate increases described in this analysis. Total revenue would necessarily be decreased by any increased market research necessitated by the new market dominance concept. However, this expense would be incurred in connection with any rate increase, whether or not the Seven Percentum Provision is used.

(d) Rate Requests Under the Seven Percentum Provision

At the time this report was being prepared, only two rate actions had been filed under this section.* The first involved a Southern Freight Tariff Bureau request for a 7 percent increase on blackstrap molasses and related articles in tank cars affecting shipments originating at various points in Louisiana, Mississippi, and Alabama and terminating in Mississippi. These commodities had erroneously been "flagged out" of Ex Parte No. 330 (a general rate increase). The proposed 7 percnt increase was requested to correct this error. In its attempt to comply with the data requirements set forth in section 15 (8) (c) of the IC Act, the proponent stated that it was neither aware nor did it have the available information as to the amount of tonnage, if any, that moved by competitive modes. The railroad used the Seven Percentum Provision being reasonably sure that no protest would be forthcoming and that the Commission would not suspend the increase having previously approved the general rate increase from which these commodities were inadvertently excluded.

The second case represented the only bona fide Seven Percentum case. This rate increase filed by the Pacific South Coast Freight Bureau requests a 7 percent increase which applies to approximately 500 individual rates when the movement originates in California. Since no protests were filed, the Commission permitted the increase even though information on existing competition for the affected markets was not presented at the time of the filing.

PARTICIPANTS' COMMENTS AND RESPONSES

Eleven railroads and 14 shippers (and shipper organizations) provided valuable comments on the approach and results of this study. A brief synopsis covering each major study area is given below. It should be noted that these interviews were conducted during an early phase of this study--when the rules pertaining to each provision were relatively new.

(a) Market Dominance

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* Subsequent to the preparation of this report, on August 31, 1977, the Eastern Railroads filed twelve separate proposals to increase rates from 5 to 7 percent on glass containers, metal closures, sewer pipe joint compounds, moisture or condensation pipeline coating, floor sweeping compounds, coal or coke briquettes, wood chip additives, asphalt additives and paving joint compounds, pulpwood, butter fat, carpeting, and fresh meat and packinghouse products, to become effective October 1, 1977. Indications are that these railroads will file additional increases under this provision in mid-September on agricultural insecticides, cotton, margarine, shortening, malt liquors, and games and toys. A filing by the Southwestern Freight Bureau has also been received.

Perhaps the most poignant indication of response to market dominance is the lack of understanding on the part of railroads and shippers of the presumptive tests and procedural aspect of protesting ratesunder this new concept. Since the railroads do not anticipate deriving substantial benefits from selective rate increases, they are unlikely to generate significant action. Thus the anticipated lack of success of this provision in encouraging selective rate changes may be at least in part, a self fulfilling prophecy. However, both shippers and carriers have posed problems with the market dominance concept. Some of these, however, stem from their lack of understanding, a situation the Commission will have to resolve.

Virtually all the railroads interviewed expressed concern that the Commission's market dominance definition, presumptions, and procedures fail to give them adequate rate flexibility. Some speculated that over 90 percent of all rail tonnage is market dominant by the three presumptive tests. In addition, they are concerned that the 160 percent revenue to variable cost ratio used in the cost test will become a standard for maximum reasonable rates, despite the Commission's assurance in Ex Parte No. 320 that this was not the case. A few carriers expressed disappointment that the presumptions are not more stringent. These carriers believed that increasing price competition will be harmful to their own interests.

As expected, most shippers had views totally opposite of carriers' views. With the initial burden of establishing a case for market dominance on them, shippers anticipate experiencing great difficulty in getting rates suspended. This concern is greatest among small shippers who argue they lack the resources to develop the necessary data to establish their case. This fear is balanced by that of the carriers who anticipate difficulty in developing data for rebuttal. Finally, just as the carriers erroneously predicted that the 160 percent revenue to cost ratio used in the cost test will become a standard for maximum rates, the shippers also erroneously predicted that it will become a standard for minimum rates.

(b) Separate Rates for Distinct Services

Both shippers and railroads had mixed reactions to this provision. Some shippers who favored the implementation of separate rates felt they would have a hand in choosing the services they require and the rates they pay. Other shippers were skeptical, arguing that separate rates was just another way of raising rates, rather than innovative ratemaking.

(c) Peak, Seasonal, and Regional Rates

Carrier reaction to the peak, seasonal, and regional rates provision generally fell into two categories. Some railroads were convinced that seasonal and regional rates would never work, while others expressed interest in using them to ease capacity problems. All carriers interviewed, however, agreed that the actual implementation of peak and seasonal rates may be limited over the next 2 to 5 years.

Understandably, shippers' reactions were oriented toward their ability to minimize transportation and distribution costs. Shippers whose traffic is highly seasonal were concerned that they have adequate notice of impending peak period increases so as to permit the inclusion of the rail rate increases in the delivered price of their goods. Shippers whose traffic is not seasonal and have traditionally experienced a worsening of service during peak periods, favor their implementation.

(d) Seven Percentum Provision

Since this provision was tied to the market dominance provision in the 4-R Act, the railroads appeared generally disinterested in its application. Noting that a rate filed under the Seven Percentum Provision must, to the extent available, be accompanied by market dominance evidence, most carriers believe that this provision does not offer any advantages and thus have elected to file rates under normal procedures.

II - EVALUATION OF MARKET DOMINANCE PROVISIONS

The purpose of this chapter is to evaluate the impact of the market dominance provisions promulgated by the Commission in response to section 202 of the 4-R Act. These provisions were established in Ex Parte No. 320 with the final order being served on October 1, 1976. Railroads are now allowed to raise rates in the absence of market dominance without fear of Commission suspension except when sections 2, 3, and 4 come into play. Ex Parte No. 320 established three rebuttable presumptions of market dominance in addition to expedited ratemaking procedures. The three rebuttable presumptions are stated in section 1109.1(g) of the final order. A preliminary finding of market dominance will be made where any one of the following three presumptive tests are met:

1. The proponent carrier or carriers have a market share greater than or equal to 70 percent of the relevant market. If the rate was collectively made, the market shares of all carriers involved in the discussions or participating in the rate are to be combined in the market share calculation, or

2. The rate equals or exceeds 160 percent of variable cost, or

3. "Shippers or consignees have made a substantial investment in rail-related equipment or facilities which prevents or makes impractical the use of another carrier or mode."

Estimates and tests of the percentage of rail traffic that would meet the threshold test for market dominance under each of the three presumptions and in total were to be developed. In addition, the impact on intermodal and intramodal competition, shippers, and rail profitability were also assessed. The project does not include an evaluation of alternative recommended measures of market dominance, but is directed toward an evaluation of the existing measures as defined by the Commission.

APPROACH

The several market dominance provisions are so new that at the time of this evaluation there were few actual rate filings. Therefore, in the absence of such empirical data, the Commission's approach was to test the potential impacts of each presumption separately using the best available historical data and statistical measures and then integrate the results into a range of estimates of potential market dominant tonnage. Often, this required the use of basic data (such as the Waybill Sample) which was not intended for disaggregate analysis. However, these data were, in fact, the best available source information for this study. Finally, the integrated results were used as a criterion on which the first 8 months of experience under this provision were evaluated.

A brief description of the general approach to each presumptive test is provided in the following sections.

(a) Market Share Test

Estimates of rail modal share were developed using a bulk commodity data base developed for the Transportation Systems Center (TSC) and the Commodity Transportation Survey of the Bureau of Census. Both of these data bases show commodity movements between BEA Regions by commodity and mode of transportation for 1972. From these, the rail modal share and thus the percent of tonnage that would meet the threshold test for rail market dominance were developed.

The geographic regions in the data bases were considered to be too disaggregate for purposes of this study. Tariffs (i.e., the applicable market) generally cover larger geographic areas than the BEA Regions. In order to match more closely the Commission's informal definition of a market, the 171 BEA Regions in the continental United States were aggregated into 25 territorial groupings which roughly resemble the transcontinental territory groupings. A map of these 25 territory groupings is shown in Exhibit No. 5.

For purposes of the market share test in this study, a market was defined as the movement of one of 36 commodity groupings between two of the 25 territory groupings shown. Each individual market was tested for a 70 percent rail modal share, and classified as either "market dominant" or "not market dominant" based on the 70 percent test. The results of this test by individual market were aggregated by commodity for presentation in this report.

Evidence on private truck competition, and potential competition, can be presented as rebutting evidence during an investigation. Quantitative estimates of potential competition are only available on a case by case basis, and therefore were excluded from this evaluation. Quantitative estimates of private truck competition are available from various sources and were incorporated in the market share calculation. While private truck movements are documented for manufactured commodities in the Bureau of Census data, private truck movements are only roughly estimated in the Transportation Systems Center data. This particularly affects grain movements by agricultural co-ops.

In practice, intramodal competition among the railroads will be incorporated in the calculation of market share if a rate is independently proposed. However, given current ratemaking practices, most rail rates are collectively made. Railroads collectively making rates do not provide effective competition for each other. Although market dominance is not found per se, the market share of the individual railroads collectively making the rate must be aggregated in the determination of market dominance. Thus, the calculation of total rail modal share accurately reflects these present ratemaking practices and application of the collective ratemaking subtest. A separate evaluation of the impact of intramodal competition was also performed.

(b) Cost Test

The test of traffic where revenues exceed variable cost by 60 percent or more was conducted by estimating costs of each individual movement in the 1975 One Percent Waybill Sample. Standard Rail Form A costing formulas for 1974 were applied to each movement and were adjusted by inflating them to 1975 levels using the AAR index of Material Prices and Wage Rates. The results were then statistically tested to determine the existence of market dominance under this test.

For purposes of this cost test, the 171 Bureau of Economic Analysis Regions and the 127 SPC commodity groupings were used, as outlined in Chapter I of this report.

The waybill information was not detailed enough to apply Standard Rail Form A costing procedures without some adjustments and additions. These additions included:

1. Identification of origin/destination cost regions
2. Identification of ICC car type
3. Estimation of mileage in each region
4. Estimation of the number of interchanges

A simplified version of Rail Form A costing was then applied to each movement in the waybill sample. In the costing procedure, the following assumptions were made:

1. Multiple car switching cost savings adjustments were incorporated according to the following schedules:

0-4 cars	- No saving
5-10 cars	- 25 percent per car saving
11-50 cars	- 50 percent per car saving
Over 50 cars	- 75 percent per car saving

These levels of switching cost savings were used by the Commission in Ex Parte No. 270. These cost savings were incorporated for several commodities which tend to move in multiple car batteries, including iron ore, coal, limestone, aggregates, potash, phosphate rock, and coke. Nearly half of the waybills on the waybill tape included multiple car movements which were adjusted for these cost savings. However, since switching is only one element of rail costs, the overall cost reductions were relatively minor.

2. Outbound transited movements were not costed due to the difficulty of tying inbound and outbound movements. This difficulty affects grain movements in particular. As a result, only the grain gathering rates are included in the cost test. This overstated the revenue/cost ratios for particular commodities including: wheat, corn, and barley. Twenty-five percent of wheat tonnage, 13 percent of corn tonnage, and 26 percent of barley tonnage found on the waybill sample was not costed primarily due to the transit situation.

3. Unit train movements could not be identified on the waybill sample although significant portions of coal movements are in unit trains. As a result, coal movements costs are probably overstated.

4. Interchange activities could not be identified precisely on the waybill sample. Movements could be identified as either having no interchanges (where origin and destination carrier is the same) or having at least one interchange (where origin and destination carrier were different). Where no interchanges were identified, no interchange costs were added. Where interchanges were identified, standard interchange costs, adjusted by car type to ensure overall consistency with total rail costs, were included.

(c) Substantial Investment Test

Proxy measures were used to test the impact of the substantial investment test. Private car ownership and multiple car movements were used as indicators of substantial investment. Private car ownership, while a substantial investment in itself if the cars cannot easily be disposed of, can be viewed as a proxy measure for shipper commitment to the rail mode. Multiple car movements, because they often require investments in siding and loading/unloading facilities, may also be used as a proxy measure for large handling facilities. (It is recognized that cars may be individually switched and shipped under multiple car rates.) Statistics on private car movements and multiple car movements were both derived from the One Percent Waybill Sample. Both leased and owned private cars were included.

(d) General

This study is intended to provide an estimate of the overall impact of the new market dominance provisions. As such, it should not be construed as a definitive statement as to whether or not market dominance will be found in individual cases brought before the Commission. This is of particular importance for the market share and substantial investment presumptive tests. The definitions of market used in the market share test do not represent the Commission's final interpretations of a market. This definition will be forthcoming in future Commission decisions on a case-by-case basis. Likewise, the proxy measures used in the substantial investment test may not be construed as a standard for establishing Commission policy. This is particularly true for multiple car movements (used as a proxy for large handling facilities). In all instances, the ability to present rebutting evidence has not been considered in these estimates.

The results for each of the three individual presumptive tests are shown in Exhibit 12. The following sections provide a discussion of those results plus additional observations developed during the course of the study.

MARKET SHARE TEST

This section discusses the assumptions, resulting biases, and results of the market share test. The basis approach to evaluate this presumptive test was discussed earlier.

(a) Assumptions and Resulting Bias

The approach described contains several underlying assumptions, each of which will bias the results of the market share calculations performed. Most of these biases will tend to overstate the percentage of rail traffic considered market dominant under this test.

1. Intramodal competition is also not incorporated in the initial estimates. The CTS and TSC data do not distinguish individual rail carriers; rather, the data show total rail movements. Given the current interpretation of the collective ratemaking subtest and the overwhelming majority of collectively made rail rates, the elimination of intramodal competition may more accurately reflect the actual impact than if intramodal competition were incorporated. In order to provide intramodal competition, a rail carrier must file independent notice, a rare practice for rail rate increases. Intramodal competition would result in lower estimates of rail traffic considered market dominant. The impact of intramodal competition on the rail market share test for bulk commodities is assessed in a later section.

2. Potential competition from motor carriers or water carriers, specifically excluded from an initial market dominance filing, is also not incorporated in this study. While the railroads may have greater than 70 percent of a market, they may not have market dominance if a small increase in their rates could cause a major modal shift. This bias would also overstate the rail traffic considered market dominant.

3. 1972 annual flows are used throughout the market share test. Significant changes may have occurred in the distribution system since that time. Of particular note is the growing use of truck movements for grain products, fresh fruits and vegetables, and lumber, which would indicate that the estimates may be overstated. However, the overall bias resulting from the use of 1972 data is not known. The impact of using 1972 information will be investigated later in this section.

4. Protecting agency confidentiality requirements are a significant problem. Almost one quarter of the CTS data at the individual commodity level could not be provided due to confidentiality (i.e., the total tonnage in the CTS sample is over one-third greater than the sum of the individual commodities).

These tonnages were withheld due to the small number of shippers that ship a particular commodity in a given lane. If these shippers primarily use rail, the estimates will be biased downward. Conversely, if they use another mode of transportation, the estimates will be biased upward. However, the overall bias is not known.

(b) Overall Results

As shown in Exhibit 12, it is estimated that 44.7 percent of current rail traffic would likely meet the threshold conditions of market dominance under the market share test. This percentage is based on an aggregation of individual commodity and geographic markets (e.g., corn from Minneapolis region to Gulf Coast region). The 44.7 percent estimate represents an aggregation of these individual markets and is relative to historic traffic on the railroads. Thus, it may be interpreted as the percentage of historic rail traffic (not total traffic transported) that is likely to meet the threshold level for market dominance under the market share test. (It should be noted that Exhibit 12 assumes that the 36 commodities used for the market share test apply to the 127 SPC commodities. This methodology is explained later in this section.)

A few points, made earlier, should be re-emphasized. This estimate of market share dominance includes interstate rated traffic only. Noncompensatory traffic is not subject to the market dominance provisions by an initial interpretation of the 4-R Act. Lastly, private fleet movements were included in this estimate to the extent possible.

It should be noted that 29.5 percent of rail traffic would be considered noncompensatory using Standard Rail Form A costing precedures. This amount is likely overstated since unit train cost savings, as well as other possible adjustments which apply to specific moves and/or commodities, were not incorporated in the cost test. A large proportion of this noncompensatory traffic is attributable to coal, much of which meets the threshold test of market dominance under the market share test.

(c) Results by Major Rail Commodity

The results for the major rail commodities are shown in the following table and discussed in the following sections.

Table II-1

Market Share Test Results
for Major Rail Commodities
(Tonnage in Millions)

Commodity	Rail Interstate Tonnage Shown in Data Base	Tonnage Considered Market Dominant	Percent
Coal	414.2	228.9	55.3
Iron ore	130.6	88.4	67.7
Food products	76.0	18.1	23.8
Sand and gravel	66.3	14.9	22.4
Logs, pulpwood	53.7	19.2	35.7
Chemicals	49.5	15.3	30.8
Iron and steel products	49.3	28.6	58.0

These percentages were developed from the various transportation data bases and applied to the One Percent Waybill Sample, as shown in Exhibits 6 and 12.

As shown in the table, coal is the major commodity moving by rail in terms of interstate tonnage. Of an estimated total 562.3 million tons transported in interstate traffic in 1972, 414.2 million tons moved by rail (73.7 percent). However, only 55.3 percent of the rail tonnage would meet the threshold test for market dominance. The railroads have a 70 percent market share for approximately 35 percent of the total interstate and compensatory transportation tonnage of coal. With the exception of short-haul movements in the East, and water-competitive movements southbound near the Mississippi River System, the railroads show significant market share on all major annual movements of coal if noncompensatory traffic is ignored. It should be noted that over 40 percent of coal traffic was found to be noncompensatory using Standard Rail Form A costs.

Of a total 206.0 million tons of iron ore transported in interstate commerce in the United States in 1972, 130.6 million tons (63.4 percent) were moved by the railroads. Of the amount moved by railroads, over 65 percent would be considered compensatory and meet the threshold test for market dominance. The remainder of the traffic is largely noncompensatory. Effective competition can be found in very few geographic markets where the railroads do move the ore. This result illustrates a concept that permeates the data for all commodities. In any given region there appears to be a tendency for a "zero/one" modal split. If one shipper in a region finds it less expensive to ship via one mode rather than another, it is likely that all shippers in the region will find the same rate and service relationships. Moreover, because of

sunk investments in facilities, a single shipper is not likely to shift his modal choice decisions on a daily basis.

As such, a tendency for a "zero/one" modal split would be expected for any one shipper or any one movement (or annual traffic flow) or for a set of shippers in a narrowly defined region and over time. As will be demonstrated later in this section, modal shares diverge from the "zero/one" condition as regions (or commodities) are aggregated. This leads to a finding of less market dominance as regions are aggregated. In fact, if the total U.S. is considered to be the relevant market, the railroads would not meet the threshold test of market dominance in iron ore since their market share is less than 70 percent (i.e., 63.4 percent). This result reinforces the importance of a careful definition of the relevant market.

Food products (including all of STCC 20) were found to be the third largest interstate commodity group moved by rail, totaling 76.0 million tons. This represents 42.5 percent of the total 179.0 million tons of food products transported in interstate commerce in 1972. Approximately 18.1 million tons, or 28.8 percent, of the rail tonnage appears to meet the threshold test of market dominance under the market share presumption. It is estimated that nearly all movements eastbound from the West Coast (particularly long haul) meet the threshold test of market dominance. In addition, movements into the Northeast and Southeast were generally found to meet the threshold test, particularly those movements originating in the Midwest.

The railroads haul less than one-quarter of the interstate movements of crushed and broken stone, sand and gravel. In 1972, the railroads moved over 66 million tons, or 22.2 percent, of the total 298.8 million tons moved interstate in that year. Only 14.9 million tons would meet the threshold test of market dominance under the market share test. This is due to the local and relatively short-haul nature of the sand and gravel market.

A review of the region-to-region movements of sand and gravel confirms the short-haul nature of this market. Market dominance would likely be found principally in the East, Midwest and South. Many of these movements are longer-than-average hauls. However, only 22.4 percent of the overall market would meet the threshold test of dominance under the market share presumption.

The railroads hauled over 62 percent of the interstate tonnage of logs and pulpwood in 1972. This totaled 53.7 million tons out of 85.6 million tons moved by all modes of transportation. An estimated 14.6 million tons, or 27.2 percent, of the rail tonnage would meet the threshold conditions for market dominance under the market share presumption. This market dominance appears to exist primarily in the Southwest on intraterritorial movements. However, effective competition for logs and pulpwood movements was found in the East, Northern Plains, and West Coast intraterritorial movements. It should be noted that these movements are primarily short haul (i.e., less than 300 miles) in nature since the commodity is moved to paper mills for processing. These paper mills are located in the lumber production areas for economic reasons.

Interesting results were found for the three primary grain products. Of the rail movements of corn, wheat, and soybeans, 40.9 percent, 77.4 percent, and 49.0 percent respectively would meet the threshold conditions of market dominance under the market share presumption. These percentages are somewhat higher than might have been originally suspected in view of the large movement of wheat by agricultural co-ops, and corn and soybeans by water carrier. In fact, the rail share of the total interstate market is 42.6 percent, 73.5 percent, and 30.7 percent for corn, wheat, and soybeans respectively. However, the results can be explained by the concept of stable market

shares discussed above. In addition, private carriage accounts for much of the truck movement. The quality of the available private truck data would particularly impact the results for wheat.

In summary, it is estimated that approximately 45 percent of the rail tonnage moved in 1972 would meet the threshold conditions of market dominance under the market share test. Market dominance is much higher in the bulk commodities than in the manufactured goods (as would be suspected a priori due to truck competition). It is estimated that two major commodities (coal and iron ore) account for nearly one-half of the rail tonnage considered compensatory and meeting the threshold conditions of market dominance.

(d) Impact of Geographic Market Definition

As was noted above, the definition of the relevant market is a key determinant in the results of this analysis of market dominance. In order to quantify the impact of alternative geographic market definitions, the same analysis as described above was performed for each of three potential market definitions. These market definitions are listed and described below.

1. BEA Regions. Market dominance was tested using the supplied transportation data in their most disaggregated form, the BEA Region. There are 171 of these regions in the Continental United States. Exhibit 5 shows these regions. In several discussions with the railroads, these regions were considered too detailed since rates generally cover larger geographic areas. However, this definition appears to most closely resemble the statutory definition of market as the applicable tariff or rate and is consistent with point to point tariffs which are used for many commodities.

2. Major Rate Territories. The 12 major rate territories were also used as a market definition. These territories were generally believed to be too broad in a geographic sense.

3. Rail Modal Share. The total U.S. rail modal share is another potential market definition. If the rail modal share is greater than 70 percent, the railroads would be considered to have market dominance in this commodity. While this definition of the market is not practical, the results provide an interesting benchmark for comparative purposes.

These "market definitions" represent varying degrees of regional aggregation and various manners in which to view a market. Exhibit 7 shows the results of this test on alternative market definitions. The exhibit shows total transportation tons, rail tons, the 25 rate territory market results developed above, and the results of the three alternative market definitions described.

With few exceptions, the percentage of rail traffic likely to meet the threshold conditions of market dominance decreases as the geographic regions are aggregated. This percentage was highest for the BEA Region definition (171 markets) and lowest for the Major Rate Territory Markets definition (12 markets). The rate territory definition used in this study of the market share test generally falls between these two extremes. These results are consistent with the concept of stable modal shares described earlier.

(e) Impact of Intramodal Competition

The tests of the market share presumption conducted above assume that the railroads collectively make all rates, thereby requiring that the market share test be conducted on the total rail modal share (i.e., a total of all rail carriers) as a share of the total transportation market. Those tests do not assess the impact of intramodal competition among the rail carriers. Under the new regulations, intramodal competition exists if the rail carriers have not discussed the rate in their meetings or had other informal discussions.

In order to determine the impact of intramodal competition, the carrier shares of the region to region markets for bulk commodities were analyzed. In this analysis, the BEA Regions were used. The Rail One Percent Waybill Sample was summarized by carrier, origin, destination, and commodity. This summary was then compared with the market share analysis by individual market (origin, destination, and commodity). Each movement that met the threshold test of market dominance when all rail carriers were considered together, but with enough intramodal competition to lower any individual carrier's share of the total market below 70 percent, was flagged. The tonnage where intramodal competition was found was then subtracted from total estimated market dominant tonnage.

Exhibit 8 shows the results of this analysis. As can be seen, the analysis was performed for bulk commodities only, since these commodities were most likely to meet the threshold conditions of rail market dominance. That exhibit shows the percent of rail tonnage meeting the threshold conditions using the BEA Region markets (these percentages agree with those shown in Exhibit 7), the rail tonnage that showed likely market dominance in the first test but had intramodal competition, and the revised rail market dominant percent. In this first pass, each unique origin and destination rail carrier combination was considered as a separate intramodal carrier. The fourth and fifth columns show the revised percentages when origin or destination rail carriers are considered as separate intramodal carriers.

As shown in Exhibit 8, there is a substantial decrease in the percentage of rail traffic likely to meet the threshold conditions of market dominance if intramodal competition is incorporated in the market share test. For all major commodities moved by the railroads (including coal, iron ore, sand and gravel, and grains), a decrease of at least one-third occurred in the percentage of traffic likely to meet the threshold test of market dominance when intramodal competition was incorporated. In fact, the percentage of wheat likely to meet the threshold test was more than cut in half.

This decrease can be projected to the estimates using the rate territority markets, since these larger territories would tend to have more railroads competing for existing traffic. In fact, it is possible that an even greater impact could occur.

In summary, if intramodal competition can effectively be promoted, the percentage of rail traffic meeting the threshold conditions of market dominance under the market share test would drop substantially.

(f) Impact of Water Competition

The Inland River System, the Gulf Intracoastal Waterway (GIWW), and the Great Lakes are the major source of competition for the railroads in the interstate transportation of bulk commodities in the United States. This water competition could have a substantial impact on the percentage of tonnage meeting the threshold conditions for rail market dominance.

In order to test the impact of water competition, the BEA Region markets were once again utilized. All traffic moving between water-bounded BEA Regions was classified as water competitive. This group consisted of all those BEA Regions bordering the Inland River System, the GIWW, and the Great Lakes. All traffic moving to or from "land-locked" BEA Regions was considered non-water competitive. This included both East Coast and West Coast Regions since domestic ocean movements consist primarily of petroleum and petroleum products--not a major rail commodity. Note that noncompensatory rail traffic could not be excluded from this test due to the limitations of the data employed in this study. However, the test included interstate traffic only.

Exhibit 9 shows the results of this test. For all major rail commodities, the percentage of traffic meeting the threshold conditions of market dominance in

water competitive regions is less than in nonwater competitive regions. This result is as expected; however, the magnitude of the differential is not as great as expected. Often only 10 percentage points separate the two estimates. The most significant differential is found in petroleum products. Overall, 44.1 percent of petroleum products (STCC 29) traffic would meet the threshold conditions of market dominance. However, only 15.4 percent of rail traffic in water competitive regions would meet those threshold conditions while nearly 62 percent would meet those threshold conditions in nonwater competitive regions. This is due to the preponderance of water movements of petroleum products. Approximately half of the inland river movements are of petroleum products. Coal, the second largest inland river commodity, does not show this significant impact. In fact, the differential is only slightly greater than 10 percentage points.

In summary, estimated rail market dominance is lower in water competitive regions than in nonwater competitive regions. However, the impact of water competition is not as significant as expected except in the movement of petroleum products. Again, the concept of stable modal shares will impact these results.

(g) Market Dominance by Mileage

The length of haul is a significant determinant of modal choice. In order to determine the impact of mileage on market dominance, five mileage blocks were developed: 0-100 miles, 100-300 miles, 300-500 miles, 500-1,000 miles and 1,000 miles and over. It is generally believed that trucks have a significant cost advantage in short hauls up to approximately 300 miles. Railroads have a distinct cost advantage in longer hauls. Marine competition generally has a cost advantage regardless of mileage, provided waterways are accessible at low cost.

Rail mileages were developed for each BEA Region to BEA Region combination where mileages were entered on the 1975 One Percent Waybill Sample. The interstate movements found in the multimodal transportation data bases were than classified by mileage blocks and tested for the threshold conditions of market dominance using the 70 percent rail market share test.

The results are shown in Exhibit 10. In general, estimated rail market dominance increases as mileage increases. This pattern is clearly evident in the manufactured commodities, but is not as clear in the bulk commodities. The results for the total of all manufactured commodities in the CTS sample are shown in the following table.

Table II-2

Manufactured Commodities Only

Impact of Mileage on Market Dominance
(Total in CTS Sample)

Mileage Block	Percent Market Dominant*
0-100	7.5
100-300	20.4
300-500	33.9
500-1,000	58.5
1,000 and over	73.8
Total	45.5

*Noncompensatory traffic not excluded.

As shown, a significant variance occurs in the traffic likely to meet the threshold conditions of market dominance as mileage increases. This is particularly true for manufactured goods.

(h) Impact of Modal Share Trends Since 1972

It is generally believed that the rail modal share of several major commodities has declined significantly since 1972 due to the inroads made by unregulated motor carriers. These commodities include grain, fresh fruits and vegetables, and lumber. To determine the magnitude of this impact, estimates of the trends of rail modal shares since 1972 were developed by comparing total production levels with total rail tonnage. This comparison is shown in the following table.

Table II-3

Estimates of Rail Modal Share Trends

	1972	1973	1974	1975
Corn				
Sold off farm	92.794	98.286	83.505	104.875
Rail tonnage	33.373	47.058	43.509	
Rail share	36.0%	47.9%	52.1%	
Wheat				
Sold off farm	43.806	48.749	51.223	61.140
Rail tonnage	44.776	55.288	46.302	
Rail share	*	*	90.4%	
Soybeans				
Sold off farm	37.401	45.692	35.685	44.932
Rail tonnage	10.596	11.409	12.712	
Rail share	28.3%	25.0%	35.6%	
Fresh Fruits and Vegetables				
Production	32.373	36.963	36.747	38.231
Rail tonnage	5.630	5.180	4.928	
Rail share	17.4%	14.0%	13.4%	

Source: Dept. of Agriculture, Agricultural Statistics, 1976; ICC, Freight Commodity Statistics, 1972, 1973, 1974, Originating Freight of Class I Carriers.

* Greater than 100 percent.

As shown, rail modal share of corn and soybeans sold off the farms has increased since 1972. In light of low and decreasing usage of transit in these commodities, these findings indicate potentially greater rail market dominance. A major cause for this finding is the recent introduction of the unit train concept for corn. The percentages greater than 100 percent for wheat are most likely caused by the transit privilege. The declining modal share in wheat is possibly an artificial result of declining transit usage and high shipment levels for wheat during the Russian wheat deal. Fresh fruits and vegetables show a definite decline in rail modal share over the period.

In addition, the North American Wholesale Lumber Association reports significant increases in truck movements of lumber in the longer haul markets. This is particularly true from origins in the Pacific Northwest.

While the results of this analysis were inconclusive for wheat markets, it appears that the rail modal share of corn and soybeans has increased since 1972, while the rail modal share for fresh fruits and vegetables and lumber has likely decreased. As a result, the estimates of rail traffic meeting the threshold test of rail market

dominance may be understated for corn and soybeans, and overstated for fresh fruits and vegetables and lumber.

COLLECTIVE RATEMAKING SUBTEST

As stated in the Final Order of Ex Parte No. 320, dated September 30, 1976, rate bureau activity per se does not lead to a presumption of market dominance. Market dominance is defined in the statute as "an absence of effective competition." The Commission must consider collectively made rail rates in assessing the degree of effective competition among rail carriers in determining the presence of market dominance. As stated in the Interim Order, Congress intended that any rate discussed or considered under an agreement approved by the Commission..."shall be presumed to be made in the absence of effective competition between railroads..."

Consider a situation where two railroads serve a market and together account for 75 percent of the traffic. Other modes handle the remaining 25 percent. Suppose further that one of the railroads has 40 percent of the traffic and the other road 35 percent. If either rail carrier unilaterally attempted a rate increase without prior discussion, the Commission would not find market dominance if the rate were protested. If a rate increase by either or both railroads received prior consideration in a rate bureau, then both railroads' market shares would be added together in determining market dominance under the market share presumption. In the second case the market share presumption may lead to a finding of market dominance, since the rail carriers did not effectively compete with each other. This is not to infer that the method of publishing leads to a market share aggregation. Rather, it is railroad discussion that, absent the ratemaking provisions of section 5(b) of the Interstate Commerce Act, would violate the anti-trust laws, which would lead to a finding of the "absence of effective competition" and thus market share aggregation (but not market dominance, per se).

(a) Review of Independent Actions

Since all docketed rate proposals are deemed by the market dominance regulations to reflect an absence of effective intramodal competition, it was believed that a review of docketed rate increases would not provide any useful information on market dominance. Rather it was decided to examine independent actions, particularly those which had not been docketed previously as a proposal. The purpose of this was to identify patterns which might have explanatory and predictive value for market dominance determinations.

Records from four bureaus were reviewed (Eastern Railroads, Southern Freight Association, Transcontinental Rate Bureau, and Western Trunk Lines). The primary record reviewed was the "running file" of notices of independent actions maintained on a chronological basis. Although format varied widely among bureaus, certain common elements existed in all notices of independent action. These were (1) carrier announcing action, (2) tariff reference, (3) effective date, (4) tariff changes or elements if new, (5) file reference numbers, and (6) concurrences if necessary. Typically each initial notice generated a volume of follow-up notices by other carriers. These might involve concurrences or nonconcurrences by connecting lines or parallel announcements by competing carriers.

The independent notices published by the bureaus for the announcing carrier usually did not provide any indication of the importance of the traffic or even whether the change involved an effective increase or decrease in line-haul rates. This information was frequently contained in the carrier correspondence to the chairman containing the notification which was filed separately in most cases.

A large number of independent actions were reviewed. Although no quantifiable results were obtained, the following specific items of interest were developed:

1. Bureau records generally give no indication of the relative importance of traffic involved in specific proposals of independent actions.

2. Most independent actions are line-haul rate decreases or some other tariff change (e.g., minimum weight).

3. Very few, probably less than 1 percent, of independent actions in the past have been rate increases.

Most of the notices examined were for 1975, although some 1976 notices were also examined. It is interesting that the two independent actions found involving increases took place in 1976 in the Eastern territory. One involved bringing up a rate on noncompensatory traffic. The other involved imposing a special charge for enclosed auto racks. The latter charge had received consideration by committee.

(b) Review of Annual Reports

In addition to the review of independent actions, the Annual Reports filed by the bureaus with the Commission were reviewed. These reports contain information on the volume of proposal and independent notice activity. Selected data from the Annual Reports for 1975 are shown in Table II-4.

Table II-4

Selected Statistics from Railroad Rate Bureau Annual Reports, 1975

Name of Bureau	Net Proposals	Independent Actions	
		Prior Proposal Filed	No Prior Proposal Filed
Southern Freight Association	3,101	233	465
Traffic Executive Association, Eastern Railroads	289	983(1)	1,253(1)
General Freight Committee, Eastern Railroad Association	5,471	0(2)	0(2)
Coal, Coke and Iron Ore Committee, Eastern Railroads	625	7	68
Executive Committee, Western Railroad Traffic Association	136	44	51
Western Trunk Line Committee	5,144	244	245
Chicago Switching Committee	32	2	12
Colorado-Utah-Wyoming Committee	482	16	29
Illinois Rate Committee	1,345	104	119
Illinois-Indiana Coal and Coke Committee	167	4	24
Southwestern Freight Bureau	3,916	786(1)	1,163(1)
Pacific Southcoast Freight Bureau	1,571	53	102
North Pacific Coast Freight Bureau	2,066	12	56
Joint-North Pacific Coast/ Pacific Southcoast	1,281	86	47
Transcontinental Freight Bureau	2,727	133	97

(Continued)

Montana Lines Committee	312	12	27
Intermountain Committee	134	-	14
Northern Lines Committee	170	5	20
Tidewater Coal Demurrage Committee	6	0	0
Total	28,975	2,724	3,792

Notes: (1) Includes concurrences.
(2) Filed with Traffic Executives Association, Eastern Railroads.

Source: Rate Bureau Annual Reports to the Interstate Commerce Commission, 1975.

The column labeled "net proposals" was computed as the difference between "proposals received" and "foreign line proposals." The "net proposals" figure is the actual number of proposals made during the year after double counting is eliminated. Of those proposals reported as "docketed," a relatively small number actually are handled in committee meetings. While no hard figures were readily available on the number of committee votes taken, bureau personnel indicated that between 5 percent and 20 percent of proposals received do receive at least committee discussion.

Differences in reporting are evident from the data. The Southern Freight Association does not consider mail vote to constitute committee disposition. The Traffic Executives Association, Eastern Railroads, and the Southwestern Freight Bureau report concurrences as separate independent actions. Other bureaus, so far as is known, report only the original independent action of a related group.

If the Eastern Railroads and the Southwestern Freight Bureau are excluded from the statistics on independent action, then the ratio of independent actions to net proposals is about 1 to 10 (i.e., 9.4 percent). About 40 percent of all independent actions were related to a prior proposal. It is not known what stage of consideration the prior proposals had received.

Excluding the Eastern Railroads and the Southwestern Freight Bureaus about one independent action without a prior proposal was filed for every 20 proposals filed (i.e., about 5 percent). In short, over 95 percent of rail rates appeared to be collectively made or discussed as defined in the market dominance provisions. This would lead to an aggregation of carrier market shares in nearly every case under current rail ratemaking practices. It should be noted that the traffic on which independent action is taken is generally of greater significance than other traffic.

(c) General Observations

The understanding of the relationship of collective rate making to market dominance was mixed. Much greater concern was expressed about the section 5b changes regarding voting on single line proposals. The responses of bureau and carrier representatives concerning collective rate making may be summarized as follows:

1. Most independent actions in the recent past have been decreases.

2. Due to anticipated shipper reaction, independent rate increases are viewed as infeasible. It is argued that shippers may retaliate by diverting traffic from the railroads initiating such increases to another carrier or mode.

3. Therefore "price leadership" as a form of behavior is not a substitute for collective ratemaking.

(d) Summary

The collective ratemaking "subtest" is not well understood. However, misunderstandings are likely to be cleared up as the shipping public and carriers become more familiar with the market dominance regulations. The presumptive test was based on the

apparent intent of Congress and is a logical part of the market dominance package. The impact of this presumption is difficult to quantify, but it is likely to result in 95 percent of rail carriers' traffic being aggregated when market share is calculated. Some price leadership for rate increases by independent actions may evolve but is unlikely, given current railroad perceptions of shipper reaction against carrier proponents of a rail rate increase.

COST TEST

The second rebuttable presumption of market dominance is the cost test. "Where the rate in question exceeds the variable cost of providing the service by 60 percent or more," the traffic to which the proposed rate applies may be considered market dominant. This is a rebuttable presumption meaning that any further evidence concerning market dominance (or lack thereof) may be presented to rebut this presumption. For example, the proponent carrier may concede that the rate is greater than 60 percent over variable costs, but contend that no market dominance exists on the basis of other evidence.

This section provides an estimate of the rail traffic likely to meet the threshold condition of market dominance under the cost test. In one respect, this test is the most straightforward and easily defined of the three since costs are easily quantified. However, rail costs are not easily identified. No universally accepted approach to rail costing exists. As a result, Standard Rail Form A costs were used as described in the approach section. While multiple car cost savings were recognized, unit train savings were not. As a result, noncompensatory traffic (particularly coal) may be overstated. However, there is no universal agreement as to whether Rail Form A costs overestimate or underestimate true costs. On balance, since Standard Rail Form A costs were used in this study, costs are likely overestimated.

(a) Overall Results

In total, it is estimated that 11.1 percent of rail traffic would meet the threshold conditions of market dominance under the cost test. This finding is summarized in the table below:

Table II-5

Summary of Cost Test Results

Type of Traffic	Number of Markets(1)	1975 Interstate Tonnage (2)	Percent of Tonnage
Carload Commodities			
Dominant	1,640	841,331	11.1
Non-dominant	11,305	5,665,623	74.9
Insufficient sample size	21,660	1,059,580	14.0
TOFC			
Dominant	0	0	0
Non-dominant	24	95,523	100.0
Insufficient sample size	0	0	0
Total			
Dominant	1,640	841,331	11.0
Non-dominant	11,329	5,761,146	75.2
Insufficient sample size	21,660	1,059,580	13.8

Notes: (1) A market is defined as a unique SPC commodity, origin and destination (BEA Regions).
(2) 1975 tonnage shown in Waybill Sample (interstate rated only).

Due to the disaggregation (171 origins, 171 destinations, and 127 commodities) in the markets and the resulting small samples, 13.8 percent of the tonnage was not statistically tested. Of this traffic, it was estimated that 5.4 percent had a revenue/cost ratio greater than or equal to 1.60. None of the TOFC traffic was classified as market dominant.

Since TOFC traffic represents such a small percentage of the overall rail tonnage in the Waybill Sample, the remainder of this section will address carload traffic only.

(b) Results by Commodity

Commodities in the 1975 Waybill Sample with more than 20,000 tons that would likely meet the threshold conditions of market dominance are summarized in the table below:

Table II-6

Summary of Commodities with 20,000 Tons or More Market Dominance (Unexpanded Waybill Sample)

Commodity	Interstate Tonnage Market Dominant	Percent Market Dominant
Wheat*	177,540	63.5
Manufactured iron and steel	84,427	45.2
Iron ore	41,464	6.5
Steam bituminous coal	40,378	2.1
Corn and sorghum*	38,838	15.6
Motor vehicle parts	32,679	32.8
Semi-finished steel	22,333	27.1
Coking coal	20,567	7.9
All others	383,105	-
Total interstate tonnage	841,331	11.1

*Reflects grain gathering rates only.

As shown, grains, iron and steel products, motor vehicle parts, iron ore, and coal account for over half of the interstate tonnage likely to meet the threshold test of market dominance under the cost presumption. However, the results for wheat and corn are overstated since outbound transit traffic which is lower rated is excluded. Twenty-five percent of wheat tonnage and 13 percent of corn tonnage found on the Waybill Sample was not included in the test due to the transit situation.

The results for the remaining commodities are shown in Exhibit 12. Other commodities that show a high percent likely to meet the threshold test are barley, newsprint, asphalt and tars, soda ash, automobiles, primary copper products, and inorganic chemicals. (Note that Exhibit 12 assumes that the percentages resulting from the smaller costed Waybill Sample apply to the full sample tonnage.)

(c) Alternative Cost Ratios

During the Commission proceedings on Ex Parte No. 320, several discussions arose regarding the appropriate cost test ratio to use as a threshold level. In the interim report, a ratio of 180 percent was used. In the final order, this ratio was lowered to 160 percent. In order to evaluate the degree of market dominance under different presumptive levels and to evaluate the sensitivity of the results, additional cost tests were performed at various ratios, including 1.50, 1.55, 1.65, 1.70, and 1.80.

The results of the additional tests are shown in Table II-7. The shift of traffic considered dominant as one moves away from 1.60 is shown in the fifth column. In considering these results it should be kept in mind that 14.0 percent of all traffic was not evaluated due to insufficient sample size.

Table II-7

Results of Sensitivity Test

Threshold Revenue/Cost Ratio	Interstate Tonnage			Percent Change in Dominance From 1.60
	Dominant	Non-Dominant	Dominant	
1.50	1,124,606	5,382,348	14.9%	+3.8
1.55	994,131	5,512,823	13.1%	+2.0
1.60	841,331	5,665,623	11.1%	-
1.65	743,660	5,763,294	9.8%	-1.3
1.70	654,715	5,852,239	8.7%	-2.4
1.80	490,649	6,016,305	6.5%	-4.6

Source: A. T. Kearney, Inc.

As shown, the cost presumption is not highly sensitive to changes in the threshold revenue cost ratio used.

(d) Comparisons to 1972 Burden Study

The Interstate Commerce Commission performed similar costing analysis in the Burden Studies of 1969 and 1972. Comparisons of the results of this analysis with those of the Burden Study are difficult because the commodity groupings are different. There may also be substantial differences in interterritorial costs due to the different technique of assigning mileages. Thus, the studies are not directly comparable.

However, the general results were essentially the same. A preliminary anaylsis of the 1972 study indicated that 13.5 percent of rail traffic would likely meet the threshold test of market dominance under the cost presumption (compared to an estimate of 11.1 percent in this study). Several key differences existed in the approach to these analyses that explain these differences:

1. The Burden Study was conducted in 1972 compared with 1975 in this study. As will be demonstrated in the next section, rail costs have risen faster than rates since 1972 (even if productivity improvements are realized).

2. The Burden Study used different market definitions than this study. Only three geographic markets were defined rather than 171 markets.

3. The Burden Study analysis used no test of statistical significance (likely due to small sample size). Comparisons made with average revenue/cost ratios

in that analysis are approximately equivalent to using a 50 percent confidence limit. A 95 percent confidence limit was used in this study.*

Factors one and three would tend to lower an estimate of rail traffic likely to meet the threshold test of market dominance under the cost presumption in this study, while factor two would tend to have the opposite bias. Given these differences in technique, it is believed that the results of this study are consistent with earlier analysis.

(e) Trends in Rail Rates and Costs

An important potential explanation for the apparent differences in market dominance findings between the 1972 Burden Study and this analysis is a convergent trend of rates and costs over the time period involved. The Bureau of Labor Statistics Index of Railroad Freight Prices and the Association of American Railroads Index of Railroad Material Prices, Wage Rates, and Supplements are compared in Table II-8.

Table II-8

Trends in Railroad Rates and Costs

STCC Code	Description	BLS Railroad Freight Rate Indexes: Value of Indexes 1972	1975	Percent Change
01	Farm products	123.4	165.0	33.7
10	Metallic ore	128.1	178.4	39.3
11	Coal	128.8	177.5	37.8
14	Nonmetallic minerals	125.6	172.4	37.3
20	Food products	126.2	168.5	33.5
24	Wood or lumber products	123.3	163.6	32.7
26	Pulp, paper or allied products	124.0	162.7	31.2
28	Chemical or allied products	124.8	168.4	34.9
32	Clay, concrete, glass or stone products	126.7	174.5	37.7
33	Primary metal products	128.4	174.8	36.1
37	Transportation equipment	127.3	173.5	36.3
	All railroad freight	126.1	173.5	37.6
	AAR Index of Railroad Material Prices, Wage Rates and Supplements	145.6	214.4	47.3

Sources: U.S. Department of Labor, Bureau of Labor Statistics. Association of American Railroads, Indexes of Railroad Material Prices and Wage Rates.

The railroad rate index compiled by the Bureau of Labor Statistics is compiled from a subsample of the Waybill Sample and is directly applicable to the problem at hand. It can be seen from the data in Table II-8 that unit variable costs have increased faster than rates between 1972 and 1975. It should be noted that the AAR index does not account for productivity increases. However, even incorporating a 2 percent per year productivity increase, rail rates have not risen as quickly as costs.

*Tests of significance and confidence intervals are statistical techniques utilized to draw inferences about populations or universes from samples with specified error probabilities. See, for example, Hoel, Paul, Elementary Statistics, John Wiley & Son, New York, 1966.

(f) Sensitivity of Approach

The approach used in this analysis is sensitive to a number of factors and assumptions imbedded in the analysis. These factors include:

1. Market Disaggregation. The disaggregation of markets (127 commodities and 171 BEA Regions) may have resulted in some understatement of market dominance. Since a minimum of two observations in a market was necessary to perform the statistical analysis, single movements of one commodity between two regions, 14 percent of the traffic, were excluded. Aggregating some markets by either commodities or territories would probably improve the results for a few commodities.

2. Level of Significance. The confidence limit is defined as the probability of committing an error of rejecting a true hypothesis. Selection of a high confidence limit weights the test in favor of the non-dominance. A 95 percent confidence limit was used in this analysis. This is not an extraordinarily high figure and is frequently used in statistical studies.

Alternative confidence limits were investigated. At the 99 percent level, only 8.7 percent of rail traffic would likely meet the threshold test, whereas at the 50 percent level, 26.6 percent of rail traffic would meet the test.

(g) Summary

Major findings of the cost test analysis are:

1. Eleven percent of carload traffic was found to meet the threshold test of market dominance.

2. A relatively small number of commodities accounted for a major share of the market dominance. These included grains (particularly wheat), a variety of iron and steel products, iron ore, a small percentage of bituminous steam coal, motor vehicle parts, coking coal, and petroleum products. The results for the wheat, and other grains too, are probably overstated due to exclusion of outbound transit movements.

3. Profitability varies widely among commodities. In general, manufactured commodities appeared more profitable than bulk commodities, the major exception being grains.

4. No TOFC traffic was found to be market dominant.

SUBSTANTIAL INVESTMENT TESTS

Substantial shipper investment in rail facilities has been included as a third presumptive test in the Ex Parte No. 320 proceedings which indicates the presence of rail market dominance in the transportation of a particular commodity. Presumably the presence of sunk investment in rail transportation facilities and equipment precludes a shipper's freedom of modal choice. Precisely the size of the investment which "locks" a given shipper into rail transportation cannot be defined at this point in time.

This analysis of the substantial investment test attempts to quantify the tonnage of rail traffic involved when various sizes and types of investment are included. The purpose of this analysis is <u>not</u> to establish definitive guidelines on which the Commission may judge whether a given shipper investment constitutes a "substantial investment," but rather to consider various investments on the part of shippers and the tonnage of rail traffic affected by each. Arguments both for and against inclusion of a certain investment in the substantial investment test were considered, but conclusions as to the nature of a "substantial investment" will be left to the discretion of the Commission in its rulings on the subject. The measures of substantial investment used in this study may be viewed as proxy measures for various categories of investments.

Some form of shipper investment is necessary in any use of transportation, regardless of mode. A private dock is probably the most common investment, but even where a public loading/unloading facility is used, a shipper has a clerk or other employee assigned to the maintenance of transportation records. Obviously, all rail traffic is the result of some investment on the part of the shipper. Consequently, some general definition of "substantial investment" is necessary to provide a basis for this analysis.

For the purpose of this study, a "substantial investment" has been defined as an investment over and above that which would normally be necessary in the transportation of a given commodity or which would normally be made by a rail carrier.

Thus, general purpose loading/unloading facilities, office staff and space, and ancillary handling equipment such as fork lift trucks, although possibly pertinent in individual cases, have been excluded from the substantial investment test. Facilities and equipment which are exclusively rail-oriented were considered and the rail tonnage handled as a result of substantial shipper investment was estimated.

As was described in the Approach section, traffic moving in shipper owned freight cars (both owned and leased) and traffic moving under multiple car rates (as a proxy for investment in large loading and unloading facilities) were considered to meet the substantial investment for purposes of this study. Both noncompensatory and intrastate traffic were excluded from the analysis.

(a) Overall Results of Private Car Analysis and Multiple Car Analysis

The first general area of significant shipper investment in rail facilities and equipment to be discussed is private ownership of freight cars. As the AAR figures in Table II-9 indicate, 19.5 percent of all freight cars in service at the end of 1975 were owned by shippers or car companies.

Table II-9

Freight Cars in Service at the End of 1975 by Ownership

Type	Total	Class I Railroads	Other Railroads	Car Companies and Shippers
Boxcars:				
Unequipped	321,480	304,910	9,068	7,502
Equipped	173,679	170,179	2,621	879
Covered hoppers	228,265	156,850	1,386	70,029
Flatcars	141,316	98,320	778	42,218
Refrigerator cars	100,815	70,434	2,618	27,763
Stock cars	4,423	4,341	--	82
Gondola cars	186,773	176,408	4,923	5,442
Hopper cars	363,186	346,413	6,720	10,053
Tank cars	170,876	2,951	18	167,907
Other Freight cars	32,792	28,653	1,275	2,864
Total	1,723,605	1,359,459	29,407	224,739

Source: AAR.

It is estimated that large car companies own 90 percent or approximately 300,000 of the privately-owned cars indicated in Table II-9. To a large extent these cars are leased to shippers, although some leasing companies deal almost exclusively with railroads satisfying their car requirements, especially flatcar and refrigerated boxcar needs.

The percent of total traffic moved in these cars was estimated from the waybill data. That analysis showed that 15 percent of total tonnage moved in private cars. However, this percentage includes noncompensatory traffic and intrastate traffic. Excluding this traffic to which the 4-R Act and the market dominance provisions do not apply, 10.5 percent of interstate rail traffic moves in private cars that appear to be at least at compensatory levels.

A similar analysis was performed for rail traffic moving under multiple car rates of 5 cars and up (as reported as EM-5's on the Waybill Sample). Overall 33.0 percent of total rail traffic moves at multiple car rates. However, only 15.1 percent of interstate rail traffic moving in multiple cars would meet the threshold test of market dominance. This result may be indicative of shipper investment in loading and unloading facilities.

Eliminating the overlap in private cars and multiple car movements, 24.7 percent of interstate rail tonnage moving at what appears to be compensatory levels would likely meet the threshold test of market dominance under the substantial investment presumption.

(b) Results by Commodity

The results by commodity are shown in Exhibit 11. That exhibit shows the percent moving in private cars and on multiple car rates, a subtotal, the percent double counted, and the total integrated percent.

The major commodities moving in private cars and multiple car shipments are shown in Table II-10.

Table II-10

Substantial Investment Test
Results by Commodity

Commodity	Percent of Interstate Tonnage Private Cars	Percent of Interstate Tonnage Multiple Car Shipment	Combined Percent
Chemicals	24.2-95.5*	0-14.0*	33.6-94.9*
Petroleum products	79.5	9.0	84.5
Iron ore	0	52.4	52.4
Coking coal	1.6	38.4	39.2
Steam coal	4.1	22.4	24.6
Corn	15.7	3.8	19.2
Semi-finished steel	7.9	29.0	32.8
Cement	9.3	15.4	20.3
Sugar	26.6	0	26.6
Total all commodities	10.5	15.1	24.7

Note: *Varies by specific chemical within range.

As shown, chemicals would likely meet the threshold test of market dominance due to the vast privately owned or leased fleet of tank cars. Petroleum products move in a similar tank car fleet. The remaining commodities are generally dry bulk in nature and move in multiple car shipments.

INTEGRATION

The three individual presumptive tests were integrated to derive an estimate of total rail traffic which would trigger at least one presumptive test. This was

accomplished by selecting the largest market dominance estimate from the three tests for each of the 127 commodities and aggregating over commodities. This approach assumes that there is complete overlap in the three tests. Since substantial overlap appears likely, this exercise can prove instructive. These results are shown in Exhibit 13.

That exhibit shows the total interstate rail tonnage in the 1975 Waybill Sample, the estimate of noncompensatory and thus not market dominant traffic, the integrated estimate of market dominant traffic and the estimate of nonmarket dominant (but compensatory) traffic. In total, the estimates are shown in the table:

Table II-11

Integrated Market Dominance Estimates*
(Unexpanded Waybill Sample)

	Total Waybill Tonnage	Percent
Market dominant	4,054,432	48.5
Nonmarket dominant	4,305,914	51.5
(Compensatory)	(1,857,520)	(22.2)
(Noncompensatory)	(2,448,394)	(29.3)
Total waybill tonnage	8,360,346	100.0

*Based exclusively on the presumptive tests without inclusion of rebuttal evidence.

The following observations can be made concerning these estimates:

1. These estimates are based exclusively on the presumptive tests without consideration of rebuttal evidence, and will therefore tend to overstate market dominant traffic to the extent that they assume complete overlap of the presumptive tests.

2. There is evidence to show that most noncompensatory traffic would meet the threshold conditions of market dominance by one of the other two tests if rates were raised to the variable cost level. This is of particular importance since the 29.3 percent estimate may overstate noncompensatory traffic due to costing procedures for coal unit trains, savings on which were not recognized. However, the analysis does not incorporate other cost adjustments which may result in the understatement of certain specific movements. Overall, the costs used in this study may be considered generally representative in spite of these problems. Finally, truly noncompensatory traffic would probably not be found to be market dominant after all the facts have been considered.

3. Manufactured commodities will trigger a market dominance presumption far less often than bulk commodities. However, there is much more motor carrier competition for manufactured commodities, which will tend to hold rates down. With appropriately selected rate decreases for manufactured commodities, the railroads may be able to recapture some lost traffic (provided service improvements are also achieved), without fear of Commission suspension as long as the proposed rate contributes to the going concern value of the railroad.

Just as the lower estimate was developed by assuming that there was complete overlap among the three tests, a high side estimate was also developed assuming no overlap. This exercise was performed for illustrative purposes and establishes a benchmark. Assuming no overlap, approximately 65-70 percent of interstate traffic could theoretically meet at least one of the three threshold tests of market dominance.

Although the amount of rail market dominance found will ultimately lie with the Commission in its rulings, the most likely estimate of rail tonnage meeting the threshold tests of market dominance by the parameters of this study will lie between 48.5 percent and 70 percent of interstate traffic. Since all three presumptive tests attempt to measure the same factor, i.e., market power, significant amount of overlap is anticipated. For this reason, the lower estimate is believed to be considered more representative. In addition, these estimate do not consider the impact of rebuttal argument and it is likely that the 48.5 percent estimate overstates the level of market dominance which will be found on a case by case analysis. This view is supported by the review of Suspension and Fourth Section Board cases provided below.

PROTESTED RATE INCREASES UNDER MARKET DOMINANCE

In the 8-month period following the promulgation of standards in No. Ex Parte No. 320 (October 1, 1976 - July 31, 1977) the Commission received 39 protests involving potential violations of section 1(5) of the IC Act as amended. Twenty-three of these cases could not be evaluated on the market dominance criteria on the grounds that the protests failed to conform with the rules and standards set forth in Ex Parte No. 320. The most common deficiency among these protests was either a total failure to raise the issue of market dominance or a failure to support the allegation of market dominance with any type of evidence and often even without stating the grounds for the allegation. A brief description of the market dominance cases is provided to demonstrate the current understanding of the concept by the shipping public.

(a) Suspended Cases

1. Lone Star Texas Case (I&S 9146)

Protestant: Lone Star Steel Company

Respondent: Southern Freight Bureau, Agent

The first suspension under this provision involves a coal rate published by the Southwestern Freight Bureau, an agent for the Kansas City Southern, St. Louis and San Francisco, Louisiana and Arkansas, Southern Pacific, and Texas and New Orleans railroads. The protested matter involved the cancellation of carload, single car, specific commodity rates on coal from stations in Arkansas and Oklahoma to stations in Texas. The consequence of this cancellation was that higher alternative rates in the same tariff now became effective.

The protestant, the Lone Star Steel Company, successfully argued that the participating carriers have market dominance since they carry vitually all the traffic (market share) and that replacement by motor carrier service was not feasible. The protestant further argued that although the carriers' variable cost data were not available, they strongly suspected that as a result of the October 5, 1976, general rate increase (5 percent) the proposed rates would exceed variable cost by more than 60 percent. In rebuttal, the respondent argued that present rates do not cover variable costs and that coal is available to the protestant through other modes and from other sources. The respondent admitted that no real possibility of diversion to other carriers or modes existed.

The Commission's Suspension and Fourth Section Board (Suspension Board) decision to suspend and investigate was based primarily on the market share presumption. In addition, preliminary cost estimates indicated that the proposed rates exceed 160 percent of variable cost. The market dominance finding was made in spite of the fact that the Suspension Board recognized that the cancelled rate was inadequate. The suspension, however, was felt necessary so that an alternative rate could be developed.

The respondent filed a petition for vacating the order of suspension. The petition was denied due to failure to show sufficient cause.

The Board's finding in this case is, in part, supported by the statistical analysis. Approximately 55.3 percent of coal tonnage met the threshold condition of market dominance in the market share test, 2.1 percent in the cost test, and 24.6 percent in the substantial investment test. It must again be emphasized that the costs used for the cost test may seriously overestimate unit train costs and thus underestimate the percentage of market dominance subject to any of the tests.

2. The Southwestern Brick Case (I&S 9160)

Protestants: Beck Face Brick & Stone Co.

Acme Brick Company

Can-Tex Industries

Acme Brick and Supply Company

Brick Distributors of Illinois

Ramon Brick & Materials, Inc.

Respondents: Southwestern Freight Bureau, Agent, jointly with Western Trunk Line Committee

The second suspension involved increasing the minimum loading weight for bricks and other commodities from 100,000 to 120,000 pounds between the Southwestern Freight Bureau and the Western Trunk Lines or the Illinois Freight Association territories.

The protestants are primarily manufacturers and/or distributors of brick. In filing their protest, they stated that the increased minimum loading was tantamount to a rate increase since it is not possible to safely package brick at the proposed minimum.

Currently, shippers prepackage and band brick so that a fixed number of similar packages will fill the standard square footage of a 50-foot boxcar to the required minimum weight. Present packaging practices conform to loadings at 100,000 pounds. The protestants argue that these packages, of which thousands are in inventory, cannot be adapted to safe loadings at any other weight. The 120,000 pound minimum would force shippers to seek other modes until current inventories of packages have been exhausted.

In compliance with Ex Parte No. 320, Appendix A, the protestants certified that the railroads moved in excess of 90 percent of their traffic in the preceding year and thus have market dominance by way of the market share test.

The respondents state that the proposal was intended to partially offset revenue losses which the carriers were experiencing and still maintain competitive rates for the brick industry.

The Suspension Board's decision to suspend the proposal was based on the protestants' certified statement regarding market share and their inability to make short run adjustments in minimum loadings. A preliminary analysis of rates and costs showed the average ratio of revenue to cost to exceed 150 percent. Considering these factors, the Board voted to suspend.

The statistical analysis indicates that bricks have a relatively low probability of being market dominant. However, a finding of market dominance would most likely be based on the market share test, as it was in this case. Eighteen percent of all brick tonnage moving by rail is projected to trigger the market share test, while 1.2 percent is projected to trigger the substantial investment test and insignificant tonnage (0 percent) is expected to be affected by the cost test.

(b) Investigated Cases

In addition to the suspension there have been five investigations into rates where market dominance may exist. These five cases may be referred to as: the Cincinnati Switching Case (Docket 36489), the Hoerner Waldorf Case (Docket 36501), the Arizona Electric Case (Docket 36530), the Pascagoula Switching Case (Docket 36560),* and the Bethpage Switching Case (Docket 36516). A brief discription of these cases are given below.

1. Cincinnati Switching Case (Docket 36489)

Protestants: Ford Motor Co.
David J. Joseph Co.
Monsanta Co.
National Distillers Products Co.
Ralston Purina Co., Inc.
Baltimore & Ohio RR. Co.
and Chesapeake & Ohio RR. Co.
Louisville & Nashville RR.
Norfolk & Western Rwy. Co.
Southern Railway System
Central Soya Co., Inc.
Stearns & Foster Co.
The Early & Daniel Co., Inc.
The Proctor & Gamble Co.

Respondents: Traffic Executive Assoc.-Eastern RRs, Agent
Southern Freight Association, Agent

Conrail's proposal to increase reciprocal switching charges between several industrial sidings and carriers in approximately 628 items was protested by nine shippers and four railroads. The proposal resulted in increased switching charges on line-haul traffic of the Baltimore and Ohio Railroad switched at Ivorydale, Norwood, and Cincinnati, Ohio. It also resulted in increased line-haul rates on the Chesapeake and Ohio Railroad, the Southern Railway System, the Louisville and Nashville Railroad, and the Norfolk and Western for movements switched at Cincinnati.

The protesting railroads claimed rate increases from 4 percent to 814 percent of the present charge. The railroads contended (except for the L&N and SRS) that they must fully absorb the increased switching charges to remain competitive. However, their division of the line haul did not cover these additional costs. Since the L&N and SRS are not competitive with Conrail in the Southern Freight Association territory, they have been forced into publishing maximum switching absorption limitations.

Four shippers protested limited items in the new tariff while two protested all items. The allegation of market dominance was based on all three presumptive tests.

*This includes Docket 36560 (Sub-No. 1).

- Switching charges exceeded variable costs by more than 160 percent.

- Conrail has exclusive switching rights in Cincinnati and thus controls more than 70 percent of the market.

- One shipper (Ford) claimed to have a substantial investment in rail shipping containers designed for railcars.

Conrail's response to the protest was that the proposed charges only covered 90 percent of variable costs and that under existing charges Conrail was subsidizing other carriers by about $40 per car resulting in losses of $560,000 per year. Considering the reciprocity factor, Conrail estimated a net revenue loss of $470,000 per year.

In addition, Conrail argued that both water and motor alternatives were open to all shippers in the Cincinnati area. Ford's claim of having an unstated number of containers used for some movements of unspecified commodities was so vague that it could not support a finding of market dominance.

The Suspension Board did not find that the protestants had sufficient evidence to justify a suspension. Given the number of items involved in the tariff, the Suspension Board voted to further investigate the increases on a more detailed basis.

The consequences of this case and other switching cases can not be evaluated on the basis of the foregoing statistical analysis which was oriented toward commodities rather than services.

2. The Hoerner Waldorf Case (Docket 36501)

Protestant: Hoerner Waldorf Corporation

Respondent: Pacific Southcoast Freight Bureau, Agent

Hoerner Waldorf, the protestant, owns and operates a paper mill at Shilling, Montana. The protested matter involved the cancellation of rates and routings on fibreboard or pulpwood in carload shipments from Shilling, Montana, to points in California. The cancellation closed a more direct routing for these commodities forcing traffic to travel via a more indirect route. This change had the net effect of increasing rates since the rate applicable to the indirect (longer) routing would become the applicable tariff. The protestant's allegation of market dominance was predicated on both the market share presumption and the cost presumption.

The respondent, the Pacific Southcoast Freight Bureau, an agent for the Union Pacific Railroad, argued that the proposed route cancellation was for nonuse. Furthermore, the protestant had the option of using five alternative routes.

Preliminary cost estimates indicated that on the alternative routing rates would exceed costs by as much as 229 percent on which a finding of market dominance could be based. However, the question of nonuse was considered as an important fact in the decision to investigate.

Based on the statistical anaylsis, the probability of finding market dominance appears high for these commodities. According to the market share test, 74.3 percent of pulpboard tonnage would trigger the presumption while only 6.3 percent would trigger the cost presumption. In general, the results of the statistical analysis appear consistent with the action taken, particularly with respect to the market share presumption.

3. Pascagoula, Miss., Switching Case (Docket 36560)

Protestants: Mississippi Research and Development Center

Louis Dreyfus Corporation

Southern Railway Company

Jackson County Port Authority

Mississippi Chemical Corporation

Mississippi Export Rail Company

Respondent: Southern Freight Association, Agent (account of Louisville & Nashville Ry. Co.)

The Southern Freight Association maintains a switching absorption tariff for the Louisville and Nashville Railroad and the Mississippi Export Railroad which covers reciprocal switching arrangements at Pascagoula, Miss.

The respondent, the L&N Railroad, proposed an increased switching charge at Pascagoula on interstate traffic only. These charges were to apply only when they were absorbed in whole or in part by a connecting carrier. Increases ranged from 158 percent to 174 percent. Seventeen industries were affected by the proposals.

The protestants charged, among other violations, a violation of section 1(5) of the IC Act. The issue of market dominance was raised on the ground that the respondent carrier had exclusive switching rights at Pascagoula.

The respondent's rebuttal argument attacked the protest at three levels. First the L&N stated that its charges had to be increased due to increased costs and inflation. Although switching was reciprocal, the L&N was performing a disproportionately greater amount than the Mississippi Export Railroad with whom they carry this agreement. The MER could in turn pass these charges on to the other carrier or absorb them themselves. Secondly, they stated that the increased charges are consistent with actions taken by other carriers throughout the East. Consequently, the L&N's increases are no more injurious than those of other carriers many of which have been approved. Finally, it was argued that the protestants failed to provide specific evidence on which a finding of market dominance could be based.

The decision to find market dominance and investigate was based on the fact that the Mississippi Export had no other connections but with L&N at Pascagoula. Since there were no specific facts of substantial injury shown by the verified complaint, there could be no suspension although market dominance was found.

4. Arizona Electric Case (Docket 36530)

Protestant: Arizona Electric Power Cooperative, Inc.

Respondent: Pacific Southcoast Freight Bureau, Agent

The Pacific Southcoast Freight Bureau, acting as an agent for three rail carriers, established a single carload and annual volume shipment rate from Cameo, Colorado, to Chochise, Arizona. This rate was established in anticipation of the new coal burning utility plant Arizona Electric Power Cooperative, Inc., was building at Chochise. Arizona Electric charged that this rate was unreasonably high and that since Arizona Electric was the only receiver at Chochise and the coal affiliate at Cameo was the only potential consignor, the participating carriers would have market dominance over the traffic. They further stated that since the proposed rate applied only to cars furnished by the consignor or consignee, there would be a substantial investment on the protestant's behalf.

The respondent, in rebuttal, indicated that the proposed rates were substantially below the applicable class rates. Furthermore, since no traffic had moved there could be no market dominance. It was also noted that rates were published independently by the Rio Grande subject to concurrence of the other roads. This could not be considered pricing on their behalf.

The decision to investigate was based on all three presumptions of market dominance. Following the decision to find market dominance and investigate, the respondent chose to withdraw the rate.

5. The Bethpage Switching Case (Case No. 36516)

Protestant: General Motor Corp.

Respondent: Long Island Rail Road Co.

The Long Island Rail Road proposed a surcharge on all carload traffic to or from the General Motors plant at Bethpage, N. Y. The surcharge applied in addition to the line-haul rate and any other charges applicable to the shipper. General Motors protested the rate raising the issue of market dominance on the grounds that 90 percent of the affected traffic moves via the Long Island Rail Road.

The Long Island argued that the present rates were noncompensatory. General Motors paid only one-third of the cost of handling an average car on the ong Island in 1975 and revenues covered only 48 percent of variable cost. The Commission's decision not to suspend was based on preliminary cost estimates performed by the Commission's staff which indicated that even with the rate increase, the proposed rates would not cover the cost of maintaining the switch. This conclusion, however, could be changed by variations in the annual maintenance costs and number of cars per year. Since the Long Island RR. has exclusive switching rights at Bethpage, a finding of market dominance would be appropriate if the proposed switching charge is found to be compensatory during the course of the investigation.

(c) Nonmarket Dominant Cases

Market dominance was not found in the following cases. They were, therefore, neither suspended nor investigated.

1. Lawrenceburg Switching Case (Case No. 66134)

Protestant: The Baltimore & Ohio R.R. Co.

Respondent: Consolidated Rail Corp.

The Consolidated Rail Corporation proposed an increased reciprocal switching charge of $80 per car at Lawrenceburg, Indiana, for all commodities between industries located on its track and the junction with the B&O line at Lawrenceburg. The Baltimore and Ohio Railroad protested this increase, charging that the increased rate would exceed costs by a substantial amount and that this increased charge would divert traffic from the B&O to Conrail. The B&O also charged that market dominance exists since Conrail has exclusive switching rights and thus controls 100 percent of the market. Conrail cited a recent cost study which indicates that the new rate represents only 76 percent of variable cost. In addition, the B&O had presented no detailed evidence to support their contention of market dominance.

Although the Commission found Conrail's cost data to be suspect, they agreed with Conrail's justification and thus found not to suspend.

2. Special Switching Charges on "XF" Cars (Case No. 66146)

Protestant: General Mills, Inc.

Respondents: Burlington Northern, Inc.
JOINT
Paducah & Illinois RR. Co.

Missouri Pacific RR. Co.
JOINT
Kansas City Terminal RR. Co.

Case No. 66146 (Sub-No. 1)

3. Protestant: General Mills, Inc.

Respondent: Missouri Pacific RR. in connection with the Kansas City Terminal RR. Co.

Case No. 66193

4. Protestant: General Mills, Inc.

Respondent: Chicago, Rock Island and Pacific RR. Co.

All three cases are related and are treated together. The protested rates involved additional switching charges on "XF" equipment [defined as a boxcar specially prepared to prevent contamination and used for processed food products] at all stations on the BN, P&I, MP, and CRI&P. Since these car do not require special handling, the protestants claimed that the increased charge was unwarranted. The protestants argued that market dominance existed based on the market share test. The Commission's decision not to suspend in this case was based on the protestants' failure to provide sufficient evidence to justify a suspension.

5. New Orleans Switching Case (Case No. 66364)

Protestants: Farmers Export Co., Inc.
JOINT
MFC Services

Respondent: Texas Pacific-Missouri Pacific Terminal Railroad of New Orleans

Protested was an increase in the switching charge on grain load shipments at New Orleans from Ama, La., on the Illinois Central Railroad. The protestants, Farmers Export Co., Inc., and MFC Services, stated that switching to and from Ama is captive to the Texas Pacific-Missouri Pacific Terminal Railroad of New Orleans.

In rebuttal, the respondent indicated that the proposed charge equalized Ama with the port of New Orleans and that the costs per car exceeded present rates.

The Commission's decision not to suspend was based on the fact that the proposed rate failed to cover variable cost. It is again noted that initial interpretations are that noncompensatory traffic is not subject to the market dominance provision.

6. American Home Products Case (Case No. 66411)

Protestant: American Home Products Corp.

Respondent: E. F. Baughan, Agent for Chessie System (C&O RR. B&O RR. Co.)

The American Home Products Corporation protested a proposed surcharge on TOFC plan II 1/2 and III rates on all commodities to and from Lansing, Michigan. Market dominance was alleged on the grounds that the rate was discussed, considered, and approved by the Traffic Executive Committee, a rate bureau.

The respondent, the Chessie System, rebutted the allegation of market dominance by providing cost data showing that the proposed rate covered from 97 percent to 134 percent of variable cost.

The Commission did not find market dominance since the rate did not exceed 160 percent of variable cost. Furthermore, the fact that the rate was discussed by a rate bureau did not automatically lead to a presumption of market dominance. This factor could only be used in the market share test to show that there was a lack of effective intramodal competition.

7. Little Rock Switching Case (Case No. 66426)

Protestant: General Electric Co.

Respondent: Little Rock Port Railroad

General Electric protested increased interterminal and intraterminal charges between any and all switches, tracks, industries, and warehouses on the LRP RR and interchange connection with the Rock Island and Missouri Pacific Railroads at Little Rock, Arkansas. Although both carriers proposed to increase their maximum absorption allowance there would still remain an unabsorbed charge of $10.00 to be assessed against the shipper/receiver in addition to the line haul rate. Since the LRP RR. handled 100 percent of the switch movements between GE and the connecting line, the protestant claimed market dominance.

The respondent's rebuttal was based exclusively on cost evidence which showed the proposed rate to represent only 48 percent of variable cost. Since the rate was noncompensatory, the Commission did not find market dominance.

8. New Orleans Switching Case (Case No. 66692)

Protestant: Louisville & Nashville RR. Co.

Respondent: New Orleans Terminal Co.

The L&N Railroad protested an increase in intermediate switching charges at the New Orleans terminal. The protestant alleged market dominance based on the market share test since the respondent handled 100 percent of the cars interchanged with connecting roads.

The New Orleans Terminal Company countered by providing cost evidence which indicated that the new charge was noncompensatory.

Based on a preliminary cost analysis, the Commission agreed with the respondent and voted not to find market dominance. In the decision, it was pointed out that the protestant failed to provide adequate data to support the protest.

9. Kansas City Switching Case (Case No. 66802)

Protestants: Kansas City Power and Light Company

Missouri Portland Cement Company

Respondent: Southwestern Freight Bureau, Agent

Effective July 11, 1977, the respondent, on behalf of participating railroads, proposed to establish a new restrictive provision limiting the amount that line-haul

railroads will absorb of connecting lines' reciprocal switching charges. A maximum of $45 per car was established on carload shipments for coal from various origins in Arkansas, Kansas, Missouri, and Oklahoma.

In the verified complaint, the Missouri Portland Cement Company alleged market dominance stating that if the protested matter became effective, economic necessity would force them to consider movement of coal to its plant by barge and that switch would cause a substantial investment.

The Suspension Board's decision not to suspend was based on the contradictory nature of the protestants' statement. The allegation of market dominance is refuted by the fact that barge transportation is recognized as an alternative. In addition to this self defeating statement, the protestant offered no additional evidence.

(d) Evaluation

Two general observations can be made regarding these early cases. First, many protestants failed to present evidence in support of their allegation of market dominance. This may have been the result of either a lack of familiarity with the new rules or a lack of supportive data. Many shippers are, as yet, unfamiliar with the new rules of practice set forth in Ex Parte No. 320. Even some of the largest shippers interviewed during the course of this study openly conceded that they had not acquainted themselves with the rules of market dominance. Much of this lack of familiarity stems from the fact that Ex Parte No. 320 is being challenged in the courts by several railroads. It is likely that many shippers are waiting for the issue to be resolved before they acquire a working knowledge of the rules.

In most cases where evidence was presented, the record contained insufficient data to make a determination of market dominance. Under the rules of market dominance, the initial burden of proof at the suspension level lies with the protestant. This is a complete reversal from the previous rules of protesting rates under section 1(5) of the IC Act. A transition period may be necessary during which shippers and carriers will learn the new rules. This adjustment period may be quite lengthy in light of the court battle described above.

Second, a significant number of protests were against rate increases which did not directly involve line-haul rates. In fact, a majority of the protested rate actions addressed services, particularly switching, rather than line-haul rates. The impact of market dominance for services other than line-haul could not be evaluated in the statistical analysis performed for the commodity groups.

SUMMARY

The following conclusions and summary statements can be made:

1. It is estimated that approximately 48.5 percent of rail traffic would meet the threshold conditions for market dominance under the new 4-R Act provisions. Another 29.3 percent of the traffic would not be subject to the market dominance tests because it is noncompensatory. However, since rail costs may be overstated and most noncompensatory traffic may meet the threshold tests for market dominance if rates were raised to the compensatory level, the 48.5 percent estimate may somewhat understate rail tonnage meeting the threshold tests of market dominance. However, the actual level of Commission findings of market dominance will likely be below this estimate, based on rebutting evidence presented in the investigation.

2. The most significant test of market dominance is the market share test. Under this test it was estimated that 44.7 percent of interstate traffic would meet the threshold test of market dominance. The difficulty of approximating the same definition of the market as set forth informally in this report, i.e., the market to which a tariff applied, may have resulted in an overestimation of market dominance. There are, however, problems with the concept of market share in transportation. Transportation

markets are not stable, nor can they be clearly defined. As such, the Commission definition of market in individual cases will by necessity have to be much more precise than the definition used in this exercise.

3. Independently, the substantial investment test is estimated to find 24.7 percent of the interstate rail traffic meeting the threshold test of market dominance. This presumptive test is particularly instrumental in chemical and petroleum product markets due to large shipper investments in tank cars, and in coal and iron ore markets due to large shipper investments in loading/unloading facilities.

4. Also independently, the 160 percent cost test is estimated to find 11.1 percent of the interstate rail traffic meeting the threshold test of market dominance.

5. Using Standard Rail Form A costing procedures, over 29 percent of interstate rail traffic was found to be at rates below variable cost. However, this estimate is likely overstated since unit train cost savings for coal trains were not incorporated.

6. Experience to date indicates that the introduction of the market dominance concept increased rate flexibility for the railroads while at the same time providing shippers and other carriers protection from monopolistic abuse. As of this writing, approximately 39 protests have been filed with the Commission which contained possible violations of section 1(5) of the Interstate Commerce Act. In 16 of these cases an allegation of market dominance was made by the protestants in compliance with Ex Parte No. 320. Of these cases, market dominance was found in five of the seven cases in which a suspension and/or an investigation was ordered.

III - DISTINCT SERVICES EVALUATION

This chapter addresses the potential impact of that portion of section 202 dealing with separate rates for distinct rail services. The Act amended the Interstate Commerce Act by inserting a new paragraph 15(18) calling for the use of separate rates as an aid in encouraging investments in rail facilities.

OBJECTIVES AND APPROACH

The objective of identifying the consequences of a concerted rail industry effort in the area of distinct services pricing was divided into three primary elements. The first dealt with the origin and rationale of the services presently covered by separate rates. The second involved the types of services most likely to generate separate ratemaking activity in the future, and the third involved the identification of rate/cost relationships on existing distinct services as an aid in projecting potential rate levels for new distinct services.

In order to control the scope of analysis and provide a framework for the interviews, a list of 18 present and proposed distinct services was compiled. The list, which is reproduced in Table III-1, contained 9 services now covered by separate rates and 9 services, which were felt to have some prospect for future distinct service designation. While the list was not exhaustive, the services included represent the items of present significance to the industry.

Table III-1

Distinct Rail Services
Selected for Study

Present Services	Prospective Services
1. Transit	1. Insurance on lading
2. Diversion	2. Assigned cars
3. Reconsignment	3. Customized cars
4. Protective services (refrigeration, heating and icing)	4. Expedited services
5. Intraplant switching	5. Car tracing
6. Special car weighing	6. Inspection in transit
7. Car cleaning (to maintain classification)	7. Movement of empty private cars
8. Loading and unloading (using railroad crews and equipment)	8. Adjustment of shifted load
9. Partial loading or unloading en route	9. Car cleaning (to upgrade classification)

The primary source of data for this task was a series of interviews conducted with senior pricing officers of six major railroads. These roads were selected in such a manner as to provide a broad mix of commodity emphasis and regional operating conditions. The information gathered in the interviewing process was supplemented by reference to selected literature sources and proprietory data on various elements of railway costs, as well as input from shippers.

The results of the interview program are summarized in the following section, while the information on costs is largely contained in the subsequent section entitled "Costs and Profitability." The comments on both carrier and shipper impacts follow in a separate section, and a list of conclusions completes the report.

BACKGROUND ON SELECTED SERVICES

Although a substantial amount of material was collected on each of the 18 services, some were recognized as being of more significance than others in evaluating the future of distinct services pricing. Within the 9 existing services, most of the carrier and shipper personnel contacted felt that the most pertinent were those that occur within the basic movement as opposed to those which occur either at the beginning, ending, or between movements. The five services best fitting this description are:

- Transit
- Diversion
- Reconsignment
- Protective services
- Partial loading and unloading en route

Consequently, greater emphasis will be placed upon these five services in the following discussion, although each will be reviewed individually.

1. Transit. This term is used here to refer to the most familiar forms of transit, storage, or processing en route. In both cases, the movement from the origin to the ultimate destination is interrupted by a stop at an intermediate point for some form of handling. Typically, the lading will be removed from the original car and loaded into a different car on the subsequent movement from the intermediate point to the final destination. These two movements could conceivably be separated by as much as 1 to 2 years, but the through rate from the origin to the final destination is applied to the movement. The rate in effect on the date of the original shipment applies regardless of changes that have been made while the goods have been in transit.

Transit originated in the late 1800's in the East and spread into the West around the time of World War I. The original objective of transit was to place a processor at a point along the line of movement on the same competitive footing as the processors located at either end of the movement. Transit originated with grain traffic, and this commodity still dominates all statistics relating to transit. Lumber represents the second largest user and iron and steel fabrication ranks third, while canned goods and home appliances represent other major users. Transit is used both for storage en route and for processing en route. In the latter case, the form of the material changes significantly during the transit stop. Examples would include grain into flour, and logs into lumber.

Transit charges may be published on either a carload or tonnage basis, depending upon the particular application, and in some instances an "out of route" charge will be levied for a movement that generates "excessive" circuity. As a representative example of a transit charge, the rate on the transiting of canned goods at Peoria is currently $57.20 per car for shipments originating in California and destined for points east of the Illinois-Indiana State line.

Typically the carriers feel that the costs of performing a transit service far outweigh the specific revenue generated by the separate charge. This is not surprising, however, in view of the fact that transit was established to provide the shipper at an intermediate point with some form of freight cost parity with his competitors located at the end points. Thus, any correspondence between the original transit charge levels and railroad operating costs tended to be accidental at best.

Views toward transit vary widely from railroad to railroad. For example, roads with congested, high cost terminal operations are much less likely to endorse transit than are their counterparts in a less congested territory. Likewise, short roads with few shippers tend to market transit much more vigorously than do their neighbors with many shippers and long single line hauls.

In general, the use of transit has been declining slowly in recent years. This is a reflection both of the rail industry's lessened emphasis on new transit arrangements and of changes with the user industries, which make transit less valuable. The decline in transit usage is expected to continue as the major railroads continue to offer attractive alternatives to the shippers. The abolition of transit is not predicted in the near future, however, since it still plays an extremely important role for certain shippers and for certain railroads as well.

2. Diversion and

3. Reconsignment. Since these two services are often performed in tandem and they employ identical rate schedules, they are discussed here together. "Diversion" applies to any change in the car's destination once movement has begun, while "reconsignment" applies to a change in the designation of the consignee. Frequenly, the two occur simultaneously, but they exist independently as well.

While diversions and recosignments may by used by virtually any type of shipper in emergency situations, they are used routinely in the lumber, grain, and perishables industries. The so-called "roller" concept has historically played a major role in lumber marketing, both in permitting quick responses to time sensitive orders and in permitting lumber brokers to preserve their role by masking the identity of shippers and the receivers.

The rates for diversions and reconsignments are based upon the time the change is made and the location of the car. The lowest rates apply on changes made at the origin terminal shortly after the car has been tendered to the railroad, while the highest rates apply on cars that have already arrived at the destination terminal. For example, in Western Trunk Line territory, a rate of $16.63 per car is applied to a diversion occurring while the car is still with the origin terminal, while a rate of $72.78 per car is applied to a diversion ordered more than 24 hours after the car has arrived at its original destination terminal.

The importance of diversions and reconsignments has been declining markedly in recent years. In part, this reflects a reduced railroad marketing emphasis on these services, but to a larger degree it represents a change in the user industries. In the case of lumber, the increasing vertical integration in the industry has cut into the role of the broker, a major user of these services. Also the industry's increasing sophistication in inventory control and the generally faster rail transit times have combined to reduce the importance of roller cars. In the fruit and vegetable area, the need for these services has been largely eliminated by the trend toward locating the processing plants within the growing areas. In all of these time-sensitive situations, the increasing use of truck movements has also contributed to the reduced rail demands.

4. Protective Services. This term applies to temperature control of the freight car interior as an aid in protecting the lading from spoilage or other temperature-related damage. The use of ice for the cooling of perishable commodities first appeared in rail service in the middle of the 19th century, and ice represented the only cooling medium available until the late 1940's when the diesel-powered, mechanical refrigerator car was introduced. Icing was discontinued as a railroad service in the early 1970's, and only mechanical refrigeration service is presently offered.

Heating service has also been provided by the rail carriers to protect shipments from severe winter temperatures. Initially, this was provided by the use of heaters which burned either alcohol or charcoal. While the alcohol heater is still used, most heating service is currently provided by the temperature control units of mechanical refrigerator cars.

Rail carriers have always levied a separate charge to cover the cost of providing these protective services. Since icing provided the original method of refrigeration for freight, charges based primarily on icing costs were in effect until 1973 despite the predominance of mechanical refrigeration units by that date. Under Ex Parte No. 300, the Interstate Commerce Commission conducted an investigation into the adequacy of rail protective service charges in light of the cost of operating mechanical protective service units. In a final order, served on March 5, 1975, the Commission approved significant changes in protective service charges for non-frozen commodities.

In that case, the Commission established protective service charges which represented approximately 100 percent of the rail variable costs of providing this service. Included in these variable costs were the ownership cost of the refrigeration unit, but not those of the rail car which contains the unit. The Ex Parte No. 300 charges reflect only the specific services connected with the protective service itself, including fueling and refrigeration unit maintenance, precooling, inspection of freight in transit, and other miscellaneous services. Line-haul rates on perishable commodities were not involved in this proceeding.

Although substantial numbers of railroad employees and a large amount of railroad capital are committed to the provision of protective services, the railroad industry has not traditionally considered protective services as a source of profit. This traditional relationship was sustained in Ex Parte No. 300. For example, a California to Chicago trip of roughly 6 days duration carried a railroad variable cost of $195.51 and was assigned a rate of $206.00. Likewise, a California to Florida trip of 8 days carried a cost of $245.69 and was issued a rate of $242.00. (All of these costs and rates are expressed in 1975 terms from the Ex Parte No. 300 Final Order.)

The carriers typically look at the line-haul rates as the source of profit for perishable movements, but in recent years these rates have remained relatively low due to truck competition. Consequently, the roads indicate they have not been able to realize a satisfactory return on the purchase of new mechanical refrigerator cars, and no new cars have been built since 1973.

The railroads contracted on this project predict a long term continuing decline in refrigeration service, and some anticipate the virtual abandonment of the service within the next few years. A combination of high capital costs ($60,000 per car), highly seasonal demand patterns, intensive competition by exempt truckers, and high loss and damage ratios have combined to produce a highly pessimistic forecast for this portion of rail operations.

5. Intraplant Switching. The technical definition for this service described it as "a switching movement from one track location to another, with the same plant or industry, not connected with a road haul movement." Generally, the switching is performed "at the railroad's convenience," which means that the work is normally completed when the railroad crew and engine is at the plant to handle other routine business.

Intraplant switching services have been performed by rail carriers throughout most of the industry's history. While virtually any firm may use the service on an occasional basis, it is used frequently in some industries and geographic areas. This service, in conjunction with the related intra-terminal and inter-terminal switching services, represents a major activity for U.S. railroads.

The rates for these switching services are usually published on a terminal by terminal or statewide basis. Consequently, there is little direct correlation between the rate and the cost of performing a specific service. Also, these rates vary widely even though there may be little difference in operating conditions. For example, the Southern Railway's intraplant switching charge in Tennessee is $52.45 per car, while the charge in neighboring Alabama is $21.06 per car. This variation is explained in part by the fact that these rates are published on an intrastate basis, and the differences reflect the philosophical and procedural differences between the various State governing bodies. In spite of this lack of direct cost correlation, however, switching services may constitute one of the more profitable separate services, as long as they are performed "at railroad convenience."

The demand for these services is expected to continue at relatively high levels for the indefinite future, although a long-term decline is anticipated. A basic level of switching demand is expected to exist, however, as long as rail shipments are handled on a carload basis.

6. Special Car Weighing. The weighing performed in this service goes beyond the normal weighing involved in the assessment of freight charges and refers to weighings made at the request of the shipper or the receiver to check tare weights or to provide both origin and destination loaded weights. While requests for special weights may arise in almost any area on occasion, the scrap metal and grain industries are the largest users of this service.

The charges for weighing are usually published on a territorial basis. Generally, several levels of rates are published in order to cover most of the typical weighing circumstances. For example, the Southern Railway publishes 50 different levels of rates for weighing with charges ranging from $9.56 per car to $42.66 per car. Specific examples chosen from the Southern Pacific's list of weighing charges would include a $12.63 charge for weighing an inbound car on private scales before placement for unloading and a $27.64 charge for weighing an empty outbound car on railroad scales after placement for loading.

The demand for weighing services is not expected to change rapidly in the future, although some decline is expected over time. This decline should occur as bulk commodities account for a larger portion of total rail movements, since these items are most likely to be covered by weight agreements.

7. Car Cleaning. "Cleaning" refers to work required before a car is to be reloaded with a commodity similar to the one previously carried. Typically, this involves the removal of dunnage, packaging materials, and assorted debris, and in some instances, it includes washing as well. Repairs to the car or related hardware, however, are not included in this category even though they may actually be performed on the cleaning track.

The subject of car cleaning has been controversial throughout the history of railroading. The controversy has focused upon the assessment of the responsibility for car cleaning costs. Presently, Rule 27 of the Uniform Freight Classification states that the receiver has the responsibility of unloading the freight car completely, including blocking, bracing and other dunnage as well as lading. Thus, when a carrier is scheduled to pull an empty car, the switching crew has the option of rejecting a car and leaving it to accrue demurrage charges until the receiver removes all debris.

As a practical matter, however, few switch crews inspect cars thoroughly, and dirty cars are frequently encountered in rail terminals. There they are usualy either cleaned by the railroad at its expense or placed for loading in a dirty condition in the hope that the shipper will clean it at his own expense. In neither case does the offender, the receiver, bear the cost directly.

The rail carrier costs for car cleaning are accrued in Rail Form A as "Special Service Costs." They are subsequently incorporated in the average carload rates and are, in effect, borne by all shippers regardless of their individual unloading practices. The principal changes in cleaning policies anticipated in the future are expected in the area of more precise and more readily quantifiable cleanliness measurements and in techniques for apportioning cost more directly to the offending shippers or receivers.

8. Loading and Unloading. This service includes the actual loading and unloading of freight cars by railroad employees or the provision of specialized handling facilities, such as cranes, for the shipper's use. Although it has traditionally been the responsibility of the shipper and the receiver to handle the loading and unloading operation, railroad crews did perform this function in specialized situations in the past.

On most of the roads contacted in this survey, loading and unloading services are virtually nonexistent, and in several instances, all references to this service have been deleted from the tariffs. On the others, only coal, iron ore, and automobiles remain on the list of commodities served, and in many of these instances, the work is now performed by outside contractors rather than railroad personnel. No resumptions of unloading service by the railroads is anticipated in the future.

9. Partial Loading or Unloading En Route. Rail carriers generally permit a car to stop as many as three times to permit either partial loading or unloading. A fixed charge is then assessed for each of these stopoffs.

This service is currently more widely used in the West than in the rest of the country, but even there it is a relatively small revenue generator. Stopoffs are most popular within a few particular commodity groups. Examples include lumber, canned goods, furniture, farm machinery, magazines, and catalogues. While the service is holding relatively steady in volume, it is not a major activity for most roads. It does, however, represent one means of enabling small shippers to receive carload rates and service on less-than-carload quantities.

The rates for stopoffs are fairly uniform nationally at approximately $75 per car, and in Western Trunk Line territory this charge is currently set at $74.17 per car stop. The rail costs involve the switching to and from the intermediate location and the loss of usable car days during the stop. In this respect, it is highly analogous to transit, but is somewhat more efficient in that there is no change of cars at the intermediate point. Consequently, it represents one of the services that may be at least marginally profitable in those instances where the railroad enjoys a particularly favorable switching cost situation.

(b) Potential Services

In the discussions with carriers and shippers in the nine potential services, four emerged as possible candidates for separate rate treatment in the near future. These four were:

- Insurance on lading
- Assigned cars
- Customized cars
- Inspection in transit

While each of the nine services will be reviewed below, heavier emphasis will be placed upon these four areas than upon the remaining five.

1. Insurance on Lading. Under current practice, rail carriers typically assume full responsibility for all loss and damage which may occur while the goods are in transit. In some circumstances, rail liability is limited through a device known as "released value" rate, but such rates currently account for a very small portion of current rail traffic, a situation arising in part from the ICC's stringent past criteria for approval of released rate applications. These criteria dealt with such items as the susceptability of the traffic to loss and damage, the number and frequency of prior claims and the carrier's own ability to acquire insurance at reasonable rates.

The railroads interviewed in this task were highly interested in the possibility of separating insurance costs from the line-haul rate for a number of reasons. Chief among them is the difficulty that a railroad pricing department has in assigning values and risk factors to the commodities being handled, especially to items that are not regularly traded on a commodity basis. A secondary concern arises in establishing an equitable "average" claim figure, which will still protect the railroad in the event of a number of closely spaced, expensive claims.

On April 28, 1977, the Commission issued a released rates order in the motor carrier area, which represents a significant departure from past practices in this field. This order (No. MC-894) concerned the movement of data processing equipment by motor carriers on a released rates basis. In this instance the application for released value rates was approved (albeit with a fixed expiration date) even though the normal criteria were not satisfied. Although this order contains an explicit warning that carriers should not attempt to justify future released rate applications on the basis of this one case, it does indicate the Commission's receptiveness in considering arguments on this issue which fall outside the traditional criteria.

If insurance were established as a separate rail service, a shipper would have the option of purchasing coverage through the rail carrier or through a third party or of choosing a self-insurance arrangement. Currently, rail loss and damage payouts are included in transportation costs and reflected in rate levels. Consequently, all shippers are effectively purchasing insurance as a part of the basic line-haul rate, whether it is desired or not. While the loss and damage expenses for the railroad industry as a whole average roughly 1.8 percent of total revenue, some commodities run as high as 7.3 percent nationally and can reach as much as 12-15 percent for specific railroad situations.

Most rail carriers interviewed show little enthusiasm for establishing insurance as a separate rail service since they would prefer not to go into the risk analysis and insurance business. Their preference instead would be for the wider use of released value rates with the shipper providing his own insurance coverage, either through self-insurance or through third party contracts. Released value rates are currently used in several commodity areas, such as china, glassware, and precious metals.

Historically, the Commission's major concern has been that released value rates will favor large shippers, who could purchase insurance (or sustain self-insurance) at reduced or volume rates and effectively discriminate against small shippers who would have to purchase insurance from the railroads or third parties at significantly higher premiums. Movement toward wider use of released rates will likely occur slowly and cautiously on a case by case basis initially.

2. Assigned Cars and

3. Customized Cars. Although these two categories are different, there are so many parallels between them that they will be discussed together. The term "assigned cars" refers to railroad owned cars that have been designated for use by one specific shipper. Under present rules, only specialized cars can be placed in assigned service. These cars are not necessarily unique, but may be a relatively common car, such as a DF type box car. The term "customized car," however, does apply to a unique car in that it has been so modified as to make it usable by only a small number of shippers within one industry.

Although car assignments have existed for many years, they have never been totally embraced by the railroads, and even the strongest proponents of the system acknowledge that it is susceptible to abuse. The subject of assignments has been studied at length, but firm conclusions have remained elusive. Many experts feel that something should be done to place the practice on a firmer basis. Although special charges have been suggested as one solution, no agreement has been reached on this alternative.

Car assignments provide the shipper with an assured supply of the car type that he needs, when he needs it, without the necessity of purchasing or leasing the car and incurring ownership costs. From the railroad point of view, assignments are intended to improve the utilization of the car and to provide some leverage in securing traffic from desirable foreign-line shippers. Also, it tends to reduce the railroad cleaning and maintenance costs, as shippers tend to take better care of assigned cars than "free running" cars.

While the customizing process offers a similar set of advantages for both the railroad and the shipper, it also carries more potential risks for the car owner than does the simple assignment process. First, the railroad has committed more capital to the customized car than to a comparable general purpose car. Secondly, the car can typically be utilized by only a few shippers at a few locations, and thus its utilization is closely tied to the fortunes of the using industry. Thirdly, at the termination of the assignment, a second capital expenditure is typically required to prepare the car for its return to general service.

A number of abuses have been associated with assignments. One of the most serious is for a shipper to overestimate his required pool size to the extent that the utilization of the assigned cars actually falls beneath the level that would have been likely if the car had remained in general service. A second problem involves multi-plant shippers who may shift cars from pool location to pool location for no productive end. On the shipper side, small shippers may quickly lose assigned cars if the railroad can find more profitable traffic, although this is less of a risk with customized cars.

The railroads believe that any separate charges in this area should be designed to reflect the railroad's investment in these cars and to discourage the common abuses. In the latter category, the recently imposed storage charge on idle

assigned cars was widely credited with reducing pool sizes and solving the utilization problems. The carriers feel that the level of the storage charge, however, is too low to compensate the railroads for even the ownership cost on these specialized cars, not to mention the lost opportunity costs.

The most attractive tools for protecting the railroad's investment on customized cars are shared ownership and amortization agreements. In the shared ownership approach the railroad typically leases the car to the shipper for some token amount, and the shipper actually makes the modifications at his expense. In the amortization approach, the railroad makes the investment in the modifications, but the shipper agrees to reimburse the railroad for the unamortized portion of the new investment, if the movement terminates earlier than originally projected.

Given the current lack of unified thinking on the issue, no type of railroad investment fee is anticipated for some time to come. Changes in the storage fee or the introduction of an empty car movement fee are more likely, but even there, little action is anticipated in the next 2 to 5 years.

4. Expedited Services. Expedited services appear in at least three forms under current railroad practices. The most common is the extra attention given to particular cars to assure that they move at the maximum possible rate. The second form is special train service in which a complete train is assembled and run at the request (and expense) of a specific shipper. The third form is unit train service although the desire for speed is usually not the primary motivation in this case.

Currently, only special train service carries special charges that reflect the expedited handling. In general, rail carriers offer expedited terminal handling and faster train service without extra charge, although some special charges have existed in the past, such as perishables trains, the "Silk Trains," and high speed intermodal services, such as the "Super C" service previously offered by the Sante Fe.

As an example, special train services on the Conrail system are rated differently for movements within one terminal as opposed to movements between terminals. Within a terminal the current rate is $61 per hour for the first 8 hours with an 8 hour ($488) minimum. Additional hours are charged at $60 per hour. Between terminals the rate is currently $21.56 per mile with a minimum of 110 miles ($2,371.60). In the Super C case a premium of 40 percent was charged above the normal rate, and in return the Santa Fe offered a Chicago to Los Angeles transit time of 36-40 hours, roughly half of the best previous timing. (While the Super C service was operationally successful, it did not achieve commercial success, as shippers were generally unwilling to pay the premium required for the service improvement.)

Expedited terminal services ("hot" cars) appear to lend themselves well to separate charges, and a few such charges are currently in effect. However, since these requests often stem from delays encountered in transit, neither the railroads nor the shippers have pursued the subject of separate charges with any enthusiasm.

Given the recent unfavorable experience of the Santa Fe with their "Super C" service and the widespread availability of rates on special switches and special train service, no new expedited service charges are expected within the next 2 to 5 years.

5. Car Tracing. Tracing presently exists in three major forms. The first is the individual inquiry made by the shipper through the carrier's sales office or tracing bureau. The second is direct access by the shipper to the carrier's car location computer file, and the third is the daily routine reports provided by the carriers on the location of private and assigned cars.

The subject of charges for car tracing has been docketed for discussion at numerous rate bureau meetings for many years, but no unified industry position has emerged. Most railroads have shown little enthusiasm for car tracing charges, in general, although some roads do charge for the daily report services or at least require the shipper to assume the communications costs in the direct inquiry systems. Moreover, shippers feel that tracing exists largely because of poor and unreliable rail service and, thus, that no charge can be justified. Consequently, no new tracing charges are expected to surface within the next 2 to 5 years.

6. Inspection in Transit. This terminology refers to the stopping of rail car for inspection of its contents, and the holding of the car for its ultimate disposition based upon the results of the inspection. The inspection itself is performed by agents of the shipper or receiver, not by railroad personnel. Virtually all of the inspection activity is associated with grain movements, although it occurs to a limited extent with automobiles and perishables as well.

In the East and in the South the railroads charge for all inspections, but in the West the first inspection stop has traditionally been accommodated without charge. Any subsequent stops will, however, lead to charges, even in the West. The rates approved in I&S 8548 in January 1975 ranged from $17.45 to $30.30 per car per inspection.

Inspection charges have been a particularly controversial topic for many years, and it was an inspection case which led to the "Wichita Doctrine," which has played a major role recently in distinct service ratemaking. This controversy is expected to continue in the West with most observers expecting to see new carrier initiatives in this area. Some feel that such a charge may be introduced under the 4-R Act in those western markets where the rail carriers do not have "market dominance." In any event, a substantial amount of activity on this front is expected within the 2 to 5 year time frame of this study.

7. Movement of Empty Private Cars.* Currently there is no uniform policy on the movement of such cars. In some instances the owner pays the railroads, in others the railroad pays the owner, and in still others no payments are made by either party. The latter conditions apply primarily to tank cars and covered hopper cars, two of the biggest elements in the private car fleet.

Effective January 1, 1977, tank car owners will pay on a mileage basis for those situations in which the number of empty miles accumulated in a year exceeds 105 percent of the loaded miles recorded for that car in the same year. These totals are computed on a national basis, and the present rate is 18 cents per "excess" mile. This mileage equalization practice represents a return to a concept that existed for many years in the past. In the prior system, however, the accounts were maintained on a road-by-road basis, rather than a national basis, as is now the case. The only source of dissatisfaction with the new system, uncovered during interviews with railroad personnel, was the lack of such a road-by-road equalization accounting system.

Assuming that the new system is effective in reducing empty mileage, as was intended, the only activity expected in this area over the next 2 to 5 years will be the extension of the equalization concept to additional car types (especially covered hopper cars) and the introduction of road-by-road accounting.

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* The movement of private cars may not always constitute a distinct rail service. See reference in Chapter I.

8. Adjustment of Shifted Load. When railroad car inspectors encounter a car whose load has shifted sufficiently to make the car unsafe to handle, or whose load is so precariously positioned as to make serious lading damage a foregone conclusion, railroad maintenance crews will typically shift the load back into its proper position and attempt to secure it more firmly for the continuation of the trip.

Under current rules the railroads are free to bill the shippers for this adjustment, if it can be demonstrated that the shipper was at fault. In practice, however, this is rarely done, as it is often difficult to prove responsibility, and since most observers suspect the primary cause of load shifting is rough handling by the railroads. Consequently, the rail industry has no plans to alter the arrangements in this area for the foreseeable future.

9. Car Upgrading. In the past standard boxcars were often upgraded from one loading class to another by some form of temporary treatment, such as washing or the installation of paper liners. With the development of more specialized cars and more stringent cleanliness standards for foodstuffs, this work has virtually disappeared in recent years. Consequently, no rate activity is expected in this area in the future.

COSTS AND PROFITABILITY

Special cost estimates for use as a rough guide to revenue/cost ratios for several distinct rail services were prepared for the purposes of this study. These estimates were primarily based on engineering standards for the quantity of various resources required in the performance of the service (e.g., number of documents processed, number of switch engine minutes consumed) and extending these units in dollars through the use of standard cost factors. All of the cost figures were expressed as a range of values, since these services are performed under a wide variety of circumstances. A detailed listing of the factors considered in each case is contained in Exhibit 14, and a breakdown of the individual cost components for each service may be found in Exhibit 15.

The standard data used in this task are oriented primarily toward such elements as labor hours, engine hours, and car days. Thus, some of the services included in this study did not lend themselves to this form of cost analysis. Examples included shipper car allowances, insurance, assigned cars, customized cars, and empty private car movements. These were covered by alternative techniques, as noted below. Also, data for protective services were available in Ex Parte No. 300, a relatively recent proceeding which investigated these services in substantial detail.

The estimates prepared by this technique are quite different from those normally encountered in ICC proceedings. Although they are most closely related to "variable" costs, they differ substantially in their development. The normal formula costs are obtained by analyzing the actual costs incurred in prior operations, while the estimates contained in this report are projections of "idealized" operations.

No data were readily available to indicate the exact distribution of conditions surrounding these operations. For example, some diversions involve nothing more than a simple paper transaction, while others may require extensive terminal switching and train delays. No data were obtained, however, on the proportions of "simple" and "complex" operations included in the total sample of all diversions. Consequently, it is not possible to produce an accurate single value or "point estimate" for the cost of these services.

Table III-2 contains the cost and rate data for the services presently covered by separate rates. Both the cost levels and rate levels are cited as ranges. In the cost case, the range reflects the differences between roads and geographic regions as well as the different circumstances cited in the applicable tariff.

TABLE III-2

Estimated Cost and Rate Levels
for Present Separate Rate Services

Services	Representative Rate Levels	Estimated Cost Levels	Comments
Transit	$12-$57 per car	$63-$105 per car	-
Diversion and reconsignment	$16-$76 per car	$13-$44 per car	Cost for one change only
Protective services	$111-$347 per shipment	$85-$143 per shipment	From Ex Parte No. 300
Intraplant switching	$20-$45 per car	$3-$35 per car	-
Car weighing	$10-$43 per car	$10-$17 per car	No switching included in cost
Car cleaning	None	$28-$50 per car	Facility cost not included
Loading and unloading	Actual cost	$33-$50 per car	Costs for mechanized handling
Stopoffs for loading and unloading	$73-$77 per car	$31-$53 per car	Costs for one stop only

Source: Various rail freight tariffs, ICC documents, and proprietory cost data.

During the interviewing process it was generally noted that accessorial services on the whole are not profit-making items, and that historically the rates for these services have been limited to a reimbursement of the carrier's out-of-pocket costs. While this effort was not designed to test this particular hypothesis, the data in Table III-2 do indicate that these services are unlikely to contribute significantly to railroad profitability. The reasons for this situation are not clearly defined, but the following three points were offered as contributing factors:

1. Railroads traditionally made their profit primarily on the line haul, and provided other services at charges which often merely covered their direct costs.

2. The railroad industry has traditionally been divided on the need and desire for rate increases on accessorial services, and the resultant increases have been based more strongly upon compromises between industry factions than upon cost considerations.

3. The expense of the special studies necessary to develop accurate costs for these services has hampered the industry in its attempt to present solidly documented cost evidence to support rate increases, thus weakening its position in these adversary proceedings.

Table III-3 provides a listing of the estimated costs for the services suggested for future separate rates. In four of these services the computational technique used in Table III-2 did not prove practical. In the case of insurance, an alternative estimate was available but in the remaining three cases no costs were computed. For both the assigned cars and the customized cars the cost is primarily capital oriented, although some specialized maintenance costs may also be incurred. The exact cost would be a function of the nature of the car and the specialized equipment attached to it. Likewise, the nature of private car movements differs so widely as to make the calculation impractical in this type of exercise.

Table III-3

Estimated Cost Levels
for Possible Distinct Services

Services	Estimated Cost Levels	Comments
Insurance	$.01-$4.50 per ton	Rail Form A Loss and Damage payout records
Assigned cars	-	No costs computed
Customized cars	-	No costs computed
Expedited services	$22-$57 per car	Cost per handling
Car tracing	$4-$7 per inquiry	Conventional individual inquiry on one car
Inspection	$27-$53 per car	Similar to en route stop
Empty private car movements	-	No costs computed
Load adjustment	$31-$240 per car	Cost per occurrence
Car upgrading	$48-$99 per car	Cost per occurrence

Source: ICC documents and proprietory cost data.

If the traditional relationships were to hold in the case of new separate rates, one could reasonably assume that the rates for these services would tend to run lower that the cost levels shown above. For example, if a charge were to be instituted for car tracing, the rate level might be expected to fall in the $3-$5 range, which is generally lower than the $4-$7 computed cost shown in the table. To some extent this has been demonstrated in the case of inspections, where charges of $25-$30 per car have been proposed in an area where costs run $27-$53 per car.

The validity of such an extrapolation process is subject to some question, however, in the light of the 4-R Act. If distinct services are not to be viewed as a profit-making element of a railroad's revenue package, it would appear illogical to expect that new services would enter the market at rate levels below cost. This is especially true in the case of separate rates made under the Wichita Doctrine, which would in many circumstances have been accompanied by a decrease in the basic line-haul rates.

IMPACTS ON RAIL CARRIERS

The railroads interviewed perceive three major barriers to the expansion of the separate rates concept, implied in the 4-R Act. These three items are:

1. Competitive practices
2. Wichita Doctrine
3. Legalistic environment

The competitive practices reference involves both intermodal and intramodal competition. Trucking industry practices are probably the largest single barrier within this category, as rail industry personnel are reluctant to charge separately for any service that the trucking industry normally provides without charge.

Due to deficiencies in the cost data for separate services, the practical effect of the Wichita ruling to date has been to require a reduction in the line-haul rate whenever a previously included service is singled out for separate charges. The reduction in turn should be of comparable magnitude to the level of the new separate charge. On the surface, this requirement does not appear particularly troublesome, but in many instances only a small percentage of the shippers using the line-haul rate may elect to use the separate service. Thus the revenue generated by the new separate charge would fall far short of the revenue lost through the reduction in the line-haul rate.

The Wichita Doctrine does not prohibit a rate package totaling more than the prior "unbundled" rate, but the railroad is required to demonstrate that the higher rates are "just and reasonable." This may not be a simple task, and as noted earlier, it is complicated by the highly imprecise nature of separate services costing techniques. To date the carriers have apparently felt that the costs and risks of such a procedure substantially outweigh the benefits of further rate separation.

Some carriers feel that the market dominance provisions of the 4-R Act will blunt the effectiveness of the Wichita ruling in those situations where the railroads do not enjoy market dominance. Under the 4-R Act justness and reasonableness need only to be demonstrated where market dominance has been shown to exist. Consequently efforts are now underway to test this concept legally and possibly achieve some significant flexibility in the separate rates area.

Because of statutory and judicial constraints, no distinction has typically been made between a "permanent" rate and an "experimental" rate. This is particularly troublesome, of course, when a new rate turns out to be too low or when it imposes some onerous operating restrictions on the railroad. Corrections are technically possible by proving that the higher levels are "just and reasonable." Ex Parte No. 331 does call for experimentation in the area of separate rates pricing but the carriers appear to have remained cautious on this point.

In summary the railroads interviewed in this task anticipate that the separate rates portion of the 4-R Act will have little impact upon the rail industry. In their estimate, no new freedom or authority was introduced into the separate rates areas by the 4-R Act except possibly in easing the Wichita Doctrine's impact. They foresee that the primary impact will occur on the procedural side, especially in the nature of the documentation required on various separate rates filing and in the expedited handling of protests and investigations.

In the area of "possible" rather than "probable" impacts, the railroads do feel that the Act could conceivably lead to some long-term changes in distinct services pricing. For example, the Act could provide a basis for the eventual resolution of several long standing industry problems, such as charges for inspections in transit and for assigned cars. In addition the Act may lead to a more favorable climate for the establishment of new separate rates, as opportunities present themselves in the future.

The Act may also ultimately lead to a greater acceptance of the concept of distinct rail services as a source of profit for the railroads. If so, such a change would probably of necessity be accompained by a drastic improvement in the art and science of distinct service costing. This would permit the railroads to more readily determine and demonstrate the justness and reasonableness of separate rates proposals.

Thus, while the railroads anticipated few, if any, changes in the area of separate rates pricing within the next 2 to 5 years, they do acknowledge that some longer range changes may be forthcoming. However, it should be stressed that this assessment was made by some carriers even before February 4, 1977, when the Commission's rules were promulgated, and that the Commission has yet to reach its decision on the changes to these rules which the railroads urge in their petition for reconsideration.

IMPACTS ON SHIPPERS

While the shippers echoed many of the railroad comments on the immediate and longer term implications of the Act, they did foresee some additional effects. The most immediate, of course, would deal with the procedural aspects of handling separate rate filing.

Over the longer term, the shippers anticipate substantial upward pressure on rates for distinct services, as railroads seek to make these services profitable in their own right. The responses to such prospects differ widely, however, among different groups of shippers. Major users of separate rates are generally unenthusiastic about the prospects of higher freight bills, but other shippers feel that such a move could be desirable. This latter group feels that currently the distinct services are, in effect, being subsidized by the line-haul rates, and that, consequently, the line-haul rates are overstated to cover this subsidy. Therefore, they reason that improved profitability on distinct services may permit some reduction in line-haul rates.

The wider use of separate rates pricing implies greater shipper flexibility in choosing the exact transportation package. Some shippers foresee this as a source of conflict between large and small shippers. More often than not, the heavy user of

these distinct services is the smaller shipper, who may already feel that his costs are uncomfortably higher than those of his larger competitor. Any move to increase separate rate levels and reduce the basic line-haul rates may well eliminate the smaller shipper from cost competitiveness with his larger neighbor.

Most shippers, however, anticipate little immediate activity as an outgrowth of this portion of the 4-R Act. Thus, they have for the time being elected to adopt a role as cautious observers in the area of separate rates pricing.

RATE REQUESTS UNDER THE SEPARATE RATES FOR DISTINCT SERVICES PROVISION

The Commission has not received any rate requests under this provision as of the writing of this report. Based on the Commission's past experiences with distinct service pricing and the discussions with carriers conducted during the course of this study, there does not appear to be a great deal of enthusiasm for these types of rates. Unless there is a significant change in the carriers' views on this subject, no changes in the separate rates area can be expected.

SUMMARY AND CONCLUSIONS

While numerous conclusions may be drawn on the prospects for the individual services involved in this study, the following six points represent the key findings on the broad field of distinct services pricing under the 4-R Act.

1. A change in pricing practices will be necessary to achieve the stated objectives of the 4-R Act. The separate rates provision of the Act was in part designed to stimulate investment in rail facilities. Under current practices, however, distinct services are usually priced on the basis of cost reimbursement only and no profit contribution is typically generated by these services. The rate levels for these services must be permitted to rise above the cost levels, if positive returns are desired for the related investments.

2. Competitive factors will continue to play the dominant role in separate services pricing. Traditionally, the practices of competing carriers, especially truckers, have limited the rail industry's willingness to establish new separate rate categories. They have also limited to some extent the rate levels for existing separate services. This situation is not expected to change significantly, regardless of the amount of pricing freedom given to the rail industry in the separate rates area.

3. The Wichita Doctrine represents an important perceived obstacle to the further development of separate rate pricing. This doctrine was, however, established upon a basis of the rates being unjust and unreasonable. Under the new market dominance provisions, a finding of market dominance may be required before a finding that the rate is unjustly or unreasonably high can be made, and greater ratemaking flexibility may be introduced. Moreover, the Commission is presently considering the Wichita Doctrine's impact in response to the railroads' petition for reconsideration of the rules adopted in Ex Parte No. 331.

4. No substantial changes in the separate rates area are anticipated in the near future. This conclusion applies to the number and type of rates offered as well as the general level of rates. This conclusion assumes no significant changes in the regulatory and competitive environment for rail transportation in that period.

IV - SEASONAL, PEAK, AND REGIONAL RATE EVALUATION

The third major rail ratemaking provision of the Railroad Revitalization and Regulatory Reform Act of 1976 addressed by this study deals with seasonal, peak, and regional rates. Section 202(d)(17) of the Act states:

> "Within one year after the date of enactment of this paragraph, the Commission shall establish, by rule, standards and expeditious procedures for the establishment of railroad rates based on seasonal, regional, or peak period demand for rail services. Such standards and procedures shall be designed to (a) provide sufficient incentive to shippers to reduce peak period shipments, through rescheduling and advance planning; (b) generate additional revenues for the railroads; and (c) improve (i) the utilization of the national supply of freight cars, (ii) the movement of goods by rail, (iii) levels of employment by railroad, and (iv) the financial stability of markets served by railroads."

This section had the following four objectives:

1. To identify the nature and extent of peak, seasonal, and regional traffic.
2. To determine the extent of potential railroad utilization of seasonal, peak, and regional pricing.
3. To estimate the resulting impacts on the Nation's shippers.
4. To evaluate all rate filings published under this provision.
5. To forecast the consequences for the railroad industry over the next 5 years.

SEASONAL, PEAK, AND REGIONAL RATES - THEORY AND BACKGROUND

The economic theory behind peak load pricing is highly developed but is based on assumptions which are drawn in part from electric power industry operations. These assumptions include complete monopoly power, identifiable marginal costs, and homogeneous units of output, among others. In general, the theory states that peak period users should be charged for most or all of the capacity costs, while off-peak users should be charged short run marginal cost plus, depending on the assumptions made, a small proportion of capital costs.

Unfortunately, extending the application of the economic theory to the computation of "correct" prices for the rail industry is not practical, given the current problems of cost finding and data gathering. To make results of this study meaningful, a much less sophisticated approach to peak load pricing has been adopted. Basically, higher rates should be charged in peak periods than in off-peaks. The amount of the difference and the average overall rate were estimated based on possible shipper responses and estimates of the profitability of current rate levels.

As an aid to forecasting potential impacts and results of seasonal and peak load pricing, past efforts in this field were explored. It was found that actual U.S. rail experience with peak load pricing is extremely limited and has met with rather mixed results. The experience here and elsewhere, however, suggests that peak load pricing,

if properly implemented, can be potentially successful in the railroad freight industry, recognizing that the unique regulatory and economic environment of the U.S. presents some severe problems.

Unlike seasonal and peak rates, regional rates are not supported by a body of economic theory or actual experience. In fact, the very definition of the term "regional rates" has not been clearly established. For purposes of this study, regional rates were assumed to be those intended to balance the flow of traffic between two regions. It must be recognized, however, that there may be alternative definitions allowable under current Commission rules.

DETERMINATION OF SEASONAL MARKETS

To clarify the analysis, seasonal and peak pricing was separated from the issue of regional pricing. The determination of seasonal markets, the first step in the analysis of peak and seasonal ratemaking, was a three stage process. The first stage involved developing the definitions and measurement tools to be used in the rest of the analysis. Next, an initial screening of railroad markets was performed to isolate major markets for further study. In the final stage, a more detailed analysis was performed, and summary statistics were prepared to describe the results.

(a) Stage I - Market Definition and Seasonality Measures

There are many ways of describing the services which railroads sell in the marketplace. In one sense, they sell the movement of various commodities. In another, they sell moving containers (flatcars, boxcars, gondolas, etc.) which may be carrying any one of a variety of goods. Alternatively, the rail market may be viewed within various geographic subdivisions or as involving pairs of regions or points. An individual railroad carries traffic which can be classified as originated, interchanged, or terminated.

For practical purposes of this study, however, data limitations dictated that a "market" be defined as one class I railroad originating carloads of one commodity. This was reasonable, since the originating carrier is generally responsible for car supply and since a commodity breakdown of the market (rather than by car type) more readily permits estimation of potential shipper responses. Such an approach partially recognizes that the capacity of a railroad's car fleet is a major determinant of peak period capability; it does not take into account other capacity constraints which may have local significance on a particular railroad. Nevertheless, this definition is in accordance with that implied in Ex Parte No. 324.

Once a market definition was developed, two basic measures of seasonality were created. The first such measure provided an indication of the severity of demand fluctuations. The second measure identified the presence of regular patterns in demand variations which might make practicable a strategy of peak load pricing.

(b) Stage II - Initial Screening of Seasonal Markets

As an initial step in identifying seasonal markets, the AAR Weekly Carloading Statistics for each commodity on each class I carrier were analyzed. This analysis used the 23 commodity groupings in the Weekly Carloading Statistics (see Exhibit 16). The measures of seasonality were calculated for each market for each year from 1973 through 1976. Finally, the markets were ranked to identify the peak and seasonal markets which would be analyzed in detail in Stage III.

In this initial screening, some commodities such as grain, farm products other than grain, and metallic ore were clearly very seasonal and nearly all the traffic was selected for further analysis. Conversely, other commodities were just as clearly not seasonal. These included coal, grain mill products, and metals and metal products. In the case of other commodities, the presence of seasonality varied by region, however, some of these were selected for further study based on information provided by the participating railroads.

(c) Stage III - Detailed Seasonality Analysis

In order to develop more definitive statistics describing the nature and extent of seasonal traffic, it was necessary to perform additional analysis. The data source for this final stage of the analysis was the One Percent Waybill Sample prepared by the Federal Railroad Administration of the U.S. Department of Transportation.

In this stage of the analysis, the seasonal commodity groups identified in the previous stage were further subdivided into a total of 35 subcommodities (see Exhibit 16). For each of these, the traffic on a given carrier was designated as seasonal if the carloadings for any one calendar quarter were either above 1.2 or below 0.8 times the average quarterly volume. This simplified criterion was adopted after a thorough review of the results of more sophisticated seasonality measurements.

(d) Results of the Seasonality Analysis

The total seasonal traffic was determined for each of five unique ICC cost regions of the country and for the Nation as a whole. The percent seasonal for each of the 35 subcommodities and for the total traffic was determined. The statistical results which are the basis for several of the following tables are presented in Exhibits 17 through 22. These show the seasonality measures for each commodity in each of the five major ICC cost regions and for the entire U.S.

For the U.S. as a whole, approximately one quarter of all traffic moves in seasonal markets (by the definition used in this study) - approximately 24 percent by revenue and 26 percent by carloadings. In Exhibit 22 the total percent seasonal for the U.S. is somewhat higher since only the total U.S. traffic in the 35 commodity groups was considered. These 35 commodity groups encompass 92 percent of all U.S. rail traffic.

1. Results by ICC Cost Region. In Table IV-1, the total seasonal traffic and the percent seasonal are shown for each of the five major ICC cost regions. Exhibit 23 lists the class I carriers and the regions to which they are assigned.

Table IV-1

Total Seasonal Traffic by Region
(Based on Region of Originating Carrier)

Region*	Percent Seasonal By Cars	Percent Seasonal By Tons	Percent Seasonal By Revenue
1. New England	19.0	19.4	6.0
2. Official	20.0	20.5	21.0
4. Southern	14.0	13.6	14.0
5. Midwestern	46.0	50.0	30.0
6. Mountain + Pacific	40.0	34.6	37.0
All U.S.	26.0	24.0	24.0

*Region 3 includes region 1 plus region 2, region 7 is region 5 plus region 6. Separate analyses were not performed for region 3 or region 7.

Of particular interest in Table IV-1 is the uneven geographic distribution of seasonal traffic. Notice that regions 5 and 6, essentially Midwestern and Western carriers, face considerably more seasonality than do Eastern, Southern, or New England

carriers. The difference between the percent seasonal by cars, tons, and revenues is explained by the commodities involved. For example, Midwestern ore carriers move enormous tonnages of iron ore seasonally at very low rates. Thus, region 5 shows 50 percent of the tons seasonal, but only 30 percent of total revenue derived from carrying this seasonal traffic. The situation is similar in the New England region, where the two significant seasonal commodities, "other field crops" and "petroleum products" move at relatively low rates, thereby amounting to a greater share of cars and tons than of revenue.

2. Results by Commodity. Traffic in 17 of the 35 subcommodities was over 40 percent seasonal in nature. Table IV-2 lists these and the percentage of the seasonal traffic of each commodity originated in each region.

Table IV-2

Seventeen Most Seasonal***Commodities

Commodity	Total Percent Seasonal By Revenue	Percent In Region 1	Percent In Region 2	Percent In Region 4	Percent In Region 5	Percent In Region 6**
Soybeans	95	*	23	32	29	16
Corn	95	0	30	17	26	28
Wheat	99	0	7	2	27	64
Other grains	98	0	3	1	32	63
Other field crops	95	0	0	21	4	75
Fresh fruits	96	0	11	8	6	76
Fresh vegetables	98	0	2	0	2	96
Livestock	91	0	21	0	0	79
Poultry	88	0	3	21	6	70
Iron ore	93	0	29	1	58	12
Copper ore	96	0	0	0	0	100
Other ores	71	0	20	16	0	64
Crushed stone	44	0	60	3	6	31
Sand and gravel	47	0	43	5	6	46
Potash and phosphate rock	98	0	0	1	4	95
Agricultural chemicals	45	0	0	87	0	13
Assembled motor vehicles	57	0	84	0	7	9

Note: (*) Under one percent.
(**) Percentages may not add to 100 percent because of rounding.
(***) Based on quarterly volume exceeding + 20 percent of average quarterly volume for, at least, one-quarter of the year in 1975.

As had been indicated in the first stage analysis, the agricultural commodities constitute the major portion of peak and seasonal volume. These are joined by the ore traffic, assembled automobiles, construction aggregates, and fertilizers to account for the overwhelming majority of seasonal tonnage and revenue.

In interpreting this table several points should be borne in mind. A zero shown for a region does not indicate that no tonnage of that commodity is originated in that region. It does mean that none of the traffic originated in that region was identified as seasonal. Also, it does not suggest that these are the only seasonal commodities. All but four of the 35 subcommodities had at least some element of seasonality. Some of these are relatively unimportant when viewed as part of the nationwide rail traffic statistics but are quite significant within a region. One example of this is petroleum products, only 17 percent seasonal by carloads nationally but 89 percent seasonal in the New England region.

3. Measures of the Severity of Demand Fluctuations. The severity of seasonal demand fluctuations varies widely among the various commodities. To measure this severity, seasonality multipliers were calculated for each quarter's data in each market. The seasonality multiplier is defined as the volume for each quarter divided by the average quarterly volume. For each commodity, a weighted average (by carloads in each market) highest and lowest seasonality multiplier was calculated. The difference between these two values for a given commodity is an indicator of the extent of the difference between peak and off-peak volumes. The results of this analysis are presented in Table IV-3.

Table IV-3

Seventeen Most Seasonal Subcommodities Listed in Order of Severity of Demand Fluctuations

Commodity	Average Highest Seasonality Multiplier	Average Lowest Seasonality Multiplier	Difference	Total Seasonal Carloads in Sample
Other field crops	2.28	0.21	2.07	2,342
Poultry	2.18	0.18	2.00	44
Soybeans	1.91	0.45	1.46	894
Wheat	1.78	0.55	1.23	4,116
Copper ore	1.44	0.28	1.16	883
All other grain	1.66	0.52	1.14	1,426
Livestock	1.66	0.67	0.99	89
Fresh fruits	1.49	0.52	0.97	233
Corn	1.50	0.60	0.90	2,855
Fresh vegetables	1.49	0.63	0.86	569
Sand and gravel	1.41	0.60	0.81	1,626
Potash and phosphate rock	1.41	0.65	0.76	196
Iron ore	1.36	0.66	0.70	11,210
Crushed stone	1.37	0.70	0.67	2,343
Other ore	1.28	0.70	0.58	672
Assembled motor vehicles	1.19	0.77	0.42	1,702
Agricultural chemicals	1.26	0.86	0.40	1,160

Source: Edited 1975 One Percent Waybill Sample.

With the exception of livestock and poultry, where the volume is very low, it can be assumed that the nearer the top of the list a commodity is, the greater the incentive to adopt peak and seasonal pricing. Naturally, there are other factors which will impact the adoption of seasonal pricing, and they will be treated in the discussion on implementation. None the less, when peak volumes are from 5 to 10 times the off-peak volume as indicated in Table IV-3, the carriers have good reason to attempt peak or seasonal rates. As before, the data in Table IV-3 are confined to the most highly seasonal commodities. Some of the other commodities have substantial spreads between highest and lowest seasonality multiplier values also. Commodities with the lowest spread amounts still experience substantial volume fluctuations and may present the carriers with an inducement to attempt peak or seasonal pricing.

4. Other Results of the Seasonality Analysis. Generally, the larger the volume of traffic of a particular commodity on one carrier, the less severe the peaking. This is to be expected, as the larger volume tends to be drawn from a larger

geographical area and from a greater number of shippers. This is significant, however, because of the problems which could arise when a small railroad and a large railroad both serve the same region. The smaller road would tend to have greater incentive to adopt seasonal or peak pricing than the larger one. This would also tend to be true when both roads are the same size, but the different geographic coverage of the two roads gives one a higher volume of traffic of the commodity in a particular region than the other.

Most railroads have little or no seasonality in the total volume of cars loaded. The exceptions to this are the roads which primarily haul one commodity, (e.g., the ore haulers in Minnesota, Wisconsin, and Michigan). Similarly, most railroads experience very little peaking or seasonality in traffic received in interchange.

Some observers of the railroad industry have argued that if an improved car distribution scheme could be developed, problems with seasonal or periodic demand peaks would be eliminated. This analysis shows this contention to be only partially true. Measures of variability of demand for all commodities are lower when traffic statistics are summed over all railroads. However, seasonal commodities still display seasonality at this higher level of aggregation. This is especially true of farm products other than grain and metallic ores, and it is true to a lesser extent of grain, crushed stone, and motor vehicles. It can be concluded, then, that a more efficient car distribution scheme, which would make surplus cars available anywhere in the country they might be needed, would help, but not necessarily eliminate the problem of periodic demand peaks and the consequent strain on car supply.

MARKET RESPONSES TO SEASONAL AND PEAK PRICING

Traditional methods of predicting buyer behavior in the face of price changes were found to be of limited value in estimating market responses to peak and seasonal pricing. Moreover, the economic theory of peak load pricing could not be relied upon to provide specific values for peak and off-peak rates in real world applications because of the lack of information regarding several key variables. Some general conclusions could be drawn from elasticity analysis; however, this approach was not useful for detailed estimates. Consequently an indirect strategy was adopted to develop a combination of qualitative and quantitative bases for estimating probable shipper and competitive responses to peak load pricing for each major seasonal and peak commodity.

(a) Elasticity Analysis

In analyzing demand elasticities for various seasonal commodities, it was found that overall transport demand was fairly insensitive to changes in total costs of transport by all modes. However, the demand for rail services is much more sensitive to price changes when the alternative of shifting to another mode is available to the shippers. Using these aggregate elasticity estimates (derived from other studies) it may be concluded that even if railroad peak load pricing results in substantial increases in total transportation costs--this may be unlikely in view of traffic diversions--the impact on the flow of goods and the volume of demand for the commodities affected will probably be negligible for the Nation as a whole. This is not to say, of course, that regional or local impacts may not be severe. On balance, however, the net of all the regional or local impacts are expected to yield a minimal overall change in total demand levels.

In addition, the comparatively higher rail transport demand elasticities lead to a second equally important conclusion. Intermodal competition may be a significant factor in many seasonal commodity markets when these markets are viewed at a rather broadly aggregated level. In many cases, this competition is expected to provide a restraint of potential abuses of peak and seasonal pricing by the railroad industry.

(b) Market Response Analysis for Selected Commodities

When specific commodity markets are considered for peak or seasonal pricing, methods other than elasticity analysis must be relied upon. The most useful of these was a cost-of-storage analysis. In this analysis, the amount of commodity storage required to limit the weekly demand peaks to various ceiling levels was estimated. With information on storage costs for various commodities it was possible to calculate the approximate differential between peak and off-peak rates which would be required to induce shippers to store the necessary quantity of their products to achieve a given amount of demand leveling. This cost-of-storage analysis was combined with other measures to arrive at the estimates of market responses which follow.

1. Grain. Table IV-4 shows the key profitability measures for each of the individual grain subcommodities as a guide to whether grain peak prices would be raised or off-peak prices reduced.

Table IV-4

Grain Traffic Profitability Measures

Commodity	Average Revenue/Cost Ratio	Percent of Tons Below Cost	Percent of Tons Over 150 Percent Variable Cost	Percent of Total Grain Tonnage
Soybeans	1.136	31	29	9.6
Corn	1.039	41	27	30.7
Wheat	1.644	13	75	44.3
Other grain	1.486	12	49	15.4
				100.0

Table IV-4 indicates that soybeans and corn have rather low revenue to cost ratios. Assuming that the costs developed for this study are generally representative of these commodities, it appears that railroads would tend toward raising the peak rates rather than lowering the off-peak rates. It must, however, be emphasized that this perception is based on standard Form A cost calculations which are not attuned to the economics of specific circumstances. As such, the costs may be somewhat overstated.

Wheat constitutes a special case. The overall revenue to cost ratio appears healthy. According to Table IV-4, 75 percent of the traffic earns 150 percent of variable cost or more. However, these figures may be deceptive. The transit system by which processing or storage of grain in transit is encouraged works in such a way that initial inbound movements of unprocessed wheat move at relatively high rates while the rates on outbound movement after storage or processing are effectively lower, with the revenue on the entire movement being equal to the through rate. In the costing of the Waybill Sample it was not possible to identify which outbound movements were associated with which inbound ones. Outbound movements were thus excluded from the edited sample. Consequently we find a very high revenue to cost ratio in the case of grains where transit is widely used. However, the actual profitability of this traffic cannot be obtained from the costed One Percent Waybill Sample. The ratio of revenue to cost may be more representative of actual costs in the Eastern and Southern regions, where the use of transit has been effectively substantially reduced. In these areas revenue to cost ratios for wheat are below 1.15. Given the existence of transit and the seemingly high profitability for wheat movements, the railroads would probably feel political pressures if they attempted to raise peak period grain rates. Still, our cost data suggest that here too, higher peak period rates may be justifiable. Information from participating railroads supports this assertion.

Assuming that the railroads will seek to raise peak period grain rates, the next step is to evaluate the intramodal competitive factors. Table IV-5 shows the percentage of the tonnage where a carrier originates 70 percent or more of the traffic. This 70 percent test was intended as a rough indicator of the percent of traffic where a single railroad might be able to implement peak or seasonal rates independently. (It is not related to the market dominance findings of this study.)

Table IV-5

Percent of Traffic Susceptible to Independent Ratemaking
(Percent of Tonnage)

Commodity	Traffic Below Cost	Traffic Over 150 Percent of Variable Cost	Total Traffic
Soybeans	10	2	23
Corn	16	2	23
Wheat	2	10	14
Other grain	1	19	23

Based on the percentages for the total traffic, over three-fourths of the total rail traffic moves in geographic markets where two or more railroads compete for the business. Under such conditions the individual carrier which applies a peak load price independently faces the possibility of losing most or all of its traffic during the peak rather than just smoothing demand (insofar as the competing railroads have the capacity to carry the additional traffic).

This condition would be aggravated by the second competitive factor, intermodal competition. As one participating railroad pointed out, the unregulated motor carriers have an impact on rail ratemaking totally disproportionate to the size of their fleet or the volume of business they haul. The reason for this is that the independent truckers, free of geographical limits, have the flexibility to move anywhere that high rates make it profitable to do so. Several rail carriers have argued that the actions of a single railroad in independently implementing a peak load rate would be an open invitation for the independent truckers to take whatever business had not already been diverted to other railroads. Only by joint action of several railroads covering a fairly large geographic area can this kind of competitive response be weakened; for the larger the area the more heavily will truck capacity be taxed. To the extent that independent truckers cannot handle the entire volume, they will adjust their rates to parallel rail rates as is now the practice during the periods of heaviest traffic. In areas served by water transport, the unregulated water carriers could be expected to adjust their rates on new contracts to capture as large a market share as possible. Again, only when barge companies are operating at capacity can it be assumed that competition will not be a factor in rail peak load pricing.

In short, for peak load pricing to be successful (from the railroads' point of view) they must act in concert, implementing peak load pricing over a large geographic region--perhaps encompassing several States. Otherwise, competitive factors may force an individual railroad to withdraw the peak load rates.

The cost of storage analysis provided the basis for estimating the required differential between peak and off-peak rates. Two cost of storage figures were used, providing a high and a low estimate of the cost per month of storing one bushel of grain:

High estimate - $0.0338/bushel/month*

Low estimate - $0.0153/bushel/month**

These costs reflect the full ownership costs of the storage facilities but do not include handling in and out. Handling costs were not included since most grain moves through storage facilities on its way to the processors irrespective of the length of storage. Therefore, only storage facility capacity costs are involved.

Roughly speaking, the high cost estimate corresponds to the cost of storing grain in smaller facilities, while the lower figure is more appropriate for larger installations. These values must be considered as order of magnitude estimates, since actual costs of storage vary widely from region to region and facility to facility. In addition, the actual cost of storage is directly tied to the percent of utilization of storage capacity, a factor which changes almost continually.

In order to apply the storage cost data, it is assumed that in the absence of other factors (such as grain price fluctuations and diversion to truck) the shipper will decide to incur storage costs until no more can be saved in transportation costs. In other words, given that seasonality multiplier values are held to a maximum of 1.2, the total annual storage cost can be deduced. The railroad theoretically could charge a premium per ton of freight in the peak equal to the total storage cost divided by the total number of tons of grain held until the off-peak. At this point, if shippers hold more grain they will incur storage costs higher than their savings in transportation costs. The reverse would be true if they held less grain until the off-peak.

Table IV-6 shows the ton-months of storage (one ton stored for one month) and maximum storage required for holding the seasonality multiplier values to seven alternative seasonality levels.

Table IV-6

Storage Requirements Analysis
Grain for 1976

Seasonality Multiplier Ceiling	Ton-Months Required	Maximum Storage Capacity in Tons	Maximum Storage Capacity in Bushels
1.00	116,770,000	15,252,000	508,390,000
1.05	69,717,000	10,989,000	366,300,000
1.10	41,370,000	8,344,000	278,130,000
1.15	26,835,000	6,525,000	217,490,000
1.20	19,644,000	5,649,000	188,290,000
1.25	15,359,000	4,925,000	164,180,000
1.30	12,487,000	4,302,000	143,410,000

Source: A. T. Kearney analysis of 1975 and 1976.
AAR Weekly Carloading Statistics.

*From a study by Baumel, et al., on grain storage costs in the Fort Dodge, Iowa, area cited in "Bulk Commodity Transportation in the Upper Mississippi Valley" prepared for the U.S.Army Corps of Engineers by the University of Minnesota.

**Derived from the 1974-1975 estimate by the Economic Research Service of the U.S. Department of Agriculture, average for all U.S. grain storage facilities.

Of particular importance in Table IV-6 is the difference in storage requirements at different ceiling levels. Simply by allowing a 20 percent peak, storage capacity requirements are only one-third of the requirement for complete leveling of demand.

For the purposes of this analysis, 1.20 is assumed to be the optimal ceiling for the seasonality multiplier. This value was the one used to screen out non-seasonal traffic. It is used on the premise that peak load pricing should be designed to reduce rather than totally eliminate the peak. Total elimination would in most cases require peak rates so high as to make them politically unacceptable.

The cost of this storage would range from $10 million to $22 million per year. At the lower figure, a 16 percent rate premium at the peak would justify the storage, at the higher figure, a 35 percent rate premium would be required. Based on the 1975 average rail rate of $9.81 per ton, this represents an average rail freight rate increase of from $1.57 to $3.46 per ton during peak.

The high estimate of freight rate premium is the more plausible. The most severe peaking problems in grain movements are between country elevators and on farm storage on the one hand, and subterminal and terminal markets on the other. To even the flow, storage must take place at the country elevators or on the farms. Because storage at these points tends to be more expensive, a relatively higher rate premium should be required.

Unfortunately, the storage cost analysis still does not provide a definitive guide to shipper behavior in the grain market. The highest value per ton, $5.39 from the cost-of-storage computation is only a $.16 per bushel freight rate premium ($5.39 divided by 33.3 bushels/ton = $.16 per bushel). When this is compared with the $.65 spread between the high and low grain prices in a typical year, it is clear that farmers' expectations of future grain prices will override storage cost considerations. In years when stable prices are expected, rail rate increases of the magnitude indicated above will probably cause some smoothing of demand. However, in years when sharp increases or decreases in grain price are expected, the grain will probably move almost without regard to rail freight rates.

In addition, this analysis assumes no diversion to truck transport. Since variable grain prices may be expected for the foreseeable future, and some diversion is almost certain to take place, great care must be taken in applying the results of the cost of storage analysis to individual situations.

2. Farm Products Other Than Grain. Farm products other than grain is the single most seasonal commodity grouping. Here, the swings in rail demand are not only a function of the harvest time, but also a function of truck capacity. Consequently, on many railroads, the off-peak volume is extremely low. Becuase of the high seasonality, low profitability, and intense truck competition, some railroads have indicated a desire to get out of this market as soon as possible. Other railroad participants indicated that they hoped to retain and expand this traffic but recognized that sophisticated marketing strategies would be required to accomplish this.

Certainly intermodal competition is the biggest factor limiting railroad opportunities for peak load pricing in this traffic. The ubiquitous availability of low cost service from exempt truckers virtually guarantees a strong reduction in rail demand if rates are raised. This is particularly true of noncompensatory traffic if rates are raised enough to make this traffic compensatory at the variable cost level. In this regard it must be recognized that for many carriers the equipment utilization in this area may be below the average used in the cost computation by which the revenue to cost ratios were determined, indicating that the calculated revenue/cost ratios may have an upward bias.

3. Metallic Ore. Iron ore movements constitute 88 percent of the tonnage of metallic ores. The transportation patterns established for iron ore in the early part of this century are still in use today. A substantial degree of seasonality is built into these flows. The majority of this traffic (around 80 percent) originates in the Missabe Range of Minnesota and moves by rail to one of several ports on Lake Superior. Bulk ore freighters carry the ore through the Great Lakes waterway to steel mills located at water's edge in the Midwest or to water-rail transfer for shipment to Eastern mills. The winter freeze of Lake Superior, which interrupts shipping, causes the seasonal flow on the railroads.

The question of market response to peak load pricing of ore is complex because a sizable percentage of the total volume (approximately 50 percent) moves, at least in part, via carriers owned by the steel companies whose mills they serve. While these carriers probably could implement peak load pricing, it is doubtful that they would. If they do not, independent roads are unlikely to do so. Thus, intramodal competition is the main competitive factor to be considered since, in the case of Missabe ores, truck transport of ore or pellets is uneconomical. It should be pointed out, however, that in other regions (where ore traffic is not seasonal) truck and barge carriers are effectively competing for this traffic.

Nevertheless, a cost of storage analysis has been performed to estimate the peak load price premium for iron ore for two reasons:

(1) Ore rates are very low. They are profitable, most likely, for the ore carriers such as the Duluth, Missabe and Iron Range Ry. Co., which are extremely efficient. Their traffic consists of solid trains moving point-to-point. However, other carriers, which must integrate ore moves into other operations, may find the present low rates less attractive. They would have an inducement to try peak load pricing to raise revenue levels.

(2) Mining and steelmaking operations are essentially year round activities. Consequently, material is stored at both ends of the distribution channel. For example, it is estimated that in excess of 20 million tons of ore are in storage at the mines by the opening of the shipping season on the Great Lakes. If peak load prices were imposed by the railroads, this would shift the storage point to the lake port locations and encourage a more even flow of rail traffic.

The cost of storage analysis indicates that to accomplish a peak reduction to a 1.20 seasonality multiplier, approximately 52 million tons would require storage. This would involve 62 million ton-months of storage and 11 million tons of storage capacity. Note again that multiple peaks caused by irregularities in the ore demand by the mills causes the required storage capacity to be much lower than the total tons stored.

Assuming that the costs of storing iron ore are below $0.30 per ton-month, a peak period premium of 10 percent to 20 percent or less would be adequate to shift the storage location and bring about a smoothing of rail demand. The fact that a relatively small percentage increase is necessary to smooth demand is reasonable in view of the very low value per ton of the commodity and the relatively high ratio of rail rate to commodity value, on the order of 13 percent.

For iron ore, then, in the absence of competitive pressure from carriers captive to the steel companies, peak load pricing appears feasible. The market response should be fairly predictable, and a smoothing of demand would possibly result. On the other hand, the larger size of the major ore shippers and their ownership of rail carriers involved in this traffic suggest that successful implementation would require shipper agreement which could only be achieved by lengthy negotiations.

4. Crushed Stone, Sand, and Gravel. In the northern half of the United States, where winter weather makes construction activity seasonal, a parallel seasonality is found in rail movements of crushed stone, sand, and gravel. This reflects the fact that 85 percent or more of this commodity is used in construction work.

As with other low valued bulk materials, freight rates on the seasonal traffic of these commodities are low, and revenue/cost ratios appear to be correspondingly low. While major shipper organizations have argued that these rates are compensatory, the railroads participating in this study did not agree.

Intermodal competition may also be significant. The majority of railroad movements of these commodities are under 120 miles in length - generally considered a highly truck competitive distance. Most crushed stone, sand, and gravel travels even shorter distances because of its widespread availability and low value. Unregulated motor carriers and private fleets enjoy the lion's share of this very short-haul traffic. These factors indicate that the market for these commodities may be highly price sensitive.

A storage cost analysis was performed for crushed stone, sand, and gravel, considering only movements on carriers where these commodities are seasonal. To achieve a seasonality multiplier ceiling of 1.20, approximately 3.5 million ton-months of storage and 1.3 million tons of storage capacity would be required. With the very low cost of the outdoor storage normally utilized for these commodities, a peak period premium of 10 percent would probably be adequate to induce a smoothing of demand either by storage, by diversion to other modes, or by choosing alternate product sources.

5. Motor Vehicles. Among manufactured products, only assembled motor vehicles display a significant seasonality. This is caused by the model year cycle in the consumer market for automobiles. The flow of finished autos is characterized more by slumps than by peaks, the major slump coinciding with the model changeover period.

All the factors examined for the rail movements of automotive products suggest that little change in the demand pattern for assembled motor vehicles will be effected by freight rate changes. On the one hand, the railroads' revenue/cost relationship appears very favorable. The data suggest that for seasonal automobile markets the average revenue/cost ratio is nearly 1.9, and while this may be overstated, both the railroads and the auto producers agree that the traffic is very profitable. In this context, an off-peak rate reduction is all that could be justified. The purpose of such a reduction would be to attract off-peak business, and if railroad competitors countered with similar off-peak rates to maintain market share (as they probably would), the opportunity for obtaining more off-peak traffic would be limited. Moreover, automotive manufacturer resistance to peak load pricing would probably discourage experiments in this area.

IMPLEMENTATION OF PEAK AND SEASONAL PRICING

While there are potential opportunities for applying peak and seasonal pricing in several key rail markets, actual implementation may be quite limited due to numerous practical problems hindering this application.

(a) Ratemaking Strategy Considerations

The actual development of a peak or seasonal ratemaking strategy requires consideration of many factors. No one strategy will be suited to every commodity or every region.

1. Market Definition Problems. The extent of a market's seasonality is partially a function of commodity definition. For example, wheat is more severely seasonal than all grain taken together. In addition, the geographic area covered in

a rate affects the degree of seasonality. Not all geographic regions experience demand peaks at the same time. This is especially true of agricultural commodities. Specific matching of rates to demand conditions suggests narrowly defined geographic limits for seasonal and peak rates; however, the narrower the geographic limits the more likely is possible charges of rate discrimination and rail market dominance.

2. Problems with Timing. The method to be used for determining the time of changeover from off-peak to peak rates and vice versa is the subject of much discussion. On the one hand, shippers prefer a highly predictable time of changeover so as to have a maximum time for planning a response. On the other hand, the railroads prefer the maximum flexibility to allow rapid response to unanticipated demand variations and to permit more effective price competition against the unregulated motor carriers. There are numerous proposals for timing approaches - each with its drawbacks.

The simplest method is to use a fixed date. In this approach a specific date would be given in the tariff for the shift from peak to off-peak pricing and vice versa. This least flexible strategy has the least chance for success in the agricultural markets where the time of harvest varies from year to year and in markets where seasonality is influenced by weather conditions or commodity price fluctuations.

An improved version of the fixed date method is the multiple level, fixed date approach. It recognizes that for some commodities, grain and construction aggregates as examples, demand tapers upward to a peak and then slides downward. One or more intermediate rate levels applied during the period of rising or falling demand more nearly fit the rate to the market conditions. Both versions of the fixed peak rate are preferable to the shipper in the sense that this is the most predictable form of peak load pricing. Plans for storage or diversion to alternate modes can be made long in advance.

A more flexible approach is one where the peak load price is applied and removed based on some indicator of demand (or trigger) for rail services. There is no perfect trigger. Of the possible triggers, one that is mentioned frequently is based on cars ordered by shippers within some defined geographic region. Such an approach would tend to discourage the practice of inflating car orders at times of car shortages. Moreover, this is one trigger mechanism that is not in the direct control of the railroads and therefore not subject to charges of railroad manipulation.

Finally, one representative of a large shipper said in an interview during this study that if the railroads developed their market research techniques, they could use the 30-day standard notice filing approach and initiate new peak and seasonal rates whenever anticipated demand warranted. In contrast, the railroads argue that 5 days' notice is necessary for an effective peak load pricing strategy. In practice, the Commission has shown willingness to allow as little as 10 days' notice when proper justification is provided for the special treatment. Whether the period is to be 30 days, 10 days, or 5 days, none of the railroad participants in this study, with one exception, had given any thought to the real problems of internal communications and notification inherent in the short notice rate change approach. None gave any indication that they had the staff of marketing people dedicated to monitoring demand conditions in their key markets which would enable them to make the rapid decisions necessary to implement a 5-day notice, or even a 30-day notice, system.

3. Other Strategy Considerations. If the car supply is the capacity factor justifying peak load pricing, it can be argued that a flat dollar amount surcharge per car loaded during the peak is preferable to a percentage premium. If a flat percentage

were applied to the basic rate, long-haul shippers would experience a higher peak period premium per ton of cargo and would have a relatively higher incentive to store their cargo. A flat dollar amount surcharge would eliminate this imbalance.

Another significant consideration is the possible use of "incentive" rates. This approach to ratemaking presents both opportunities and pitfalls in the area of peak load pricing.

Various allowable forms of "incentive" rates, such as unit trains and annual volume rates, have already had substantial impact in smoothing the flow of goods by rail. Widespread application of this type of rate can be expected and will have a greater impact on demand peaks than peak and seasonal rates under section 202 will in the near term.

Finally, the incentive rate forms now in effect must be recognized during the implementation of any more conventional peak load pricing strategy. Economists would argue that all shippers, during the seasonal peak, contribute to the peak and should be charged accordingly. To counter this, shippers who use unit trains and other uniform flow arrangements with the railroads argue that their cooperation helps smooth the flow. Therefore, they claim, they ought not to be charged a premium for these services during the peak.

If unit train movements and similar uniform flow arrangements were exempted from the peak period price, substantial tonnage would be affected, especially in the case of grain. This is also true where shippers use their own cars. A peak load price predicated on the railroads' car fleet capacity could hardly be justified on traffic moving in shipper-owned cars. In the market dominance section it is shown that over 27 percent of corn and sorghum grains move in private cars. The exclusion of these movements from the total seasonal traffic estimates would reduce those estimates by approximately 3 percent. If all private car and unit train or other "incentive" rates were excluded from estimates of peak and seasonal rates, the reduction may be significant.

(b) Potential Impacts of Seasonal and Peak Load Pricing

1. Rail Equipment Impacts.* To illustrate the equipment impacts of peak and seasonal rates on specific types of cars, covered grain hoppers were taken as an example. To simplify the analysis, it was assumed that each railroad maintains a rail car fleet of covered hoppers based on the peak traffic during the four highest volume consecutive weeks. Accordingly, a relationship between this peak traffic volume during 1976 and the covered hopper fleet size was developed. Using this relationship, the calculations indicate that if peak load pricing could maintain a ceiling on the peak of 1.2 times the average weekly volume, the car fleet could be as much as 35 percent smaller than at present.

Since investment in the existing fleet is essentially a sunk cost, the real benefit would come in terms of future expansion. A U.S. Department of Agriculture estimate of future U.S. grain production calls for a 24 percent increase in grain output by 1985. With unchanged car utilization and no peak period smoothing, this increase in demand would require an expansion of the covered hopper fleet by roughly 37,000 cars.

*The analysis of seasonality performed for this study was oriented toward commodities. Although the data obtained may give an indication of the impact of seasonality on equipment, several factors interfere with a direct extrapolation. First, the aggregation of commodities traveling in the same type of equipment may eliminate the seasonality shown by the separate commodities. Also, some seasonal commodities may be transported in a variety of car types. Thus although the commodities are highly seasonal, the equipment use may be much less. A more rigorous analysis could not be undertaken in this study due to time constraints.

By comparison, under an effective program of peak load pricing, none of this increase would be required. In fact, assuming best case conditions, during the next 10 years nearly 20,000 cars could be retired as they become unserviceable or the use of grain boxcars could be substantially eliminated. With new covered grain hoppers costing nearly $35,000 at 1977 prices, a successful peak load pricing strategy could potentially save the railroads as much as $1 billion in capital expenditures between now and 1985. The key assumption in this analysis is that grain prices will be stable so as to allow a successful peak period pricing scheme.

It should be remembered that these projections are "best case" estimates. They assume that a 1.2 ceiling seasonality multiplier can be achieved through peak load pricing, that all railroads would participate, and that the estimated relationship between peak volume and fleet size is valid. Each of these is problematic. In particular it is not clear that peak load pricing will actually smooth the demand. What can be asserted is that modest and relatively practicable smoothing of traffic volume could produce a substantial reduction in railroad capital requirements. Given the railroads' perennial capital shortage, peak load pricing could be of great interest to the carriers if effective strategies were developed to smooth demand. As car prices continue to rise, the incentive will become even stronger to apply peak load pricing.

2. Financial Impacts on Shippers and Carriers. By means of storage cost analysis, it was determined that the peak period differential for grain, construction aggregates, and ore could on average be around 35 percent, 10 percent, and 10 percent respectively, to limit demand peaks to 1.2 times the average volume. These percentages do not indicate the total change in transportation costs to shippers if such peak period differentials were put into effect. The actual total percentage change is smaller than the peak period differential because only a fraction of total traffic would move during the peak given a 1.2 seasonality multiplier ceiling. To arrive at estimates of revenue change, it was assumed that railroads would prefer peak period rate increases so as to raise total revenue. Table IV-7 indicates the actual impact on total transportation costs of the three feasible percentage premiums.

Table IV-7

Financial Impacts of Peak Load Pricing for Three Commodities

Commodity	Peak Period Rate Increase	Peak Period Traffic as Percent of Total Before Smoothing	Peak Period Traffic as Percent of Total After Smoothing	Total Percent Increase in Rail Revenue
Grain	35%	24.6%	19.0%	6.7%
Metallic ore	10	52.4	40.3	4.3
Construction aggregates	10	23.6	19.4	1.9

The right hand column indicates the percentage increase in total rail revenues and costs to shippers of each commodity if the shippers were to smooth their demand as projected. If no smoothing took place, the three percentage figures would be 8.6, 5.2, and 2.4 percent respectively.

From the data in Table IV-7, estimates of the potential dollar amount of increased revenue for each commodity were derived. These estimates are shown in Table IV-8.

Table IV-8

Potential Rail Revenue Increases for Peak Load Pricing of Three Commodities

Commodity	Estimated Revenue Increase
Grain	$ 83 million
Metallic ore	22 million
Construction aggregates	2 million
Total	$107 million

The estimated revenue increases shown in Table IV-8 would total over $135 million if smoothing did not occur. Of course, these estimates, like those relating to equipment savings, are predicated on an assumption of no traffic diversion--a problematic assumption.

3. Impacts on Competitive Modes. Work on the cross-elasticity of rail and truck demand would suggest that for agricultural commodities, when rail and truck rates move up by the same percentage, the truckers gain in market share. This is attributable to differences in service quality.

Generally speaking, if the railroads implement peak load pricing on a widespread basis, the trucking industry will only raise its rates by a corresponding amount if it is already operating at capacity. It can then be concluded that in the agricultural commodity area, railroad peak load pricing will contribute to the continuing erosion of rail market share. The only way for the railroads to avoid this erosion would be to provide higher quality service.

Other major seasonal commodities are less truck competitive and the impacts on the trucking industry will be correspondingly lower.

(c) Institutional Constraints

If peak and seasonal rates can be implemented successfully by the railroads, the carriers might possibly be benefited in terms of increased revenue and reduced car supply capacity requirements. Unfortunately, serious institutional and procedural obstacles could effectively limit implementation of peak load pricing to a few isolated experiments.

1. Constraints Found Within Rail Industry. In the section on market response to peak and seasonal pricing it was pointed out that in most instances the cooperation of two or more railroads would be required for successful implementation. Ordinarily this would pose no problems, for the railroads are accustomed to joint ratemaking activity. In the case of peak and seasonal rates, however, this action will be more difficult to arrange for two basic reasons:

(1) The industry is not of one mind with regard to peak and seasonal rates.

(2) Railroads differ widely in the impacts they suffer from peak and seasonal demand patterns and in the ability to accept the risks associated with innovative ratemaking.

5. Motor Vehicles. Among manufactured products, only assembled motor vehicles display a significant seasonality. This is caused by the model year cycle in the consumer market for automobiles. The flow of finished autos is characterized more by slumps than by peaks, the major slump coinciding with the model changeover period.

All the factors examined for the rail movements of automotive products suggest that little change in the demand pattern for assembled motor vehicles will be effected by freight rate changes. On the one hand, the railroads' revenue/cost relationship appears very favorable. The data suggest that for seasonal automobile markets the average revenue/cost ratio is nearly 1.9, and while this may be overstated, both the railroads and the auto producers agree that the traffic is very profitable. In this context, an off-peak rate reduction is all that could be justified. The purpose of such a reduction would be to attract off-peak business, and if railroad competitors countered with similar off-peak rates to maintain market share (as they probably would), the opportunity for obtaining more off-peak traffic would be limited. Moreover, automotive manufacturer resistance to peak load pricing would probably discourage experiments in this area.

IMPLEMENTATION OF PEAK AND SEASONAL PRICING

While there are potential opportunities for applying peak and seasonal pricing in several key rail markets, actual implementation may be quite limited due to numerous practical problems hindering this application.

(a) Ratemaking Strategy Considerations

The actual development of a peak or seasonal ratemaking strategy requires consideration of many factors. No one strategy will be suited to every commodity or every region.

1. Market Definition Problems. The extyent of a market's seasonality is partially a function of commodity definition. For example, wheat is more severely seasonal than all grain taken together. In addition, the geographic area covered in a rate affects the degree of seasonality. Not all geographic regions experience demand peaks at the same time. This is especially true of agricultural commodities. Specific matching of rates to demand conditions suggests narrowly defined geographic limits for seasonal and peak rates; however, the narrower the geographic limits the more likely is possible charges of rate discrimination and rail market dominance.

2. Problems with Timing. The method to be used for determining the time of changeover from off-peak to peak rates and vice versa is the subject of much discussion. On the one hand, shippers prefer a highly predictable time of changeover so as to have a maximum time for planning a response. On the other hand, the railroads prefer the maximum flexibility to allow rapid response to unanticipated demand variations and to permit more effective price competition against the unregulated motor carriers. There are numerous proposals for timing approaches - each with its drawbacks.

In addition, the complexity of existing rail rate structures will inhibit peak and seasonal pricing. For many of the seasonal commodities, especially grain, current tariffs are the result of 100 years of ratemaking experiments and adjustments. For example, with grain, rates may include in-transit processing, inspection, weighing, diversion, and so on. How should these be handled when they are included in the tariff? What should be done when these services are charged for separately? How should special commodity rates, jointed rates, class rates, through rates, and blanket rates be treated? All of these and other questions must be resolved before seasonal rates can be applied.

A further difficulty arises from within rail carriers themselves. The rail industry has been widely criticized in recent years for its lack of innovativeness in marketing and technological development. Whatever the reasons for this, it constitutes a real constraint in rail implementation of peak load pricing. The pricing departments of many roads appear to have a strong attachment to tradition. Even marketing departments are often skeptical of radical new approaches to ratemaking. To compound the problem, some experiments in peak load pricing in the U.S. rail industry have had disappointing results. Whatever the causes of the failures, there are few well documented, successful examples which management can use to overcome resistance to change.

A final problem is encountered in the area of rate divisions. When a rate is raised during a peak period on a move involving several carriers, there will be additional revenue to be divided among them. At first glance it would be expected that the division should be in the same proportion as under conventional rates. However, much of the justification for peak load pricing has been built on car supply capacity problems at the peak. Although many feel this is not the only railroad capacity element impacted by demand peaks, many railroads argue that it is. If this is so, then the entire increase in revenue during the peak should go to the carrier supplying the car - in most cases the originating carrier. On the other hand, the carriers handling the movement will experience a reduction in traffic and revenue if peak period demand is smoother. Getting agreement on this subject and then implementing whatever agreement results could prove to be a serious stumbling block to peak load pricing.

2. Requirements Imposed by Ex Parte No. 324. If the procedural costs of implementing peak load pricing exceed the expected benefits, the railroads will not act. These procedural costs may be measurable, in terms of clerical time or computer assisted costing work, or non-measurable, such as the expenditure of management time and attention. In Ex Parte No. 324, the Commission established the specific procedures for filing peak, seasonal, and regional rates with the ICC. Many carriers perceive serious problems with these procedures.

Section 1109.10(e)(6) of the new regulation indicates that one criterion for approving a peak or regional rate will be "the ability of the affected industry within a specific area to react positively to the proposed demand-sensitive rate consistent with statutory goals." Assuming that a positive reaction means that the shippers could shift demand to the off-peak period, this could effectively block peak load pricing which is designed solely for increasing revenues--although generating additional revenue is also specifically mentioned as another criterion in Section 1109.10 (e)(4).

If commodities which either cannot be stored or often would not be stored (for example, grain because of price fluctuation) are removed from the total estimates of peak and seasonal traffic, the overall percent of seasonal traffic will drop from a range of 25-30 percent to a range of 16-21 percent of the total U.S. rail tonnage.

An additional potential difficulty caused by the Ex Parte No. 324 order relates to railroad justification statements submitted in support of peak, seasonal, and regional rates in the event of investigation. A suggested format for these justification statements is provided in Ex Parte No. 324. Some of the suggested supporting cost data cannot be obtained with currently available railroad cost finding techniques. These techniques are based on long run concepts and do not reflect the short run impact of varying capacity utilization. Furthermore, Form A costs, the basis for current rail costing, do not provide for an allocation of capacity costs. The establishment of seasonal and regional rates depends heavily on the proper allocation of capacity costs. The Commission recognized these difficulties and, in Ex Parte No. 324, gave the carriers the option of using other approaches to developing justification. However, the carriers continue to express uncertainty over these requirements. Nevertheless, by its very nature, the Commission requires this type of information to effectively meet its regulatory obligations.

(c) Effect of Constraints

One year after passage of the 4-R Act, only a few railroads reported that they were even considering peak load pricing for certain commodities. Clearly, railroad enthusiasm for implementing the peak load pricing provision has been minimal. However, if initial carrier experience proves successful, interest will certainly be created.

Given restrained railroad interest, the underlying economic conditions, and the cost finding and forecasting requirements, use of this provision during the next several years will probably be limited. This will be true until a few railroads are successful in peak load pricing. Since success may only be achieved after some years of experimentation and trial, it may be some time before peak and seasonal pricing is a generally accepted and regularly used pricing technique in the rail industry. Nonetheless, once the institutional and procedural barriers are cleared away, there appear to be substantial benefits to be derived by the railroads from peak and seasonal ratemaking. This pattern of experimentation and trial before widespread adoption of a ratemaking strategy was also seen in the experience with unit train rates, which are now an accepted rail pricing technique.

DETERMINATION OF REGIONAL MARKETS

As discussed previously, the unique character of regional rates and regional demand dictated separate treatment for this aspect of demand based pricing. In this section, the method of identifying regional markets and the volume of regional traffic is presented together with the results of the analysis.

(a) Approach

The definition of "regional rate" adopted for purposes of this study was "rates designed to encourage a directionally balanced flow of equipment between two regions." Since this definition is essentially directed at the empty backhaul problem, it was decided to confine the analysis strictly to relatively general purpose car types. Seven car types were chosen for the regional rate study:

(1) Standard boxcars
(2) Equipped boxcars
(3) Plain gondolas
(4) Open hoppers
(5) Covered hoppers
(6) Flatcars, not equipped
(7) Refrigerator cars, mechanical

The selection of regions for the analysis was crucial to achieving meaningful results. The use of excessively large regions would result in identifying backhaul opportunities which were impractical because of the length of the empty moves to reach

the available backhaul. Similarly, large regions would conceal potentially useful backhaul opportunities contained entirely within one region. Conversely, very small region sizes would limit the consideration of much practicable backhaul traffic made possible by short moves to adjacent regions.

As a compromise between the various region designations used elsewhere in this study, none of which was suitable for the regional analysis, 49 special regional zones were identified for the U.S. These zones were aggregations of the 171 BEA Regions in the continental U.S. and subdivisions of the 25 rate group territories used in the Market Dominance analysis. Exhibit 24 is a map showing the 49 regions.

In order to determine the extent of flow imbalances between pairs of zones, the One Percent Waybill Sample was analyzed for 1975 to identify the most extreme cases of flow imbalance. After reviewing these severe imbalances, it became apparent that many were not easily correctable. Much of the severe imbalance traffic includes flows for which any kind of suitable backhaul is probably nonexistent. A more productive approach appeared to be consideration of those imbalances where the differences between the traffic in the two directions was fairly moderate.

Accordingly, the following criteria were used to identify "correctable" imbalances:

(1) The traffic in both directions totaled 50 carloads or more in the sample. This would mean an actual volume of from 5,000 to 7,000 cars per year. It was assumed that lesser volumes would not warrant the effort to implement regional ratemaking.

(2) The movement in one direction was not more than three times the volume in the opposite direction.

A total of 130 markets with "correctable" imbalances (a market being one pair of zones and one car type) was identified by these criteria. All car types in the study except refrigerator cars were represented. For purposes of comparison, 70 markets with severe imbalances were selected for additional analysis also.

(b) Results of Regional Analysis

Table IV-9 indicates the amount of rail traffic found in the 70 markets with severe imbalances.

Table IV-9

Proportion of Total U.S. Rail Traffic
and Revenue Found in Severely Imbalanced Markets*

Measure	Percentage of Total U.S. Rail Traffic
Tons	16.0
Revenue	11.7
Cars	14.0

*Does not include markets with a "correctable" imbalance.

In contrast, the movements in "correctable" imbalance markets amount to a substantially smaller share of total U.S. rail traffic, as shown in Table IV-10.

Table IV-10

Overall Percentage of Total Rail Traffic
Defined as Regional by the "Correctable" Imbalance Approach

	Tons for All Rail Traffic
Percent by cars	11.3
Percent by tons	10.1
Percent by revenue	9.5

The values in Table IV-10 suggest that regional ratemaking is applicable to a rather limited segment of total rail traffic. When allowance is made for excluding traffic for various practical reasons relating to implementation difficulties and misidentification inherent in the method of analysis, the actual traffic susceptible to regional ratemaking becomes significantly smaller.

(c) Regrigerator Car Imbalances

Refrigerator car traffic was set aside for special treatment because it involves imbalances which are almost always severe and because some special solutions have been proposed for these imbalances. Specifically, some Western railroads have tried to divert westbound general merchandise traffic from boxcars to the empty refrigerator cars returning to California and other western agricultural producing regions.

To evaluate the practicability of this effort, all pairs of zones where refrigerator car traffic was found were examined for excess loaded boxcar flow opposite in direction from the empty refrigerator car flow. On the assumption that one boxcar load equals one refrigerator carload, the number of empty refrigerator car movements was compared to the corresponding boxcar traffic which could be diverted without aggravating the boxcar flow imbalances.

It was found that less than 23 percent of all empty refrigerator car movements could be matched with boxcar traffic. However, this is a deceptively high figure. There is no assurance that backhaul traffic will actually be available at the period of the year when most refrigerator car traffic moves. In actual practice, efforts to fill refrigerator car backhauls are likely to aggravate empty boxcar backhaul movements. Moreover, the manufactured goods traffic which might be available is highly sensitive to service quality considerations. Consequently, the efforts to fill empty refrigerator backhauls are likely to yield very limited results for the carriers.

(d) TOFC Movements

Data limitations precluded an analysis of the regional imbalances in TOFC movements. Nonetheless, TOFC is particularly susceptible to regional ratemaking because of two factors:

(1) The presence of intermodal competition forces rates down toward the level where adequate revenues can only be achieved if there are loaded movements in each direction.

(2) There is a wide variety of commodities suitable for truck-rail movement, providing a realistic opportunity for attracting business from competitors to fill empty backhauls.

Total ton miles generated by TOFC movements are a relatively small percentage of total rail traffic, and inclusion of regional imbalance of TOFC traffic would not significantly increase the percentages of regional traffic given above. However, as TOFC becomes increasingly important in the future, regional imbalances of TOFC traffic could become a significant proportion of the total.

IMPLEMENTATION OF REGIONAL PRICING

Regional pricing, aimed at balancing the movements of cars between two regions, faces even more obstacles to implementation than peak and seasonal pricing. Since the moderate or "correctable" imbalances are the markets where regional rates are most likely to be effective, this discussion is confined to these "correctable" imbalances.

(a) Institutional and Practical Limitations

The institutional constraints to peak and seasonal pricing also limit regional rate implementation. In summary these constraints include:

(1) The necessity for intramodal cooperation.

(2) The existing complexity of the rate structure.

(3) Lack of innovativeness in many railroad companies.

(4) Little or no good experience with successful regional pricing.

(5) Potential disagreement over proper distribution of divisions.

(6) Railroad uncertainty regarding their ability to comply with ICC requirements for justification of these rates in the event of investigation.

Of these, intramodal cooperation poses the greatest problem for implementing regional rates. When a single carrier is involved in a movement, implementation of regional rates is relatively simple compared to markets where at least two carriers handle the movement. Where two or more carriers are involved, one road should raise and the other lower its rates, and a problem of revenue distribution arises. Consequently, when two or more carriers are involved, regional ratemaking becomes a practical impossibility without unprecedented carrier cooperation. If traffic involving more than one carrier is eliminated from total "correctable" imbalance volume, less than 5 percent of U.S. rail traffic would permit feasible regional ratemaking.

(b) Possible Pricing Strategies

The railroads have the option of raising the rates on traffic in the direction of greater flow or lowering them in the direction of lesser flow or both. Since traffic in these markets involves many truck competitive manufactured commodities, the railroads face intermodal competition and a "kinked" demand curve. The concept of a "kinked" demand curve suggests that when the railroads raise their rates, the competing modes will not match the full increases. Thus, these small rate increases will divert substantial traffic. Conversely, when rates are lowered, other modes will tend to retaliate with lower rates to maintain their market share. In this case, even large rate reductions will produce negligible increases in total volume. It should be noted that this phenomenon is different from that encountered when railroads impose a rate increase over a large geographic area on agricultural products. In the latter case, if motor carriers are operating at capacity they will tend to raise rates parallel to the rail increase.

(c) Implications and Impacts

The limited ability of pricing adjustments to stimulate new transport demand is a major inhibition to implementation of regional rates. There are relatively few markets where regional pricing is likely to be effective. However, the need for increased rail revenue and improved equipment utilization would suggest that limited experiments may be worthwhile.

CARRIER CHARACTERISTICS

The problems created by seasonal peaks and regional imbalances do not impact all railroads equally. The impacts vary depending on the geographic area, the size of the carrier, and the principal commodities carried. These variations among carriers are discussed below.

(a) Seasonal and Peak Traffic

The percent seasonality for each of the five largest carriers (over 1,500,000 carloads originated) is given in Table IV-11.

Table IV-11

Percent of Seasonal Traffic for Very Large Carriers

Railroad	Total Number of Carloads Originated in 1976	Percent Seasonal
Burlington Northern	1,903,834	23
Seaboard Coastline	1,563,730	17
Penn Central	3,025,270	16
Norfolk and Western	1,505,430	11
Southern	1,577,833	7
	9,576,097	

The regional differences are clear in the table. The Burlington Northern, which operates in the West and Midwest, has considerably more seasonal traffic than carriers in the East and South. However, even the Burlington Northern, which moves large quantities of grain, ore, and construction aggregates, would have less than 25 percent of its traffic considered seasonal using the measures in this study, much lower than most of its smaller Western and Midwestern competitors. This low percent seasonal is attributable to the Burlington Northern's size and geographic spread.

Carriers with volumes between 500,000 and 1,500,000 in 1976 are listed in Table IV-12.

Table IV-12

Percent of Seasonal Traffic for Other Major Carriers (500,000 to 1,500,000 carloads)

Railroad	Total Number of Carloads Originated in 1976	Percent Seasonal
Chicago and North Western	734,546	52
Milwaukee Road	584,817	45
Union Pacific	991,612	44
Missouri Pacific	1,044,014	38
Santa Fe	936,210	25
Baltimore and Ohio	853,957	15
Illinois Central Gulf	1,061,939	13
Southern Pacific	1,373,179	12
Chesapeake and Ohio	1,053,529	10
Louisville and Nashville	1,411,620	8
	10,045,423	

The five most seasonal carriers listed in Table IV-12 all participate in the Midwestern grain harvest. Their high percentages reflect the high percent of seasonal traffic in the Midwest as a whole, over 40 percent. In addition, the Union Pacific originates a substantial tonnage of highly seasonal traffic in nonmetallic minerals.

In the case of carriers originating between 100,000 and 500,000 carloads per year, somewhat different considerations determine seasonality. Table IV-13 lists these carriers and the percent seasonal of each.

Table IV-13

Percent of Seasonal Traffic
for Medium-Sized Carriers
(100,000 to 500,000 carloads)

Railroad	Total Number of Carloads Originated in 1976	Percent Seasonal
Bessemer and Lake Erie	277,276	100
Duluth, Missabe and Iron Range	467,527	100
Lake Superior and Ishpeming	169,022	100
Detroit, Toledo and Ironton	116,777	63
Cotton Belt	105,053	57
Soo Line	169,685	53
Florida East Coast	103,588	40
Elgin, Joliet and Eastern	180,150	32
Rock Island	423,034	32
Denver and Rio Grande Western	198,154	25
Kansas City Southern	198,126	22
Clinchfield	129,900	19
Frisco	386,546	17
Grand Trunk Western	198,663	8
	3,123,501	

The seasonality of Great Lakes shipping is the cause of the high percent of seasonality for the first four railroads listed in Table IV-13. These carriers haul substantial tonnages of ore and other seasonal bulk commodities. The same is true of the Soo Line which originates large tonnages of ore. In addition, the Soo Line participates in the Midwestern grain traffic.

For most of the remaining carriers in this table, the percent seasonal is a rough indicator of their involvement with agricultural commodity movements. Of those with the lowest percent seasonal, the Clinchfield is primarily a coal carrier, the Grand Trunk Western does not serve the primary grain producing regions and the Kansas City Southern and Frisco, though serving grain producing regions, have successfully diversified their product mix to reduce their seasonal volume fluctuations.

(b) Regional Traffic

"Correctable" regional imbalances are primarily found in the Northeastern and Midwestern regions of the country. Conrail has the best opportunity for implementing regional rates to correct these imbalances.

Most severe regional imbalances are caused by high volume flows of grain and coal. Consequently, the carriers most impacted by these severe imbalances are the coal and grain carriers including the Norfolk and Western, Baltimore and Ohio, and Burlington Northern. Of these carriers, the percentage of traffic moved in markets with severe regional imbalances was 56 percent, 32 percent, and 20 percent respectively.

OVERLAP OF SEASONAL AND REGIONAL MARKETS

Of the major seasonal commodities, grain, other farm products, metallic ore, and construction aggregates, all are regional in nature as well. Each moves seasonally from a producing region to a consuming region, and there is little traffic available to fill the backhauls. Metallic ore did not appear in the determination of regional markets, only because special purpose ore cars were excluded from the regional analysis; however, metallic ore movements are clearly regional in nature using the severe imbalance criteria.

On the other hand, not all regional traffic is seasonal. Much of the traffic in markets with "correctable" imbalances is manufactured goods, which are seasonal only in very narrowly defined submarkets (for example, toys). In the case of severe regional market imbalances, the largest single commodity causing these imbalances is coal. The seasonal component of the coal movement on class I railroads is approximately 1 percent of the total coal volume. Among the other commodities identified in the regional analysis of severe imbalances, including grain and construction aggregates, most were substantially seasonal.

When a railroad handles traffic which is both seasonal and regional, there is a double impact on costs and car utilization. Because of the method of cost calculation in this study, the revenue to cost ratios calculated for traffic which is both seasonal and regional will have an upward bias. This upward bias may be as much as 20 percent.

This cost consideration would support the contention that for most seasonal bulk commodities, a need for greater profitability would compel management to implement higher peak period rates rather than lower off-peak rates.

RATE REQUESTS UNDER PEAK, SEASONAL, AND REGIONAL RATES

Only two applications for peak, seasonal, or regional rates have been received by the Commission as of June 30, 1977.* Both were seasonal rates requesting off season rates; one on limestone and the other on grains.

(a) Limestone

The Southern Freight Association, Agent, representing the Southern Railroad petitioned the Commission for authority to establish a 5-month seasonal volume rate on limestone from Ryan, Ala.; Hodges and Jefferson City, Tenn.; and Mascot, Tenn., to points in Georgia effective upon 5-days notice beginning May 1, 1977. These rates would apply on shipments exceeding 90,000 during the 5-month period but with no more than 21,000 net tons shipped during any calendar month. If these conditions were not met, charges would be assessed according to the otherwise applicable tariff. The Southern Freight Association suggested that this new tariff would improve the car supply by encouraging shipments during off-peak months. The net impact was expected to reduce overall rates.

The Commission's Special Permission Branch approved the filing of the rate on 10-days' short notice.

(b) Grain and Grain Products

The Chicago and North Western Transportation Company reissued their multiple car grain tariff by establishing a new line of demand-sensitive, domestic rates on grain.

During the harvest season for corn, soybeans, and wheat, the normal 25 and 50 car rates would apply for movements originating in the Midwest. For wheat, the harvest period includes July 1 through August 15 and for corn and soybeans this period covers

*An additional proposal was received subsequent to this report. See reference in Chapter I.

October 1 through November 30. The new off-peak rates would apply from August 16 to June 30 for wheat and from December 1 through the next September 30 for corn and soybeans. As in the case with the Southern's seasonal rate on limestone, the intent of the C&NW was to improve car supplies.

(c) Evaluation

While limestone was not recognized as one of the most seasonal commodities in the statistical analysis, it does exhibit seasonal characteristics. On the other hand, the three grains in the C&NW application were found to be among the most seasonal commodities. Thus the rate reduction during the off-peak was somewhat surprising, since it was assumed in the statistical analysis that with the exception of wheat the railroads would tend to raise peak period rates on grain rather than lower the off-peak rate as was the case in the C&NW proposal for the three grains. There are three possible explanations for the apparent contradiction:

1. The statistical analysis does not fully consider the impact of competition on ratemaking decisions. Intermodal competition may be depressing grain transportation rates, thus forcing the carrier to accept low revenue to cost ratios.

2. As noted previously in this report, Standard Form A costing procedures were by necessity used for estimating costs for the revenue cost analysis. Standard Form A costs do not incorporate adjustments made for specific commodities under specific circumstances. Consequently, the costs for grain, other than wheat, may be overstated. For example, train load costs would be significantly lower than the standard costs. Overstated costs would cause revenue to cost ratios to understate profitability. Thus, rate reductions may be reasonable.

3. The rate action of the C&NW may be atypical. Competitive pressures or unusual operating conditions may have influenced the decision to reduce rates off-peak rather than raise them during the peak.

SUMMARY

1. The economic theory of peak load pricing was first developed for the electric utility industry. Unfortunately, the theory cannot be directly applied to the railroad industry because of fundamental differences between these two industries (e.g., the theory assumes monopoly position, identifiable costs, and a homogenous unit of output). However, the theory at least suggests that demand sensitive price adjustments should help even out peaks and valleys in transportation demand and raise overall levels of revenue, and it can suggest under what conditions this leveling may occur.

2. Approximately 25 percent to 30 percent of all rail traffic was found to be peak or seasonal in nature. This seasonal traffic is most concentrated in the Midwest and West where nearly 40 percent of all traffic is seasonal. Agricultural products such as grain, fresh produce, and miscellaneous field crops were found to be almost entirely seasonal. This was also true of agricultural chemicals and potash and phosphate rock (used for fertilizers). Other commodities were found to be substantially seasonal. These were metallic ore (over 80 percent seasonal), crushed stone, sand and gravel (over 40 percent seasonal), and assembled automobiles (over 50 percent seasonal). The severity of the variation from peak to off-peak volume was found to be greatest for field crops (other than grain) and fresh fruit and vegetables.

3. Indirect measures (primarily a storage cost analysis) were used to estimate the market response to seasonal rates for grain; other farm products; metallic ore; crushed stone, sand, and gravel; and assembled automobiles.

A peak period premium rate approximately 35 percent above off-peak rates could be effective in smoothing the demand for grain shipments. However, the shipping

patterns are influenced more by shipper expectations of future grain prices than by peak load pricing of transportation. Peak load pricing would only achieve its goal of smoothing demand in periods of relatively stable grain prices; however, rail revenues would most likely be increased even if demand were not smoothed.

Most of the traffic in farm products other than grain is hauled by unregulated motor carriers. Railroad attempts to implement peak load pricing would probably shift the remainder of the traffic to these motor carriers.

Summertime peak period rate increases of from 10 percent to 20 percent should be adequate to shift storage of iron ore from the mines to the Great Lakes ore docks and smooth rail demand for metallic ore movements. Steel company ownership of several major ore carriers makes these rate increases problematic.

In the case of crushed stone, sand, and gravel, peak period increases of 10 percent could smooth the demand in the Northern States where this commodity is seasonal.

The annual slumps in consumer demand for new autos (which cause fluctuations in rail demand) are not likely to be smoothed out by anything the railroads could do with freight rates.

4. In the short run, actual implementation of seasonal and peak load rates will probably be limited to a few experiments because of the serious institutional and procedural obstacles. These obstacles include uncertainty regarding specific strategies, potential rate discrimination, resistance to change in the railroad industry, and railroad uncertainty regarding Commission requirements for cost and revenue projections.

5. If it were possible for the carriers to implement peak and seasonal rates, and if (as is highly problematic) demand would be smoothed thereby, the result could be increased revenues of over $100 million per year and a saving in new capital expenditures for grain hopper cars of over $1 billion in the next 10 years. A critical assumption in this analysis is stable grain prices.

6. Regional markets were defined as those where the traffic flow between two regions was not balanced. Seven car types were included in the analysis: standard boxcars, equipped boxcars, gondolas, flatcars, open hopper cars, covered hopper cars, and refrigerator cars. Other, special purpose car types were excluded. On this basis, approximately 26 percent of all U.S. rail traffic can be considered regional in nature, of which 60 percent (or 16 percent of the total) moves in markets where the imbalance is so severe as to be probably uncorrectable. In the future TOFC movements may grow to the point where regional TOFC imbalances are significant also.

Of the markets where imbalances are small enough to be "correctable," less than half, or 5 percent of total U.S. rail traffic would allow for practical implementation of regional rates because of the complex intramodal cooperation required for the balance of the traffic. Where such rates are attempted, competitive retaliation is likely to be a significant problem.

7. Smaller carriers are likely to be more severely impacted by peak and seasonal traffic than are larger carriers. Among the larger railroads (originating from 500,000 to 1,500,000 carloads per year), the carriers with the greatest seasonality are those involved in moving the Midwestern grain harvest (i.e., Missouri Pacific, Santa Fe, Union Pacific, Milwaukee Road, and Chicago and North Western). Of these, as much as 50 percent of their traffic can be considered seasonal. Among the very large railroads (originating more than 1,500,000 carloads per year) the Burlington Northern has the greatest percentage of seasonal traffic because of its very large movements of grain, ore, and construction aggregates.

8. Many markets proved to be both seasonal and regional in nature. This was especially true of grain and perishable movements. The apparent poor revenue to cost ratios found for much of this traffic suggest that the railroads are not being adequately compensated for the seasonal and regional demand impacts they incur.

9. Potential procedural difficulties are perceived by many rail carriers as an obstacle to implementing peak and seasonal rates. Since most peak and seasonal rates will probably involve peak period increases, many such rates will be protested. Under the order in Ex Parte No. 324, upon protest and subsequent Commission investigation the railroad must submit justification statements. The data in the suggested justification statement format are generally not available to the railroad or, when available, are very costly to obtain. Although alternative justification statements may be submitted, there is considerable uncertainty on the part of the railroads as to what feasible alternatives will be acceptable to the Commission. Early experience has not confirmed the carriers' fears. As of the completion of this study (July 31), there have been two filings under this provision, and both have been approved.

In summary, seasonal and peak period ratemaking has considerable potential benefits for interested carriers. However, widespread usage is not immediately foreseeable.

V - EVALUATION OF THE SEVEN PERCENTUM PROVISION

An evaluation of alternative railroad rate strategies which may be applied to non-market dominant traffic is undertaken in this chapter. Particular emphasis is placed on the potential uses of the Seven Percentum Provision (section 202(1)(e) of the 4-R Act). This section of the report presents the results of these evaluations.

INTRODUCTION

The Railroad Revitalization and Regulatory Reform Act of 1976 (4-R Act) inserted a new paragraph 8 into section 15 of the Interstate Commerce Act which was intended to provide the railroads with a certain flexibility in their ratemaking procedures in the absence of market dominance. Specifically, section 15, paragraph 8(c) states:

> (c) The limitations upon Commission's power to suspend rates changes set forth in subdivisions (b) (i) and (ii) apply only to rate changes which are not of general applicability to all or substantially all classes of traffic and only if -
>
> (i) the rate increase or decrease is filed within two years after the date of the enactment of this subdivision;
>
> (ii) the common carrier by railroad notified the Commission that it wishes to have the rate considered pursuant to this subdivision;
>
> (iii) the aggregate of increases or decreases in any rate filed pursuant to clauses (i) and (ii) of this subdivision within the first 365 days following such date of enactment is not more than seven per centum of the rate in effect on January 1, 1976; and
>
> (iv) the aggregate of the increases or decreases for any rate filed pursuant to clauses (i) and (ii) of this subdivision within the second 365-day period following such date of enactment is not more than seven per centum of the rate in effect on January 1, 1977.

Subdivisions (b) (i) and (ii) immediately preceding this paragraph, apply the market dominance provisions to the provisions of this paragraph in the case of rate increases, following promulgation of standards and procedures under section 1(5)d.

The purpose of this fourth task was to evaluate the short-term impact of permitting railroads to adjust individual rates under the Seven Percentum Provision.

Incorporated in the analysis were:

1. An identification of major commodity groups and/or geographic markets which are likely to be subject to a rate increase or rate decrease, including an analysis of:

(a) The nature of the carriers and proportion of their traffic and revenues affected.

(b) The percentage of all traffic and revenues projected to be affected.

(c) The current relationships between rates and average, variable, and incremental costs, and the ability of the rates to contribute to the going concern value of the railroads for a selected cross-section of these markets.

2. The impact of such rate changes on shippers and competitors.

Key to the understanding of the overall impact of the Seven Percentum Provision is the fact that the provision is related to the market dominance provision for rate increases. Railroads are allowed to increase rates 7 percent under this provision in each of the 2 years following enactment of the 4-R Act without Commission suspension in the absence of market dominance. Consequently, the actual level of the potential rate change is irrelevant in the absence of market dominance or a showing of a likelihood that sections 2, 3, or 4 have been violated.

A legal distinction does exist between proposed increases that are made under section 15(8)(c) and those made outside that subsection. In the case of an increase that is made pursuant to this provision, the Commission must find that market dominance exists in order to suspend. In the case of an increase that is not made under this provision, the Commission need only find a likelihood that market dominance exits to suspend. The ultimate finding of market dominance (positive or negative) will depend upon all evidence presented in the investigation. However, a railroad filing a proposed increase under the Seven Percentum Provision must also submit evidence pursuant to market dominance at the time the rate proposal is filed.

For rate increases, an investigation without suspension may nevertheless be instituted in the absence of a market dominance determination. However, within 90 days of the institution of an investigation of a changed rate, the Commission must make a finding of market dominance or it will lose its jurisdiction to find that the rate is unjust or unreasonable on the grounds that it exceeds a maximum reasonable level.

For rate decreases, a rate can be found just and reasonable only if it does not represent unfair, destructive, or predatory practices, or otherwise undermines competition. Going concern value is an important concept here. As a result of the 4-R Act the Commission is prohibited from suspending a tariff which increases a rate "from a level which reduces the going concern value of the proponent carrier to a level which contributes to such concern value" as long as the rate "is otherwise just and reasonable." At this point, the going concern value has not been formally defined, although the 4-R Act states that any rate which covers the variable cost of supplying the rail service will be presumed to contribute to the going concern value of the railroads.

GENERAL APPROACH

All of the analysis contained in this section was performed using the 1975 One Percent Waybill Sample in its original and costed (as a result of work in Chapter II) forms. The analysis draws heavily on the results of the evaluation of market dominance. For example, rate increases were applied only to that portion of the rail traffic that did not meet the threshold test of market dominance. Throughout, the 127 commodity groupings as defined by the Special Projects Counsel (SPC) in the Ex Parte No. 270 proceedings are used.

The general approach to this section involved the following steps:

1. Analyze the revenue/cost relationships of current traffic including analysis by interstate versus intrastate, by originating territory, by range of revenue/cost, and by commodity.

2. Estimate rail demand elasticities by commodity.

3. Analyze the impacts of increasing noncompensatory rates to the variable cost level.

4. Analyze the impacts of potential rate increases and decreases under the Seven Percentum Provision.

5. Evaluate all rate filings made under this provision.

6. Analyze the impacts on shippers and nonrail carriers.

REVENUE/COST ANALYSIS

In order to develop a more specific understanding of current revenue/cost relationships in the rail industry, a detailed analysis of these relationships was performed. This analysis was designed to separate interstate traffic from intrastate traffic and investigate the distribution of tonnage, revenue, and cars loaded across the range of revenue/cost ratios.

This process involved an analysis of the costed 1975 One Percent Waybill Sample as developed in the Chapter II evaluation of market dominance. It should be carefully noted that the costed Waybill Sample was used in this analysis. For a variety of reasons, not all of the individual waybills in the sample could be costed. As such, total tonnage, revenue, and cars loaded statistics will be less than found in the Waybill Sample as published in "Carload Waybill Statistics" by the Federal Railroad Administration. For later chapters of this report, the implicit assumption was made that the revenue/cost relationships for the costed sample movements would apply to those movements where insufficient information prohibited cost analysis.

An analysis of these revenue/cost relationships follows. The computer analysis for the total of all commodities is contained in Exhibit 25. Similar analyses were performed for each of the 127 individual SPC commodities. All of the findings in this section are drawn from this analysis.

(a) Total of All Commodities

As stated above, Exhibit 25 provides the revenue/cost analysis for the total of all commodities. Numerous observations can be made from that exhibit alone. Among the more important observations are the following:

1. Interstate rail traffic comprises between 72 percent and 75 percent of the cars and tonnage in the sample, but accounts for over 90 percent of the revenue. This relationship between revenues and physical volume is a direct reflection on the length of haul in interstate versus intrastate traffic, as well as lower average rates on intrastate traffic.

2. The average revenue per ton mile for interstate traffic (i.e., 2.45 cents per ton mile) is almost 20 percent lower than the average revenue per ton mile for intrastate traffic (i.e., 2.97 cents per ton mile). The overall average revenue per ton mile is 2.49 cents. This is a reflection of the shorter hauls in intrastate traffic.

3. While average revenue per ton mile for intrastate traffic is significantly higher than interstate traffic, the profitability of that traffic is much lower. Nearly 50 percent of the intrastate traffic was estimated to be noncompensatory, however, only 29.3 percent of interstate traffic appeared to be noncompensatory. This finding is due to the relatively higher fixed costs on intrastate traffic.

4. The amount of rail tonnage that falls in the various revenue/cost relationships is relatively uniform for interstate traffic with a slight inflection in the 110 to 130 percent range. However, the distribution of intrastate traffic is concentrated in the very high or very low ratios.

5. The revenue/cost ratio increases steadily as the revenue per ton mile increases. This attests to the relatively high indivisible variable costs that distinguish the rail industry.

(b) Individual Commodity Results

The major commodities, in terms of tonnage, that move at intrastate rates are shown in Table V-1.

Results of the revenue/cost analysis by individual commodity are summarized below.

Table V - 1

Major Intrastate Commodities - Tonnage Basis

Commodity	Intrastate Tonnage	Percent	Intrastate Revenue ($000)	Percent
Steam bituminous coal	524,371	21.4	1,479	12.3
Aggregates	414,296	68.4	1,017	51.1
Iron ore	266,021	29.6	619	23.6
Phosphate rock	218,470	61.2	147	36.9
Pulpwood logs	166,320	56.5	447	49.4
Pulpwood chips	116,291	55.1	382	44.5
Iron and steel scrap	98,464	39.8	508	25.9
Subtotal	1,804,233	35.5	4,599	19.1
All other	1,129,018	20.9	6,029	6.9
Total	2,933,251	28.0	10,628	9.8

Source: Unexpanded, costed One Percent Waybill Sample.

As shown, 28 percent of the tonnage, but only 10 percent of the revenue, is derived from intrastate traffic. Low valued bulk commodities represent the majority of intrastate traffic. These commodities are low rated in both intrastate and interstate traffic. The average revenue per ton mile in intrastate traffic for these commodities ranges between 2.05 cents per ton mile and 2.43 cents per ton mile with the exception of iron and steel scrap at 6.11 cents per ton mile. This analysis clearly demonstrates the disproportional impact intrastate traffic has on railroad revenues. Intrastate rates are for the most part not subject to the provisions of section 202.

Exhibit 26 contains an analysis of the noncompensatory rail traffic under categories of interstate, intrastate, and all traffic. That exhibit also provides the average revenue per ton mile for all traffic of that commodity (not just noncompensatory traffic). This information was used in the analysis for increasing noncompensatory rates to the variable cost level.

The major noncompensatory traffic as defined in this study is summarized in Table V-2. Also provided is the average revenue per ton mile of this noncompensatory traffic.

Table V- 2

Major Noncompensatory Traffic

Commodity	Percent of Total Tonnage Noncompensatory	Average Revenue per Ton Mile
Fresh fruits and vegetables *	83.9 - 100 90.7	2.21 - 2.61 cents 1.72
Phosphate rock	84.7	2.19
Pulpwood logs	79.6	1.34
Lignite	66.8	1.84
Wine and brandy		
Freight forwarder traffic	62.8	4.02
Shipper association traffic	61.3	4.21
Textile scrap	49.5	2.82
Furniture	47.6	8.83
Iron ore	45.1	2.08
Steam bituminous coal	42.0	1.45
Total	34.9%	2.49 cents

* Since this category represents several commodities, a range of values is given.

The mix of traffic found noncompensatory using standard, unjusted Rail Form A cost estimates proved most interesting. Fresh fruits and vegetables traffic moving in mechanical protective service is estimated to be the most noncompensatory (although accessorial charges are not included). Melons, with an average revenue per ton mile near the overall average of 2.49 cents, were estimated to be entirely noncompensatory. Phosphate rock, pulpwood logs, lignite, steam bituminous coal, and iron ore are all bulk commodities that move in multiple cars or unit trains. Although the costing methodology incorporated savings for multiple car movements, unit train savings were not incorporated. For this reason, the percent noncompensatory for these commodities is likely overstated. Similarly, other adjustments to various commodities and/or movements would alter the results.

Conversely, some relatively high valued commodities, particularly furniture and wines and brandy, were also found to be noncompensatory. This is most likely due to rate levels which reflect significant intermodal competition. Furniture is a light loading commodity and experiences significant loss and damage. Wines and brandy also experience high loss and damage.

Lastly, both shipper association and freight forwarder traffic were estimated to be noncompensatory. It should be noted that TOFC movements were not included in this analysis. The noncompensatory traffic involved is carload tonnage which moves in multiple car batteries with low minimum weight per car requirements.

ELASTICITY OF RAIL TRANSPORT DEMAND

Shipper reaction to potential rate changes under the Seven Percentum Provision of the 4-R Act will be a key determinant of the success of that provision. While the shipper has made the basic strategic decisions as to the mode of transportation for a particular movement, the volume he moves via that mode will, in part, be dependent upon the transport price. For shipments where other transport modes pose a real alternative to the primary mode, the shipper will be able to react to price changes by short term adjustments in modal choice. The ability of the shipper to make volume level adjustments by mode can be measured as the shipper's sensitivity to price changes. In economic theory this price sensitivity is known as the price elasticity of rail transport demand.

The purpose of the analysis reported next is to develop rough empirical estimates of rail transport demand elasticity, drawing primarily on past research and applying standard statistical formulas.

(a) Theory of Rail Transport Demand Elasticity

The elasticity of product demand is defined as the percentage change in quantity demanded given a certain percentage change in price. In product markets, elasticity is measured in terms of buyer response to increased product prices. Buyers may either reduce purchases in the face of a price increase or substitute alternative products or some combination thereof. This same basic theory holds in the transport sector as well. Shippers may either reduce shipments as a result of increased rates or use another mode. Typically however, the freight rate represents such a small percentage of the total delivered price of the product (see Exhibit 27) that major increases in transport prices will not cause significant product demand shifts but may affect modal choice. This is particularly true for manufactured commodities.

(b) Approach

For each of the 127 individual SPC commodities, a range of empirical estimates of rail transport demand elasticities was developed. Wherever direct estimates of the transport elasticities were available, these were incorporated. Indirect estimates were calculated using econometric formulations that estimate rail transport demand elasticities.

The average rail freight rate was calculated from the 1975 One Perent Waybill Sample. The average supply price (FOB) was obtained from a variety of sources including: Agricultural Statistics - 1976, Census of Manufactures - 1972, Statistical Abstract of the United States - 1976, the Chemical Marketing Reporter, and others. Wherever possible, the 1975 supply price was obtained. This was combined with the rail freight rate to calculate the freight rate ratio on the delivered value of the product.

The estimated rail modal share was obtained from two basic sources: the 1972 Census of Transportation and Freight Commodity Flows, 1972, the bulk commodity data base developed for the TSC.

The various indirect measures were estimated, compared to the direct measures that exist, and a range of potential rail transport demand elasticities developed.

(c) Results

The results of this analysis are shown in Exhibit 27. That exhibit shows the 1975 estimated supply price per short ton, the 1975 freight rate ratio, the 1972 estimated rail modal shares, and the range of potential rail transport demand elasticities. In most cases, these elasticities were estimated from underlying data. However, several were directly taken from a study by Alexander Morton.* Lastly, a number of elasticities were theoretically derived due to a lack of empirical estimates of the product demand elasticity. This is particularly true for intermediate products purchased by industry and processed further, such as chemicals, semifinished steel and stone, clay and glass products.

The results for several major rail commodities are shown in Table V-3.

Table V-3

Estimated Range of Rail Transport
Demand Elasticities for Major Rail Commodities

Commodity	Less Elastic	More Elastic
Bituminous coal	-.128(M)	-.38
Iron ore	-.39	-.819(M)
Aggregates	-.35	-4.40
Corn	-.837(M)	-1.32
Pulpwood logs and chips	-.366(M)	-.814
Manufactured iron or steel	-.1	-.3
Automobiles	-.76	-1.68

Sources: (M) Morton study.
All others - A.T. Kearney, Inc.

As shown, the estimates of rail transport demand elasticities vary quite widely. This attests to the inexact nature of transport demand elasticities and the need to look at ranges of results rather than point estimates. The less elastic estimates indicate the impact given relatively insensitive shipper reaction. The more elastic estimates indicate higher shipper sensitivity.

The analysis in the next section will apply elasticities to alternative price changes which the rail industry could potentially impose in response to the Seven Percentum Provision in the 4-R Act.

* Alexander Morton, "A Statistical Sketch of Intercity Freight Demand," (Highway Research Board, No. 296, Washington, D.C. 1969).

POTENTIAL RATE ACTIONS

Based on the revenue/cost analysis and the analysis of rail transport demand elasticities, the impact of alternative rate actions on the part of the railroads was analyzed. In order to facilitate this analysis, a computer program was written to calculate the impacts of the various rate actions by commodity assuming no rail diversion (i.e., zero elasticity), less elastic price sensitivity and more elastic price sensitivity. The exhibits to this section are a direct output from that program.

Three basic types of rate action are explored:

1. Increases in noncompensatory rates.
2. Blanket increases.
3. Selected increases.

(a) Noncompensatory Rates

The first rate action explored involved raising all noncompensatory rates to the variable cost level without regard for the sensitivity of the product to price changes.

Rates on noncompensatory traffic increased on average from 8.3 percent for tobacco products to 200 percent for feldspar. It should be noted that these increases relate to noncompensatory traffic only. For example, only 3.1 percent of the feldspar traffic required the average 200 percent rate increase.

In total, the 29.3 percent of the interstate traffic (tonnage) that was considered noncompensatory required an average 35.7 percent increase. Without considering diversion, this would result in a net increase in total rail revenue of 7.0 percent. Considering diversion, this rate action could generate up to 1.4 percent in additional revenues, but could also decrease revenues by as much as 3.2 percent. Estimates of traffic lost range from 3.0 to 6.6 percent. These estimates are summarized in Table V-4 and are shown by commodity in Exhibit 28.

Table V-4

Impact of Increasing Noncompensatory Rates to the Variable Cost Level
(Percent Impact on Total Revenues and Tonnage)

	Revenues	Tonnage
No diversion	+7.0	-
Less elastic demand	+1.4	-3.0
More elastic demand	-3.2	-6.6

Naturally, some commodities, such as fresh fruits and vegetables, would require such a large increase as to divert most traffic to another transport mode. Total loss of this traffic could decrease the revenues of the railroad, although it may increase the profitability of the railroads. The impact of the loss of noncompensatory traffic on cost savings depends upon the assumed percentage of total cost that is considered variable, which in turn is dependent upon the ability of the railroads to utilize the equipment once used for the lost traffic. Assuming alternative levels of cost variability, Table V-5 provides rough estimates of the impact on net revenue from railway operations.

Table V-5

Impact on Net Revenues from Railway Operations - 1975
(In Percents)

Percent of Cost That Is Assumed Variable	Assuming No Diversion	Assuming Less Elastic Demand*	Assuming More Elastic Demand*
0	+37.3	+7.5	-17.0
20	+37.3	+10.1	-11.3
40	+37.3	+12.6	-5.6
60	+37.3	+15.2	+0.1
80	+37.3	+17.8	+5.8
100	+37.3	+20.4	+11.5

Note: * Based on the range of elasticity estimates developed earlier.

These estimates are based on $15.418 billion in freight operating revenues and $2.894 billion in net revenues from railway operations for 1975 as reported by the Commission. This analysis assumes that a 1 percent loss in tonnage would lead to a comparable percentage cost saving at the 100 percent variable level. As shown, if no diversion of traffic occurs, the expected impact on net revenue from railway operations is a 37.3 percent increase. Making the more realistic assumption that some diversion will occur, net revenue from railway operations would increase from 7.5 to 20.4 percent under the less elastic price sensitivity, depending on the percent of cost assumed to be variable. Assuming greater sensitivity to price changes, net revenue from railway operations could decrease as much as 17 percent or increase as much as 11.5 percent with a break-even point where cost is assumed to be 60 percent variable. The actual impact will depend upon the ultimate conditions of demand elasticity and cost variability.

It is interesting to note the wide variation in ultimate impact depending on the assumptions of demand elasticity and cost variability. The more elastic demand elasticities lead to a wider range of expected impacts. The uncertainty regarding rate and cost elasticity can make this rate action a very risky proposal. The risk on the cost side depends on the ultimate ability of the railroads to utilize the equipment in other services.

(b) Blanket Rate Action

The impact of blanket rate actions on the traffic considered not market dominant was also investigated. The percentage of compensatory traffic for each commodity that was considered nonmarket dominant in the market dominance evaluation was used for this analysis.

It is interesting to note that while 22 percent of rail tonnage would not trigger a market dominance presumption, nearly 30 percent of rail revenue would be considered nonmarket dominant. This reflects the fact that the higher rated, manufactured commodities represent the greatest area of new rate freedom.

The tonnage and revenue impact of alternative rate changes is shown in Table V-6.

Table V-6
Impact of Blanket Rate Changes on
Nonmarket Dominant Traffic

(Percent Change in Total Revenue and Tonnage)

Rate Change		Assuming No Diversion	Assuming Less Elastic Demand	Assuming More Elastic Demand
+15	Revenue	+4.5	+0.9	-2.8
	Tonnage	-	-1.8	-4.4
+7	Revenue	+2.1	+0.4	-1.5
	Tonnage	-	-0.9	-2.3
-7	Revenue	-2.1	-0.3	+2.2
	Tonnage	-	+1.1	+3.1
-15	Revenue	-4.5	-0.6	+6.2
	Tonnage	-	+2.6	+8.4

Although the railroads have the freedom to decrease all rates without fear of Commission suspension as long as the proposed rate does not represent unfair, predatory, or destructive pricing practices, decreases indicated above were applied only to nonmarket dominant traffic.

As shown, relatively major rate actions translate into minor (and sometimes negative) impacts on tonnage and revenues. A 7 percent general increase on nonmarket dominant traffic would result in a 2.1 percent increase in total revenue assuming no diversion. Assuming less elastic demand, revenue would increase by 0.4 percent with a loss in traffic of 0.9 percent. Assuming more elastic demand, both tonnage and revenue decrease.

The impacts of a 7 percent increase on nonmarket dominant traffic in terms of net revenue from railway operations are shown in Table V-7. Again, 1975 operating revenues and cost are assumed. This analysis also assumes that a 1 percent loss in tonnage would lead to a comparable percentage cost saving at the 100 percent variable level.

Table V-7

Impact of Seven Percent Increase on Net
Revenue from Railway Operation - 1975
(In Percents)

Percent of Cost That Is Assumed Variable	Assuming No Diversion	Assuming Less Elastic Demand	Assuming More Elastic Demand
0	+11.2	+2.1	-8.0
20	+11.2	+2.9	-6.0
40	+11.2	+3.7	-4.0
60	+11.2	+4.5	-2.0
80	+11.2	+5.2	-
100	+11.2	+6.0	+2.0

As shown, a 7 percent increase in noncompensatory traffic could increase net revenue from railway operations by 11.2 percent assuming no diversion. However, given alternative assumptions concerning the elasticity of rail demand and cost variability, the estimated impact may range from an 8.0 percent decrease to a 6.0 percent increase in net revenue from railway operations.

This analysis attests to the risky nature of blanket rate increases in the rail sector. Rail management simply cannot be certain that general price increases of the type described above will increase net income before taxes.

(c) Selective Rate Changes

An alternative approach to blanket rate increases is to employ selective increases and holddowns on rail traffic. Although this approach requires substantial marketing effort in terms of identifying the appropriate rate action for each market, it does eliminate some of the risk involved in employing blanket rate increases.

To demonstrate the potential benefits of selective rate increases, a general analysis was performed on the 1975 Waybill Sample using the elasticity estimates discussed above. It must, however, be emphasized that this analysis is for illustrative purposes only. It does not consider the unique demand and market conditions which any carrier must consider in implementing a selective rate increase. The rate action chosen is based on the perceptions of market competitiveness developed in this study.

The results of this analysis are shown in Exhibit 29. This exhibit also shows the assumed rate change to nonmarket dominant traffic by commodity. Since the rail rate structure is dynamic and tends to increase over time, the three potential actions chosen for this analysis were: (1) hold down the rate; (2) take normal increases; or (3) take an additional 7 percent increase. These are indicated by a -7 percent, 0.0 percent, and +7 percent rate action respectively.

The results indicate only a 0.3 percent overall rate increase on the nonmarket dominant traffic and results in a 0.1 percent increase in total revenues assuming no diversion. However, due to the number of rate decreases, when some demand elasticities are assumed, revenues and tonnage actually increase. These increases are shown in Table V-8.

Table V-8

Impact of Selected Rate Changes on Nonmarket Dominant Traffic
(In Percents)

	Assuming No Diversion	Assuming Inelastic Demand	Assuming More Elastic Demand
Revenue	+0.1	+0.8	+1.1
Tonnage	-	+0.3	+0.3

These impacts can be translated into an overall effect on net revenue from railway operations using the same technique as before. The results are shown in Table V-9.

Table V-9

Impact of Selected Rate Changes on
Net Revenue from Railway Operations - 1975
(In Percents)

Percent of Cost That Is Assumed Variable	Assuming No Diversion	Assuming Less Elastic Demand	Assuming More Elastic Demand
0	+0.5	+4.3	+5.9
20	+0.5	+4.0	+5.6
40	+0.5	+3.7	+5.3
60	+0.5	+3.5	+5.1
80	+0.5	+3.2	+4.8
100	+0.5	+3.0	+4.6

Note that the impact on net revenue varies inversely with cost variability since traffic was increased through this rate action rather than decreased as in previous examples.

Within the parameters of this analysis, the major impact of decreasing net revenues is removed. The risk associated with general rate increases has been eliminated on the basis of perceived demand elasticities. While rail perceptions of demand elasticities may differ from those used in this analysis, a set of rate actions could be formulated to provide a tailored rate structure which would contribute to the profitablity of the railroads.

This analysis has effectively demonstrated the potential benefits to be derived from selected rate increases. The actual benefits, however, depend largely on the nature of the individual markets in which a carrier is contemplating selective rate actions; successful use of this tool is intricately tied to the individual carrier's ability to evaluate the market impact of such changes.

IMPACT ON RAIL CARRIERS, NON-RAIL CARRIERS, AND SHIPPERS

In addition to the quantitative impacts of the Seven Percentum Provision discussed in the previous section, some more qualitative impacts will arise if railroads implement rate actions under the Seven Percentum Provision. These impacts are discussed in this section.

(a) Rail Pricing

Traditional rail pricing actions have tended to take the form of general rate increases with selected holddowns or subsequent downward adjustments. This practice has been caused by a variety of reasons, including: less perceived opposition to obtaining approval of uniform rate increases (to match inflation) at the Commission as opposed to selective increases, philosophy of selectively decreasing rates rather than selectively increasing rates, and the "productivity" of working on general increases rather than selective increases. If the Seven Percentum Provision, or any selective rate increase is to be successful, this traditional rail pricing practice will need to be altered. Significant additional costs will be imposed on the carriers in terms of marketing effort to identify, recommend, and defend before the ICC selective rate increases. In addition, shippers will also be required to acquire or augment skills required to analyze rate increases. This may be particularly burdensome for the small shipper, who may often rely on collective arrangements to protect against increases.

(b) Rail Marketing

As rail service improves, albeit slowly, the railroads will be in a position to once again compete with motor carriers for some of their previously lost traffic. It is recognized that the low cost structure of many unregulated motor carriers may not allow full recovery of lost traffic. As this improved service evolves, the rail marketing effort will reemphasize the need to divert traffic from motor carriers rather than from other rail carriers.

(c) Information Requirements

Information requirements on all parties will also be increased. All will find it more difficult to remain current with competitive rail rates if selective increases flourish.

(d) Motor Carrier Reaction

Motor carrier reaction to potential rail rate increases under the Seven Percentum Provision will not be based solely on a comparison of the rate levels. Motor carrier perception of shipper service differentials will play an important role in determining their response. Relatively few studies have attempted to empirically measure the magnitude of the service differential between rail and truck. However, a significant range of estimates has resulted. Harbeson* has estimated 1.4 miles per ton mile, Meyer**, et al., estimated 6.3 miles per ton mile in 1959, and Boyer*** estimated 31.1 miles per ton mile in 1975. Although inflation will not make up the complete differential, the estimates made by Meyer and Boyer are not significantly different. Obviously, these estimates will vary by commodity, length of haul, and physical characteristics of the facilities.

These service differential estimates can be compared with estimates of average revenue for the alternative modes, as shown in Table V-10.

* Roy W. Harbeson, "Toward Better Resource Allocation in Transport," Journal of Law and Economics, October 1969, p. 332.

** Meyer, John R.; Peck, Merton J.; Stenason, John; and Zwick, Charles. The Economics of Competition in the Transportation Industries. Cambridge, Mass.: Harvard University Press, 1959.

*** Kenneth D. Boyer, The Price Sensitivity of Shippers' Mode of Transport Selection and the Inter-modal Allocation of Freight Traffic, Ph.D. thesis, University of Michigan, 1975.

Table V-10

Estimates of Rail and Motor Carrier Revenues - 1975
(Mills per Ton Mile)

Rail	Revenue
All commodities	24.9
Bulk	17-30
Manufactured	50-90
Motor Carriers*	
General commodity carrier	131.4
Special common carrier	65.7
Special contract carrier	90.0
Total all carriers	99.5

* Not directly comparable with rail statistics.

Source: FRA and ICC statistics.

In comparing the revenue estimates of manufactured goods with Boyer's service differential between the modes, a significant overlap in the competitive rates range exists. However, for bulk commodities, where the service differential is likely lower there is little or no overlap. This is significant since two-thirds of rail traffic is bulk in nature. Intermodal competition based on revenues and service differential for general manufactured commodities movement is thus relatively small. This result is conceptually sound when one considers the significant movement of less-than-truckload traffic unsuited to rail. This is seemingly inconsistent with some earlier studies; however, these studies have investigated rail susceptible traffic only.

As such, the reaction of general commodity carriers to potential rail rate increases is probably small. However, specialized common carriers and contract carriers will react differently since their rate levels closely approximate those of rail when service differentials are incorporated. Recent history indicates that these specialized carriers have increased rates only 23 percent and 34 percent respectively over the period (based on motor carrier rate bureau input). This compares with a 37.6 percent increase in rail rates over the same period. The rail rate increase is lower than inflation in rail wage and material prices of 47.3 percent over the period. Even accounting for increased rail productivity, it appears that specialized motor carriers hold some advantage in rates over their rail competition when service differentials are incorporated in the analysis.

Recent studies have shown that the cost structure of unregulated motor carriers is even lower than specialized carriers. It is these unregulated motor carriers, which compete for the bulk commodities normally handled by rail, that represent the most formidable competition.

Ultimately, the impact of rail rate increases or decreases and motor carrier response will depend upon the individual shipper's modal orientation. Shippers or receivers tied to rail will require much more significant rail rate increases to create a shift to motor carrier. However, the shippers whose distribution system is truck oriented will require much more significant rail rate decreases to create a shift to rail. This concept reinforces the impact of sunk investment on the stability of modal share in individual markets (and the existence of a kinked demand curve in the rail industry).

RATE REQUESTS UNDER THE SEVEN PERCENTUM PROVISION

Although the Seven Percentum Provision has been in effect for nearly 2 years, to date only two cases have been filed. Under the Seven Percentum Provision the

respondent must initially provide evidence, to the extent available, that market dominance does not exist.* The railroads believe these information requirements may be difficult to comply with, regardless of their size or position in the market. Railroads have preferred to file for selective rate increases where they need only provide evidence in response to a verified protest. Lacking familiarity with the procedural requirements under market dominance, protestants have had more difficulty securing suspensions than they have in the past when the initial burden of proof was with the carrier. More importantly, the negligible practical difference between the necessity for a market dominance determination (under the Seven Percentum Provision) and a showing of a likelihood of market dominance (in all other instances) has not given the railroads sufficient incentive to limit increases to a mere 7 percent. This is particular true because of the fact that a full market dominance finding must be made within 90 days of the suspension order when suspension is only predicated on a likelihood of market dominance.

Two cases have been filed under the Seven Percentum Provision. The first case involved the Southern Freight Tariff Bureau filing of Supplement 41 to SFTB Tariff 947-C, ICC S-1299 on December 21, 1976. The case was considered pursuant to section 15(8)(c) of the Interstate Commerce Act, as set forth in part 1109.1. A rate increase of 7 percent was proposed to apply to blackstrap molasses and related articles in tank cars of both import and domestic traffic thus requiring the interstate application. The products moved from selected cities in Louisiana, Mississippi, and Alabama and were destined for points in Mississippi. The proposed 7 percent increase was requested for goods that had been flagged out in Ex Parte No. 330 (a general rate increase) in error. Apparently, the proponent was pursuing this action to correct this error. In reference to market dominance, the railroad stated that it was neither aware nor did it have the available information as to the amount of tonnage, if any, that moved by competitive modes. The railroad used the Seven Percentum Provision being reasonably sure that no protest would be forthcoming and that the Commission would not suspend the increase having previously approved the general rate increase from which these commodities were inadvertently excluded.

The second case represented the only bona fide Seven Percentum Provision case. The tariff filings by the Pacific Southcoast Freight Bureau were made pursuant to sections 15(8)(b) and 15(8)(c) of the Interstate Commerce Act. Supplement 41 to PSFB Tariff 300-B, ICC 1979, requests a 7 percent increase on general freight for the entire area of California. There were approximately 500 filings of rate changes under the provision of the "Yo-Yo" clause. Since no protest was filed, the Commission could not suspend the rate increase even though information on existing competition within the market was not present in the tariff filings.

SUMMARY

1. The actual level of rate change under the Seven Percentum Provision (i.e., up to 7 percent) seems to be of limited value in the face of the new market dominance provisions, except in the legal sense of evaluating evidence. For rate increases not subject to this provision, the Commission must only find a likelihood that market dominance exists to suspend, while for increases under this provision the Commission must find market dominance. If market dominance does not exist there is no limit to

* Section 202(e) requires that carriers notify the Commission that they wish to use this provision. Initial interpretations are that this notification include available market dominance information.

the potential increase as long as the increase does not violate sections 2, 3, or 4 of the Interstate Commerce Act. If market dominance exists, only rate increases found to be just and reasonable can be imposed. In cases of rate decreases, the Commission cannot suspend any rate within the 7 percent zone which does not represent a competitive practice which is unfair, destructive, predatory, or otherwise undermines competition, assuming the rate does not violate sections 2, 3, or 4.

2. Intrastate traffic, although generally taking a higher average rate per ton mile, is significantly more noncompensatory than interstate traffic. This would indicate that rate increases on intrastate traffic to compensatory levels would significantly increase rail revenues. It should be noted that the 4-R Act applies primarily to interstate rates in that amendments have been made to the Interstate Commerce Act. However, it appears that the intrastate traffic has a disproportionately negative impact on the profitability of the railroads.

3. A significant portion of interstate traffic appears to be moving at noncompensatory rates. It is estimated that 29.3 percent of interstate traffic moves at noncompensatory rates. However, this is likely overestimated since unit train cost savings were not incorporated. On the other hand, only grain gathering rates were analyzed because of the costing problems inherent in transit movements.

4. Fresh fruits and vegetables, phosphate rock, and pulpwood logs represent three major rail commodities that appear to be noncompensatory. Other major noncompensatory commodities include: lignite, wine and brandy, freight forwarder traffic, shipper association traffic, textile scrap, and furniture.

5. If the railroads were to increase rates on all noncompensatory traffic to the variable cost level, the impact on operating income depends heavily on the price sensitivity of shippers and the variability of cost. Estimates range from a 17.0 percent decrease to a 20.4 percent increase in operating income depending on the assumptions concerning rail demand elasticities and cost variability (i.e., the ability of the railroads to utilize equipment in other services).

6. The impact of a blanket 7 percent rate increase on nonmarket dominant traffic is also unclear. Once again, depending on elasticity and cost variability assumptions, the estimated impact on net income ranges from -8.0 percent to +6.0 percent. These analysis results for blanket increases attest to the very risky approach to ratemaking which the railroads have followed in the past.

7. It was demonstrated that selective rate increases may help remove some of that risk based on railroad perceptions of demand elasticity and their ability to tailor the rate structure to these perceptions. To some extent, this process is already accomplished in the rail industry through general increases with subsequent selected downward adjustments.

8. However, given the information constraints under the current rail marketing and pricing system, it is unlikely that the railroads will be able to implement truly selective pricing decisions to any great extent over the next 2 to 5 years. Certainly, within the lifetime of the Seven Percentum Provision (i.e., to February 5, 1978) no major shift to selective pricing is anticipated. However, this approach does hold significant potential for rail marketing and pricing in the long run.

VI - CARRIER AND SHIPPER RESPONSE

In the course of this study, valuable input and direction were provided by 11 railroads and 14 shippers (and shipper organizations). These participants are listed in Exhibit 3 of this report. Not only did these organizations participate in a review of the manner in which the 4-R Act will affect them, but they also critiqued some of our preliminary findings.

It should be noted that the short time frame available for this study necessitated that our initial interviews with some shippers and carriers take place almost concurrently with the promulgation of the rules, without any time for them to study and assess their impact. Recognizing this problem we accorded these parties a second opportunity to update their initial comments. All comments in this section were provided by carriers and shippers, although individual organizations will not be identified with specific comments.

In terms of this study, the comments are directed toward both the approach taken and the results obtained. Where possible, an explanation of seemingly inconsistent results will be provided. This will be done to enhance the understanding of the approach taken in this study and the limitations of the data used. However, most comments relate to the 4-R Act itself and the Commission interpretations.

The section is organized into four parts incorporating comments on each of the four major tasks of the study.

MARKET DOMINANCE

Perhaps the most descriptive response that summarizes the views of the participating railroads is that the Commission's market dominance interpretation is a "missed opportunity." The market dominance rules were viewed by some carriers as providing little more ratemaking freedom than they previously possessed. However, this concern is directed not only to the Commission, but also the 4-R Act itself. The railroads believe that the Commission's interpretation of the 4-R Act was consistent with the letter of the law but not with its spirit. This appears to be the underlying reason for the legal suit filed by the AAR.

In short, the railroads believe that while the Commission has provided greater rate freedom it did so only on traffic where competitive pressures will keep rates from increasing. In fact, these pressures often cause rates to decrease--a freedom the railroads have always had through independent action. In addition, they argue that little, if any freedom was allowed where increases are possible. As such, the railroads foresee little or no impact on rate levels. Some carriers agree that the Commission's rules did provide added impetus to making rates compensatory (i.e., meeting variable costs). Many railroads already have ongoing action plans to eliminate noncompensatory rates. In fact, one railroad indicated that the primary use of independent notice rate increases was for noncompensatory rates. If other roads do not follow the increase, the traffic is lost, but this raises the going concern value of the railroad.

Although most participating shippers were concerned over the railroad industry's financial condition, they indicated that they believed the Commission acted properly. The purpose of market dominance, in their view, was not to eliminate regulation in markets where rail carriers have the market power to raise rates, but to reduce the Commission's regulatory responsibilities in those markets where competition effectively protects the interests of the shipping public. This, however, does not

preclude the railroads from improving the quality of the service they offer in these competitive markets (to improve their market shares) and from reducing their costs by improving their efficiency and thus increasing their profits. In short, the shippers were convinced that the railroads could increase their profitability by means other than through the use of their market power. They believed that the concept of market dominance was sound and that railroads' inaction was generally characteristic of their response to innovation.

For example, some of the railroads generally accept the provisions, not because of any positive impact, but because of no perceived impact. If little or no change in current ratemaking procedures results, the status quo has been maintained. These carriers expressed relief that the "floodgates" of independent notices from insolvent railroads have not been opened. The planning horizon of insolvent lines is much shorter, resulting in lower costs and rates. In short, they felt that the railroads need to be protected from themselves. The Act has not, in these railroads' view, removed this protection.

One shipper also expressed satisfaction with the present market dominance provisions in that the shipper will be protected from unreasonable rail rate increases on profitable long-haul traffic where market dominance exists. Carriers will not be able to subsidize their short-haul markets with exorbitant profits from the long-haul operations. However, rate freedom will be allowed on short-haul traffic (generally unprofitable) where competition exists.

Independent notices are a primary concern of the railroads. Many regard them as a "no-win" proposition. In general, it is believed that the proponent carrier of an increase will lose the traffic to competing carriers due to shipper response. The proponent of a decrease will generally be preferred for future traffic. The 4-R Act is directed toward promoting independent notices, yet independent notices generally involve rate decreases. As such, many railroads believe that the 4-R Act inherently works to reduce rates. The recent increase in the number of independent notice rate increases is primarily on single line rates. Under the new section 5(b), other carriers cannot vote on single line rates. As such, independent notice is the most expeditious manner in which to publish these rates.

Shippers, on the other hand, point out that price competition is only one variable in their decision to ship via a specific mode. Another important, heavily weighed factor is quality of service. Although shippers generally agree that independent rate increases on a given level of service are almost always resented, they are receptive to independent rate actions associated with improved service.

Many railroads expressed the opinion that the 4-R Act is oriented toward large shippers. Independent notices, the impact of which is discussed above, are primarily issued for large shippers where the potential traffic is worth the effort. The railroads believe that independent notices are diametrically opposed to transportation regulatory history of protecting the small shipper. Generally, they believe the 4-R Act effectively gives an advantage to the large shipper. Moreover, the Commission's interpretation of market dominance appears to ignore the economic power of large shipper units over the railroads, since each of the presumptions is a presumption of market dominance rather than competition.

This view, however, fails to consider shipper organizations. According to the shippers interviewed, these organizations commonly represent small shippers before the Commission. Although these organizations have considerably more resources available to them than small shippers, they still do not compare with the very large shipper. The Commission's decision to establish rebuttable presumptions of market

dominance was predicated on testimony by small shippers who indicated that the majority of small and medium shippers would be unable to rebut a presumption of effective competition, as well as the belief that if competition was the general rule it would be much easier to identify the exceptions to that rule.

The railroads also expressed concern over the January 7, 1977, general increase. In that proceeding, the Commission indicated a desire to have the railroads use the power received in the 4-R Act to make selective increases. This would indicate that general rate increases may be more difficult to obtain in the future. Since the railroads believe that most of their traffic would be considered market dominant under the market share test, future rates will tend to move to the variable cost level. Noncompensatory rates will increase to the variable cost level, but rates over 160 percent will not be allowed to increase. Since fully allocated costs are generally 130 percent of variable cost, the railroads fear that profits will eventually erode. This, they argue, is the precise opposite of the intent of the 4-R Act.

The shippers expressed the opposite concern, i.e., the 160 percent standard would represent a minimum rate level to which all rates will be increased. They believe the presence of market dominance does not preclude rate increases. Furthermore, with the initial burden of proof on the protestant the advantage lies with the carriers.

Concern was also expressed that the 4-R Act erodes the ability of the Commission to protect routings developed under merger conditons. This is a particular concern of bridge carriers who need to maintain their routings in connecting carrier tariffs.

In general, the railroads feel that the 48.5 percent estimate of traffic likely to meet the threshold tests of market dominance is too low. Instead, they believe that over 90 percent of their traffic would be considered market dominant. However, it must be noted that 48.5 percent does not account for two factors:

1. The basic integration assumption of complete overlap among the three presumptive tests (unlikely in the real world).

2. The overestimate of traffic that appears to be noncompensatory and thus not market dominant.

On the other hand, these estimates pertain only to the threshold tests of market dominance and do not incorporate the impact of evidence presented in rebuttal which would tend to lower the likely findings of market dominance.

The last general concern expressed by carriers is that a finding of market dominance will be tantamount to a finding of unjust and unreasonable rates. Since the railroads believe that most of their traffic would be considered market dominant by the Commission (even though they don't dominate the shipper), this would indicate that most rates would be found to be unjust and unreasonable. This conclusion is unwarranted and ignores the fact that the Commission has noted that the 4-R Act provides that a finding of market dominance does not establish per se that the rate is unjust or unreasonable, but is only a preliminary jurisdictional test.

(a) Market Share Presumption

The primary concerns of the railroads regarding the market share presumption include the absence of market competition and potential competition in the definition of a market in the initial determination at the suspension level. However, market competition may be very real, particularly for low valued commodities where transportation costs represent a significant portion of the total delivered price of the commodity. One shipper expressed the opinion that product competition and geographic competition do not fall within the definition of relevant market. These views ignore the possibility that these may be strong factors bearing on the question of whether a protesting shipper will be substantially injured by the Commission's failure to

suspend a proposed rate. Without a showing of substantial injury, section 15(8)(d) of the Interstate Commerce Act prohibits suspension.

Potential competition is another factor which indirectly impacts rate levels. Due to truck flexibility (particularly for exempt commodities), the trucks keep down the rates throughout the rail system, even though they don't serve all areas. As such, they have a disproportionately large impact. As an example, copper rates to Chicago from a particular location in the West are dictated by the competitive truck rates. The entire copper rate structure in the West must be coordinated with this rate to Chicago. Shippers, however, expressed the concern that potential competition may not be effective competition. Exclusion of this factor from market share allows this difficult question to be decided on a case-by-case basis.

The railroads were also concerned that the exclusion of private fleet from the market share test at the suspension level would effectively shift the burden of proof on private fleets to the railroads in their rebuttal evidence. However, the railroads cannot readily obtain quantitative information on private fleet movements.

One railroad strongly objected to the interpretation of noncompensatory traffic as not market dominant for two basic reasons: the cost test likely overstates noncompensatory traffic (as was stated in the report) and they fear that railroads will only have the freedom to raise rates to the compensatory (i.e., variable cost) level. Furthermore, this interpretation is not evident in the market dominance proceeding. (The interpretation is, however, the result of language found in Section 202(b).)

Shippers generally believed that the market share estimate derived in this analysis was too high and railroads generally believed it to be too low. However, nearly all agree that railroads probably have market dominance in many bulk commodities, particularly iron ore and coal. Iron ore and coal alone account for nearly half of rail traffic. Several other comments were made by both carrier and shipper alike.

The results for grain may not accurately reflect the workings of the grain market. The market share for grain shifts throughout the year due to capacity constraints at peak periods. In addition, further disaggregation of grains (e.g., hard wheat and soft wheat) would also alter the market share results. Finally, 1972 was not a representative year for wheat movements due to the Russian wheat sales.

Shippers and carriers confirmed the concept of stable market shares which impacted the results of the market share test. Investments required to adequately ship by more than one mode are prohibitive. Consequently, once an investment in facilities has been made, a shipper will tend to continue shipping via that mode contributing to the stability of modal share.

The railroads expressed concern that the Commission will get embroiled with the same problems of defining the relevant market as has antitrust law. Moreover, strict market definitions based on tariff items will not embody movements which shift in the winter due to closure of some waterways. Even though the ultimate destination is the same, the point of interchange with a water carrier often varies by time of year.

Athough the railroads generally agree with the definition of a market as that traffic to which the tariff applies, they feel that this should not be extended to point-to-point movements. At least one railroad indicated that if the Commission uses this definition, the railroads could increase the geographic area of their tariff coverage in an attempt to reduce market share. However, this action appears unlikely due to the minor impact perceived.

Lastly, the railroads believed that the 95 percent estimate of collectively made rates overstates the impact of the collective ratemaking "subtest." Important rail rates (in terms of tonnage and revenue) are often made by independent action. As a result, less than 95 percent of the tonnage would have rates that were collectively made.

(b) Cost Test

The use of Rail Form A for the presumptive cost test is the single largest concern of the railroads and shippers in this area. Most railroads believe that Rail Form A costs do not accurately reflect true railroad costs. In practice, nearly every costing exercise involves significant modifications to Rail Form A costing formulas. However, there is debate as to whether standard Rail Form A overstates or understates true costs. Even among the respondents to this study, opinions were expressed on both sides. Costs may be understated in that Rail Form A does not reflect equipment replacement costs and does not provide current cost of capital. Costs may be overstated in that standard Rail Form A costs were utilized. Certainly (and the railroads agree), costs were overstated for coal (due to unit trains), and the ratios were overstated for grain (due to the transit arrangement). Utilizing standard Rail Form A does not incorporate savings for particular movements through specific operating arrangements. Switching costs may be overstated due to the variations in actual switching conditions by site. In addition, inflating rail costs by the AAR index will tend to overinflate costs since the index does not incorporate efficiency improvements.

Both railroads and shippers were concerned that Rail Form A does not distinguish between railroads within a region. Carriers may be inefficient due to reasons beyond management control, such as route circuity or grade levels on their line. Shippers expressed concern that unequal treatment under this presumption will result. If a shipper is served by a relatively inefficient carrier, higher rates could result.

In addition, some believe the use of variable cost may understate the real impact of individual rail lines built to serve individual plants, mines, or commodities. This is particularly evident for grain gathering lines where fully allocated cost should be used. Shippers were concerned about which level of variable cost will be used: historic Rail Form A or as yet undefined variable cost, which is to be developed in the Commission's forthcoming costing procedures.

Tied movements and transited movements are very difficult for the carriers to cost. In addition, the true destination is often unknown until the commodity is reloaded after transit. The railroads are curious as to how the Commission will view these movements.

Lastly, all participants believed that noncompensatory rates are likely overstated. This was discussed in Chapter II of this report. It is believed that this problem arose because unit train cost savings (sometimes significant) were not recognized. It is believed that if these savings were incorporated, less than 17 percent of rail traffic would be considered noncompensatory. Although some railroads indicated that they carried little or no traffic below variable cost levels, others indicated that this estimate is probably accurate.

(c) Substantial Investment

The most significant problems were expressed regarding the substantial investment presumption. These concerns revolved around the three problem areas discussed in Chapter II of this report including:

1. Sunk Investment - The railroads argue that past investments should not enter into a shipper's future decisions since that investment will be reflected in lower operating costs. Shippers also indicated that the test should look at the required investment to shift modes and not past investments. Both shippers and carriers indicated that grain elevator operators will still ship via truck, even if they have a substantial rail investment.

2. Shipper Convenience. Most shipper investments (with the exception of tank cars) are for their own convenience.

3. Shipper Remuneration. Shippers are paid mileage allowances for use of their cars. Many, however, state that these payments are inadequate in relation to the costs of owning this equipment.

These problem areas are fully discussed in an earlier section of this report and were voiced by nearly every railroad and shipper.

Investment credit allowance has been increasing private car ownership. As such, if private cars are considered a substantial investment, the shipper will not only receive lower rail rates in the long term, but will also receive an immediate investment credit. Mileage allowances are also received. The railroads believe that this is an exorbitant return for an investment that is so easy to sell or break the lease. However, shippers indicate that private cars were purchased because the railroads would not or could not supply the cars. It should also be noted that easily disposable equipment is not covered by the presumption.

The railroads are also concerned that it will be difficult to identify the original purpose of the investment. The investment may have multiple purposes making it difficult to identify the rail portion of the investment. Some of these other purposes include storage, other movements, etc. Is a rail/water transfer facility a substantial rail investment? This point could be argued both ways, but the key factor will be the additional cost, if any, in switching to another carrier or mode.

Rail trackage and sidings that are privately owned do not "prevent or make impractical the use of another carrier or mode" any more than the presence of a highway or road makes rail transportation impractical. The railroads believe that all of these investments should properly be considered plant-related.

Some railroads expressed the opinion that substantial investment ought to be measured in terms of a "transportation asset to total asset" ratio. However, others believed that this measure would be biased against the large shippers.

One shipper commented that the Commission has placed itself in a position of "protecting" possibly mistaken investments by individual businessmen. This would negate any competitive advantage held by a shipper who had made a sound investment decision.

Shippers also expressed concern regarding the lack of guidance from the Commission regarding substantial investment. Should book value or replacement value be used? Smaller shippers were concerned that high legal fees will prevent them from investigating an unknown presumption.

(d) Information Requirements

Even though the burden of proof of market dominance is initially on the protestant (often a shipper or alternate carrier), the railroads believe that this burden of proof will be readily shifted to the railroads simply through receipt of a protest. While this has not been the experience to date in market dominance proceedings, the railroads perceive this to be a significant problem because they claim to have no information on market share or substantial investment that could be used to rebut the presumption.

They argue that all information is "hearsay" in the legal sense, since it is generally gathered by salemen in their routine calls and is therefore inadmissable in court. This information may be presented in a Commission hearing, however. As such, the railroads believe that even the smallest amount of information could be useful in preventing a rate increase.

As a result of lack of information, the railroads and shippers believe that most cases will deteriorate to hard cost cases as in the past. Since the railroads would appropriately provide this information, the burden of proof would remain with them.

Shippers have expressed concern that they will have difficulty in obtaining market share information for rates which cover large regions. Gathering these data could be expensive.

SEVEN PERCENTUM PROVISION

Since the Seven Percentum Provision was tied to the market dominance concept, the participating railroads seemed to feel it was unnecessary to address this specific provision. Whereas a full finding on market dominance must be made before a rate filed under the Seven Percentum Provision may be suspended (unless there is a violation of other sections), in order to suspend under normal procedures only a "likelihood" of market dominance need be found. While there is a technical difference between a full finding and a likelihood finding, in practice the difference is minute. In addition, under normal procedures the only limit on the amount of rate increases is competitive pressure, while the Seven Percentum Provision limits the increase to 7 percent per year.

At least one carrier believes the provision to have a negative impact in that a carrier invoking the Seven Percentum Provision must provide evidence regarding market dominance available to it at the time the rate is filed.

SEPARATE RATES FOR DISTINCT SERVICES

In the study effort on Separate Rates for Distinct Services, six participating carriers were interviewed in depth, and the results of these interviews were a major input to this Summation Report. However, as one study participant replied, "The list of current and potential distinct services contains practically every issue that causes controversy between carriers and shippers." The diversity of rail carrier and shipper reaction to the results of the study reflected this.

For example, one shipper argued that the separate rates for distinct services was just another way of raising rates - not really innovative ratemaking. Consequently, he expected to file a protest regarding most such rates. However, not all shippers were in agreement. Others felt that separate rates for distinct services would be introduced for the convenience of large shippers and that small shippers would never have the volume or negotiating power to obtain such rates. In contrast, several carriers felt that not only should separate rates be considered for the 20 services examined, but several additional ones, such as barge loading and land and electric power for loading and unloading, should be considered.

(a) Specific Comments

Among the distinct services considered in this study, the three which stimulated the most shipper and carrier reactions were insurance on lading, tracing, and assigned cars. The proportion of favorable and unfavorable attitudes differed substantially among these.

Insurance on lading as a distinct service was orginally proposed by a rail carrier who had felt that competitive pressures to hold down rates precluded full risk coverage on certain high-value commodities. The railroads and larger shippers tended to react positively to this suggestion. One shipper argued emphatically that the carrier should get out of the insurance business. Another large shipper explained that their coal unit train movements were priced without insurance against lading loss and damage and that they felt this was a satisfactory arrangement. Still others indicated a willingness to handle their own insurance if total costs would be reduced. Smaller shippers were not as enthusiastic. One small shipper pointed out that his risks could be higher because of his smaller size and that he would consequently be obliged to pay a higher premium for a given movement than larger shippers.

Shippers attitudes were more uniform regarding separate rates for car tracing services. All felt strongly that this was a service owed them by the carriers and if the carriers were experiencing excessive tracing costs they could reduce these costs by providing higher quality service. Moreover, it was pointed out repeatedly that shippers already incur costs as a result of the need for tracing. One firm now spends $1 million annually to trace its assigned car fleet, an expenditure which would be unnecessary if rail service were more reliable. In their defense, the carriers pointed out that the availability of unlimited tracing has encouraged shippers to develop very costly tracing systems which require daily inquiry to the carriers regarding every car in their assigned fleet. Such elaborate systems might not have been justifiable if the railroads data gathering costs were charged to shippers directly rather than being buried in the line-haul rate.

A similarly controversial issue was the practice of assigning cars to specific shippers. Smaller shippers made the point that they are at a disadvantage in comparison to the larger shippers in obtaining and keeping assigned cars. For these shippers, the perceived inequity was more of a concern than a potential charge for the service. Larger shippers, as major users of assigned cars, were concerned by the prospect for additional charges for this service. Several admitted there was a benefit derived from car assignments in terms of reduced in-plant storage requirements made possible by more reliable supplies of railcars. However, the argument was made that a reliable supply of cars is part of the carriers' obligation to their customers and that an additional charge for this would be unfair.

(b) Other Distinct Services

If there was any common theme in carrier comments on separate rates for distinct services, it was that there was much room for expansion of the concept beyond the examples considered in this study. Two such examples were mentioned previously: railcar barge loading (and unloading) and the supplying of land and electric power for railcar loading and unloading. Another service mentioned was private car movement charges to correct irregularities perceived in the new tank car mileage equalization scheme and to extend these corrections to other car types. Several carriers (and shippers as well) even mentioned the need to extend the concept of separate rates for distinct services beyond the strictly accessorial services contemplated in this study and into more innovative areas.

As one carrier explained, "If a carrier and a shipper, or a group of shippers arrive at some new and innovative type of rate/service that is completely beyond the norm for this commodity, then we feel it should qualify under the description of 'distinct service'." An example that was given involved a rate where elaborate conditions were imposed on both shipper and carrier. These conditions were intended to mesh closely

with the shipper's unique physical distribution system. Other study participants also felt that a broader interpretation of distinct services would be worthwhile.

Several participants (both shippers and carriers) mentioned the possibility of contract rates as a candidate for a "distinct service" that was not an accessorial service. Railroads are not permitted to make such rates under current law; however as several participants pointed out, other modes do use contract rate agreements. The consensus among the participants seemed to be that contract rates may be desirable in the rail industry for several reasons. First, and most importantly, they would provide a firmer base for the commitment of major capital expenditure by both carriers and shippers. Second, with contract rate freedom, the railroads would be able to compete directly with contract services by other modes. Lastly, contract rates would constitute an effective means of smoothing peaks and valleys in rail transport demand: more effective, perhaps, than peak and seasonal pricing.

PEAK, SEASONAL, AND REGIONAL RATES

Carrier reactions to the results of the study on peak, seasonal, and regional rates generally fell into two categories. Some railroads were convinced, after some unsuccessful attempts at peak load pricing, that peak and seasonal rates would never work in the rail industry. Other roads expressed serious interest in implementing peak and seasonal rates and complained that their competitiors, whose cooperation was required, were refusing to recognize the value of peak and seasonal rates. Understandably, shipper reactions were oriented toward their ability to keep transportation and distribution costs in line if peak and seasonal rates were introduced.

All railroad participants agreed with the conclusion of this study that the actual implementation of peak and seasonal rates will be quite limited over the next 2 to 5 years. However, as indicated above, the reasons for the individual carrier positions differed substantially. Those who felt peak or seasonal rates were infeasible cited several reasons. Some expressed the opinion that the justification requirements imposed by Ex Parte No. 324 were excessively burdensome. This issue is discussed in more detail in the section of this report on peak and seasonal rate implementation.

However, several points were raised which had not been fully addressed. One of these points was the interaction of the market dominance provisions of the 4-R Act with the peak and seasonal rate provisions. As one carrier explained, in markets where peak load pricing might successfully be imposed, there is a high likelihood that rail market dominance could be proven. To forestall suspension of the rate, the carrier must be prepared to justify the peak and seasonal rate not only under the requirements set by the Ex Parte No. 324 order but also under the market dominance ruling from Ex Parte No. 320. If entirely different cost and profitability data are required in each case, a severe burden may be imposed on the carrier.

Other carriers also focused on regulatory and procedural matters but directed their attention to the notice period for a demand sensitive rate. These roads reject the concept of a rate with a trigger mechanism or a fixed date for peak or off-peak rates. Instead, they would prefer to change rates on very short notice to respond to changing conditions in the agricultural products market. These carriers contend that the extreme flexibility of rates and routes found in the unregulated motor carrier industry cannot be adequately countered by the railroads without the ability to change rates very quickly.

The comments on procedural matters were paralleled by similar remarks on the other side of the question: if the procedures posed no obstacles, would peak and seasonal rates work if implemented? Several carriers felt the answer to this question was

"no." The typical response from these carriers was that the rail rate was too small a proportion of the delivered price of the goods to make smoothing possible and that, where a revenue increase through peak load pricing was the goal, intermodal competition would nullify the potential revenue increases.

The carriers which disagreed with these views still agreed that peak and seasonal pricing will see little use. They made the point (emphasized in this report) that carrier cooperation is required for peak and seasonal rates to succeed. This is not only to avoid intramodal competitive effects but to avoid prejudicial effects on the shippers who are tied to the road imposing a peak load rate. Without cooperation of all rail carriers in a region, either the business will all go to the carrier with the lower single level rate, or the shippers affected by the peak load rate will find themselves at competitive disadvantage in their product markets.

In marked contrast to the rail carriers' views of peak and seasonal rates, the participating shippers felt that some implementation of peak and seasonal rates was inevitable. Their primary concern was how to develop a constructive response to these rates.

Shippers whose traffic is highly seasonal were very concerned about the potential impact of peak and seasonal rates. They were especially concerned that they receive adequate notice of impending peak period increases so as to permit inclusion of higher rail rates in the delivered price of the goods. However, a more realistic analysis would compare the amount of proposed rate increase to the amount of profit the shipper earns on the merchandise. If profit margins are low, even where product prices are high, the impact of freight rate increases on shippers can be significant.

Shippers whose traffic is not seasonal also have a stake in the implementation of peak and seasonal rates. These firms regularly experience a worsening of service during peak volume periods, especially if their products move in covered hopper cars. One shipper even reported that his unit train equipment was diverted by the railroad to agricultural product movement during a recent car shortage - and without any advance notice. To the extent that peak and seasonal rates will improve car supply problems in the peak, these shippers are eagerly awaiting their implementation even where all users of a given car type will experience higher peak period rates.

Interestingly, some especially knowledgeable shippers felt that peak and seasonal rates would be introduced much more rapidly than indicated in this report. Their feeling was that once the ground rules were clearer and the Commission has had the opportunity to establish some precedents under the new regulations, experiments in this area will begin in earnest. Also of note and pertinent to the carriers' negative assessment is the fact these criticisms were made before any carrier had attempted to utilize the provisions.

The overwhelming majority of railroad and shipper comment in the peak, seasonal, and regional area was related to seasonal and peak rates. Regional rates are not viewed as being particularly significant. This, of course, was the general conclusion of this study. If anything, shippers felt that the regional traffic percentage was overstated because in many of the markets with "correctable" imbalances there were return movements including shipper-owned containers and racks.

VII - CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The main objective of this study is to provide Congress with a comprehensive evaluation of the impact of section 202 of the 4-R Act on carriers and shippers. The study is based primarily on economic and statistical projections of historical data and interviews with shippers and carriers. Experience in the application of the provisions, although included in the study, has been limited. The railroad industry's minimal use to date to implement these provisions may be attributed to a number of factors which are addressed below.

(a) The Section 202 Amendments Appear Unlikely To Cause Fundamental Changes in Railroad Ratemaking Practices Until The Railroads Have Had Sufficient Time to Respond with New Innovative Pricing Policies.

Large-scale changes in railroad ratemaking practices appear unlikely for the near future as a result of the provisions in section 202. The reasons for this are varied, but one of the important factors appears to be the cautious approach of the railroad industry towards change and the failure of concerned shippers to inform themselves of the newly-established procedures. The responses to the interviews performed for this study indicate a wide disparity of views, even among the railroads themselves, on the utility, appropriateness, and effects of the provisions and their implementation by the Commission. Large-scale changes will only occur when some form of consensus is achieved and the railroads agree on the most efficient and beneficial combination of pricing policies under the new provisions. Presumably, positive experience under the new procedures will serve to assuage most of the fears expressed in the interviews. In this regard, while this study indicates a potential rail market dominance over 45 percent of total rail traffic, actual practice has resulted in only two suspensions of rail rate increases since October 1, 1976. Where a rate is not suspended pending investigation, the railroad will continue to receive revenue which, assuming the rate is ultimately found reasonable, it could otherwise never have obtained. While admittedly the unfamiliarity of shippers with the new procedures has played a role in the lessening of suspensions, there can be no doubt that the Commission has shown a strong desire to aid in the railroad's revitalization although, of course, economic restraints remain.

(b) Particular Section 202 Provisions Vary in Their Potential For Success.

Peak, seasonal, and regional rate provisions may offer the largest potential benefits as carriers begin rate experiments under them. In fact, subsequent to the cutoff date for this study, the Southern Freight Association proposed a major seasonal rate on grain. The proposal would establish a 20-percent premium on grain originating in the Southern Territory from September 15, 1977, through December 15, 1977. If authorized, this may be the most significant change in grain rates since the establishment of the now famous Big John rates of the early 1960's.

In addition to increasing carrier revenues, peak, seasonal, and regional rates will also ease car distribution problems.

Little new activity is expected in the area of separate rates for distinct services since these rate types have been traditionally available. Although the Commission provided several changes in this area designed to encourage experimental ratemaking, the underlying economic conditions and constraints which have restricted their use in the past have not fundamentally changed.

By its very nature as a threshold jurisdictional test, the market dominance concept can only lead to increased rail pricing freedom in competitive markets. In noncompetitive markets, maximum rate regulation is retained but is not increased. The presence of market dominance does not mean that a rate is necessarily unjust or unreasonable. Commodities most affected by this provision are the bulk commodities which have transportation characteristics making them susceptible to rail dominance. In the more competitive markets, the railroads apparently have obtained significantly more freedom. In those markets, however, competitive pressures may limit carriers from exercising these new freedom opportunities to any great degree. Where changes have been published, the greater freedom available has been shown in the dramatic reduction in protests and suspension of rates proposed for markets not exhibiting dominance.

The statutory framework of the Seven Percentum Provision appears to limit its chance of success, at least for rate increases. Where a rail carrier proceeds under this provision, an increased rate may still be suspended if market dominance is found and substantial injury and likelihood of success on the merits are shown. However, where a carrier elects to increase its rates without using this provision a likelihood or market dominance must still be shown (and market dominance found within 90 days if the rate is suspended). The practical difference between these two situations is negligible and thus there is little incentive to the railroads to use the Seven Percentum Provision.

However, as noted in the report, a number of rates have recently been published under this provision by the Eastern Railroads. Southwestern Freight Bureau, on August 31, 1976, also filed a supplement containing widespread rate adjustments, with a request that the rates be considered under the yo-yo provision. The reasons for the recent filings are not clear, but may stem in part from a belief that the Commission would look more favorably on future general increase requests if some attempts to use the 4-R Act provisions had been made.

The impact of the Seven Percentum Provision on independent rate action appears minimal. The railroad industry has always had the option of reducing rates independently. Yet, in the face of rising costs, carriers have not moved forward with rate reductions. The opportunities available under the Seven Percentum Provision are not expected to change this pattern.

The Seven Percentum Provision will expire on February 5, 1978. Failure to renew it is not expected to have adverse effects.

(c) General Rate Increases Tend to Discourage Experimental Ratemaking.

The railroad industry has traditionally relied heavily on general (as opposed to selective) rate increases. It is too soon to predict with certainty the extent to which this practice will be influenced by experimental ratemaking under provisions adopted pursuant to section 202 of the 4-R Act.

General rate increases have become institutionalized as the primary means of affecting rate changes in the rail industry. This approach is preferred by the carriers to selective increases for several reasons, including relative ease of acceptance by the shipping public and minimization of the resources needed to gain the added revenues. Several shippers and rail carriers commenting on this matter argued that shippers are more concerned with their relative transportation costs than absolute costs. This attitude fosters across-the-board type increases which tend to do little to alter these relationships. Moreover, holddowns and flagouts from general increases are viewed favorably by their recipients as evidence of a recognition that special problems require special treatment. Selective rate increases, on the other hand, are generally viewed with animosity.

From the railroads' point of view, general rate increases are also favored because they are more efficient to pursue. With limited staffing available for market research, the carriers simply find it more efficient to increase all rates simultaneously rather than develop selective justifications.

(d) Information Requirements May Delay the Use of the Section 202 Provisions.

The ratemaking provisions of section 202 in some instances have created a need for collecting new and reformating certain existing data. Due to the relative newness of the 4-R Act provisions and the Commission's rules, some shippers and carriers have expressed uncertainty as to the nature and form of data needed to meet evidentiary burdens. They maintain that the process of adapting the Commission's information requirements to a specific case and then collecting the necessary data may be burdensome. The Commission has, however, attempted to minimize this burden by adopting a flexible approach to the production of data. Throughout the various rulemaking proceedings, the Commission's emphasis has been on developing existing sources of information, rather than imposing new burdens.

Finally, it is clear that the statutory "market dominance" provision now casts shippers and carriers in new roles. Prior to the 4-R Act, the Commission had a wide discretion in acting on protests, but under the new market dominance provisions a protestant has the substantial new initial burden of establishing a prima facie case of market dominance. Because this is a difficult evidentiary showing for a protestant to establish, an adjustment period is necessary to enable shippers to develop data effectively and to work successfully with the new requirements.

(e) Carrier Action to Date Under Experimental Ratemaking Has Not Been Significant.

Although major provisions of section 202 have been in effect since October 1976 (for the market dominance rules) and February 4, 1977 (for other rulemakings), use by railroads of these provisions has been limited. Between enactment of the rules and July 31 (the data cutoff date for assembling this study) the Seven Percentum Provision and the peak, seasonal, and regional provisions were used in connection with only a few rate publications. In contrast, capital incentive rates have already been proposed by several carriers although the rules implementing section 206 have only been in effect since June of this year.

The underlying causes for such limited use to date of the section 202 provisions cannot be attributed to any single factor. The 4-R Act has presented some fundamental problems in establishing the standards which underlie these provisions. The language of the Act contains a number of ambiguities and inconsistencies which have made interpretation difficult and tentative. In some situations, the Commission's rules did not provide precise standards and definitions in order to provide maximum flexibility. As actual experience is gained in individual cases, the guidelines will be modified as appropriate.

Some railroad representatives expressed the opinion that the Commission's interpretations of the section 202 requirements were relatively conservative and did not provide carriers with adequate freedom to publish experimental rates. In the view of various shippers, however, the Commission was more liberal than required under the statute. Given the complexity of the law and regulations as well as the limited carrier use of the provisions, it may be some time before the full effect of the legislation can be ascertained. In the recommendations section of this report, an approach toward achieving a more widespread understanding of the legislation is discussed.

Finally, most railroads have shown only minimal interest in experimenting with the new provisions. In fact, the railroads as a group--with a few notable exceptions--have not even developed "test" cases through which the rules can be assessed. While the Commission's proceedings are for the most part open-ended, further refinement of the standards and guidelines may be slowed by the absence of practical experience. Also, where cooperation is a prerequisite, the railroad industry may not have the necessary cohesiveness to act together.

RECOMMENDED ACTIONS

(a) No Legislative Modifications are Appropriate at This Time.

The rules and standards for each of the major provisions have been in effect for less than a year. It is therefore premature to recommend significant changes or modifications in legislation. Additional experience under these rules would be appropriate before modification or any further legislation could be recommended. The Commission will continue monitoring ratemaking activity under these provisions measuring this activity against the estimates of potential impact derived from this study, and submit specific legislative recommendations from time to time as needed.*

(b) Continuing Studies of Experience Under Section 202 Are Needed.

The present study is provisional in nature. It represents a pioneering effort in exploring new and different concepts in transportation regulation. In the performance of this study, several difficulties were encountered. First, since this study covers new ground, no data base presently exists which is directly applicable. Given the statutory submission date for this study, it was impossible to develop a new data base, thus existing data were adapted. Another consequence of the statutory deadline was the limited number of months since the promulgation of standards. The time frame was apparently too short for trends to develop. The results should, therefore, be considered preliminary and should be confirmed through additional future studies.

As a prerequisite for new analyses, data bases should be developed which are oriented specifically toward the 4-R Act provisions. With 2 to 3 years of additional experience and the availability of improved intermodal data, it will be possible to develop more definitive conclusions on the success and impact of the ratemaking provisions.

(c) An Informal Approach Should be Useful in Considering the Need for Changes in Rules.

In order to promote utilization of the section 202 provisions, the Commission can begin by broadly educating the public on the terminology and filing requirements. Without such efforts, implementation of the provisions could be a lengthy process. This educational process could be accomplished through seminars, speeches, and informal sessions with shipper and carrier organizations. The informal approach has the advantage of flexibility. This process can also be used to identify specific needs for revision of the rules which, in turn, may warrant reopening the appropriate proceeding for clarification and revision. The Commission's proceedings implementing the 4-R Act

*See, for example, recommended changes in 4-R Act contained in the July 29, 1977, statement of Chairman O'Neal before the Subcommittee on Surface Transportation of the Senate Committee on Commerce, Science, and Transportation.

are for the most part open-ended in nature to permit further refinements and modifications as needed. It is expected that as experience is gained and the rules are clarified, increased carrier utilization of the section 202 provisions will occur within a few years. Failing successful implementation within that time span, the Commission will consider seeking remedies through further legislation.

(d) Railroads Should Make a Concerted Effort to Use Section 202 Provisions.

The intent of section 202 of the 4-R Act was to provide railroads with certain ratemaking freedoms. Although freedoms have been accorded, their widespread use has not occurred as soon as initially envisioned by Congress (e.g., the Seven Percentum Provision has a 2-year duration). Moreover, railroads have been traditionally cautious in implementing major innovations in ratemaking and operating procedures. For this reason alone, the opportunities provided in section 202 of the 4-R Act will likely take a substantial amount of time before their realization. A fair and reasonable test of section 202 can only occur if all the railroads are willing to direct their resources toward success of these provisions.

With regard to the industry's preference for using general increases to obtain additional revenue even though this increases the opportunities for diversion, positive steps can and are being taken by the Commission to promote selective rather than general rate increases, including a requirement that carriers show progress toward selective ratemaking in connection with general increase filings.

INTERSTATE COMMERCE COMMISSION

SPC COMMODITY GROUPS

SPC Commodity Group Number	Description
1	Cotton
2	Wheat
3	Corn and Sorghum Grains
4	Barley
5	Grain, All Other
6	Soybeans
7	Rice
8	Potatoes, Other Than Sweet
9	Sugar Beets
10	Citrus Fruits
11	Apples
12	Deciduous Fruits
13	Fresh Vegetables
14	Melons
15	Iron Ore
16	Non-Ferrous Concentrates
17	Calcined or Activated Bauxite Ores
18	Anthracite Coal
19	Prepared Bituminous Coal for Metallurgical or Coking Purposes
20	Prepared Bituminous Coal for Fuel or Steam Purposes
21	Lignite, Prepared or Raw
22	Fluxing Limestone & Dolomite
23	Construction Aggregates
24	Industrial Sand
25	Clays, Dry, Other Than Fire Clay
26	Feldspar
27	Potash Fertilizers
28	Phosphate Rock
29	Fresh Meats and Packinghouse Products
30	Canned and Preserved Fruits and Vegetables
31	Other Foodstuffs, Canned, Preserved or Prepared
32	Frozen Fruits and Vegetables
33	Wheat Flour Milling Products
34	Dry Corn Milling Products
35	Other Grain Mill Products

SPC Commodity Group Number	Description
36	Wet Corn Milling Products
37	Cereal Preparations (Cooked)
38	Sugar, Refined, Cane or Beet
39	Malt Liquors
40	Wines and Brandy
41	Alcoholic Liquors
42	Commercial Fats and Oils
43	Seed, Nut or Vegetable Cake or Meal
44	Cigars, Cigarettes, and Manufactured Tobacco
45	Textile Products
46	Pulpwood Logs
47	Pulpwood Chips
48	Lumber
49	Treated Wood Products
50	Wood Posts, Poles or Piling
51	Millwork and Other Lumber Products
52	Plywood or Veneer
53	Hardwood Dimension Stock and Flooring
54	Wood Particle Board
55	Furniture
56	Woodpulp and Other Pulps
57	Newsprint Paper
58	Ground Wood Paper
59	Printing Paper
60	Wrapping Paper and Paper Bags
61	Pulpboard, Other Than Corrugated
62	Pulpboard, Corrugated
63	Sanitary Paper Products
64	Paperboard Boxes or Containers
65	Food Containers and Fibre Cans, Drums or Tubes
66	Building Paper and Building Board
67	Industrial Inorganic Chemicals
68	Barium or Calcium Compounds
69	Sodium Alkalies
70	Soda Ash
71	Industrial Gases
72	Industrial Organic Chemicals
73	Sulphuric Acid
74	Anhydrous Ammonia
75	Superphosphate

SPC Commodity Group Number	Description
76	Agricultural Chemicals, including Fertilizers
77	Plastic Materials
78	Rubber, Natural and Synthetic
79	Detergents and Other Cleaning Preparations
80	Salt, Rock and Common
81	Carbon Blacks
82	Petroleum Refining Products
83	Petroleum, Lubricating Oils and Greases
84	Asphalt Pitches or Tars
85	Liquified Gases, Coal or Petroleum
86	Construction Materials, Asphalt or Asbestos
87	Petroleum Coke
88	Coke Produced from Coal
89	Tires and Tubes, Rubber
90	Plastic Products
91	Glass Containers
92	Hydraulic Cement
93	Brick or Blocks, Clay or Shale
94	Clay Refractories
95	Lime
96	Gypsum Building Materials
97	Mineral Wool
98	Pig Iron
99	Semi-Finished Steel
100	Manufactured Iron or Steel
101	Iron or Steel Pipe, Tubes or Fittings
102	Railway Track Material
103	Ferroalloys
104	Primary Copper Products
105	Primary Zinc Products
106	Primary Aluminum Products
107	Brass, Bronze or Copper Basic Shapes
108	Aluminum Basic Shapes
109	Metal Containers
110	Farm Machinery
111	Heavy Machinery
112	Major Household Appliances
113	Household Radios or Television Sets
114	Motor Passengers Cars, Assembled
115	Motor Vehicles, Assembled (Other Than Passenger Cars)

SPC Commodity Group Number	Description
116	Motor Vehicle Parts
117	Locomotive or Railway Car Parts
118	Iron or Steel Scrap
119	Non-Ferrous Metal Scrap
120	Textile Waste or Scrap
121	Paper Waste or Scrap
122	Chemical or Petroleum Waste
123	Shipping Containers or Devices, Returned Empty
124	Freight Forwarder Traffic
125	Shipper Association Traffic
126	Miscellaneous Mixed Shipments
127	All Other

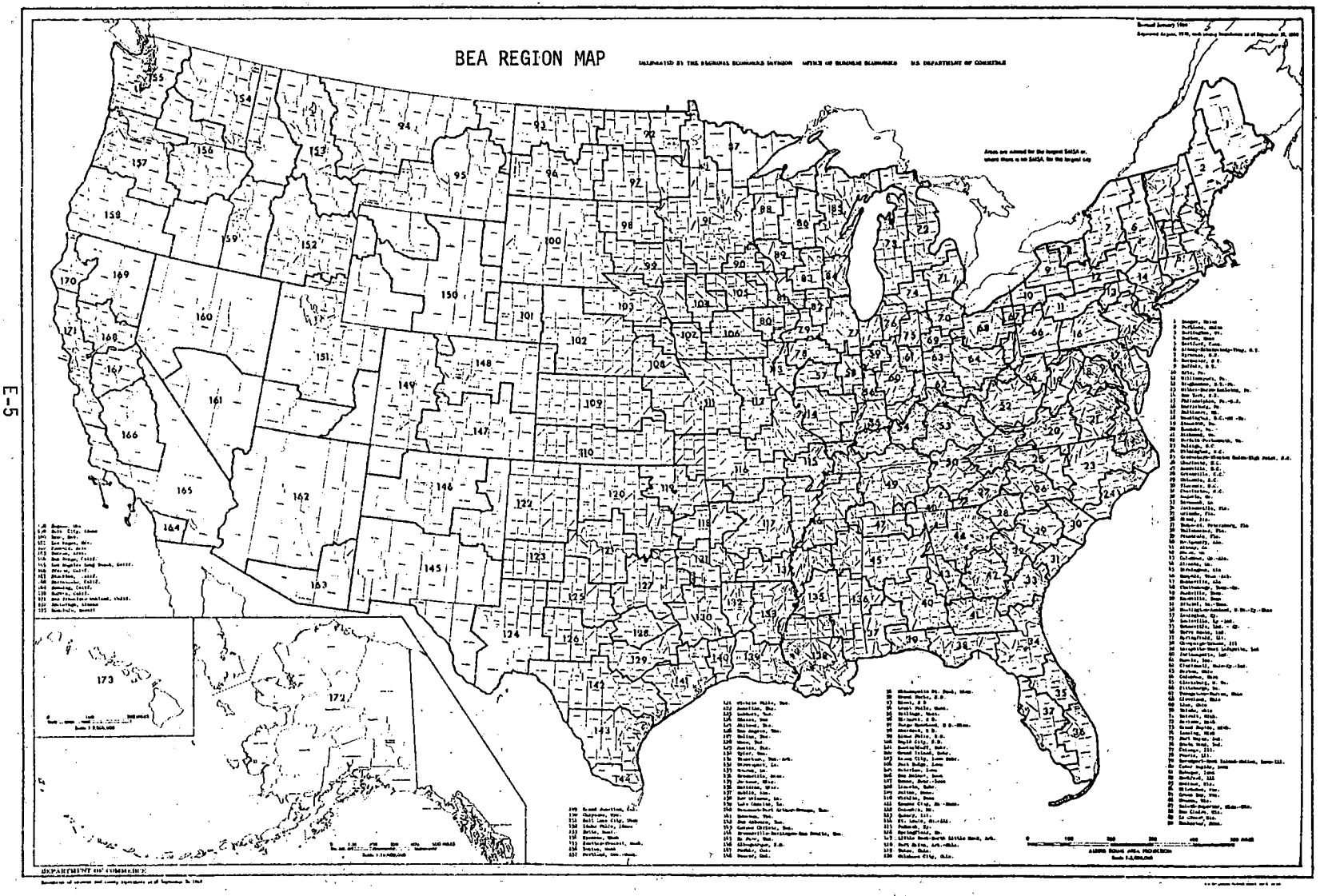


EXHIBIT 2

INTERSTATE COMMERCE COMMISSION
PARTICIPATING INDUSTRY ORGANIZATIONS

RAIL CARRIERS

Atchison, Topeka and Santa Fe Railway Company
Burlington Northern
Chicago, Rock Island and Pacific Railroad Company
Consolidated Rail Corporation
Denver and Rio Grande Western Railroad Company
The Family Lines System
Illinois Central Gulf Railroad Company
Norfolk and Western Railway Company
Southern Pacific Transportation Company
Southern Railway System
Union Pacific Railroad Company

SHIPPERS

Cargill, Inc.
Commonwealth Edison Company
Crown Zellerbach Corporation
Ford Motor Company
General Mills
National Association of Wholesaler-Distributors Auspices:

- Banks Lumber Company
- Lincoln Brick Company
- Noland Company

The National Industrial Traffic League Auspices:

- Combustion Engineering, Inc.
- Reynolds Metals Company
- Sears, Roebuck and Company
- United States Gypsum Company

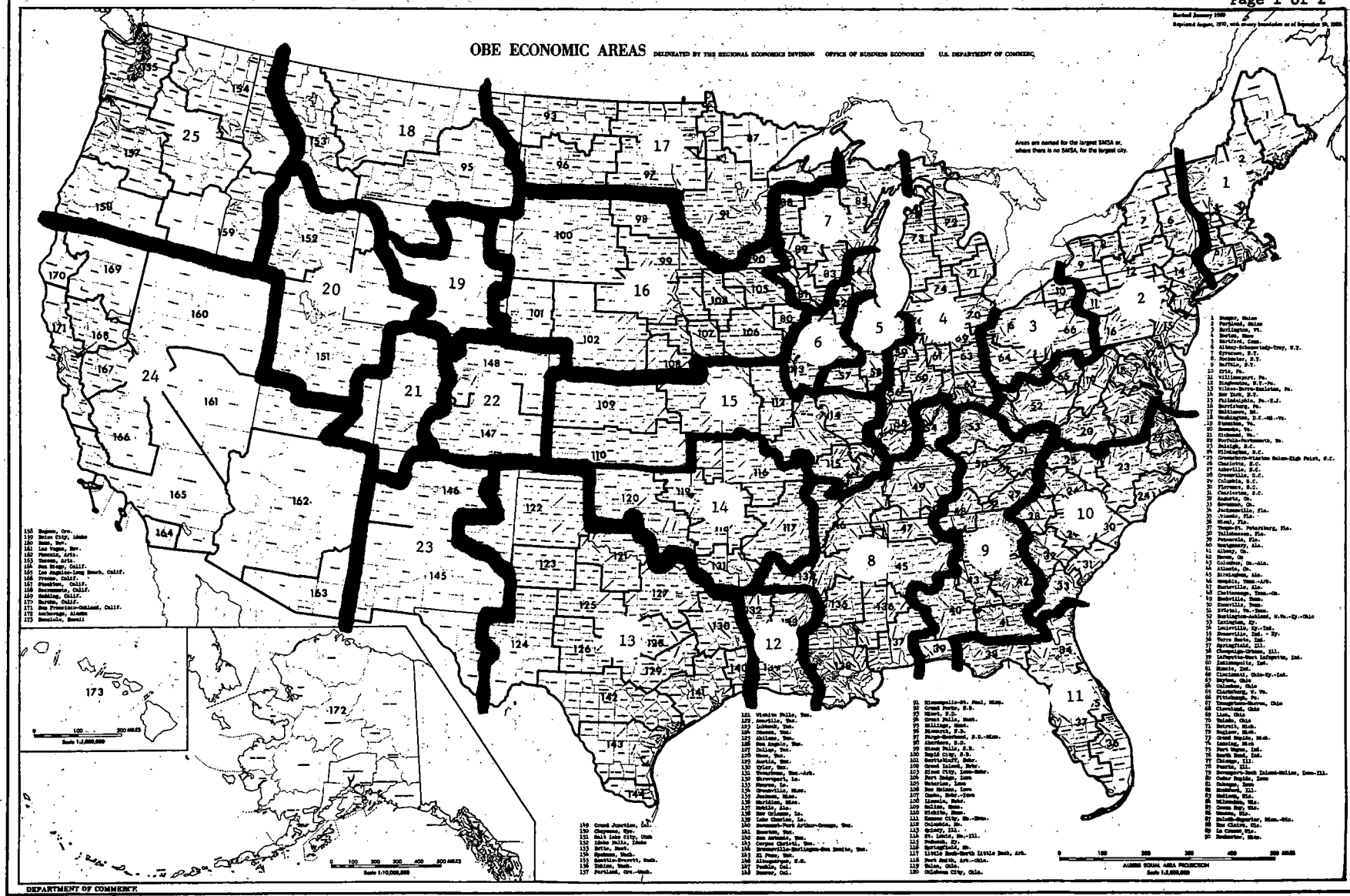
Union Carbide Corporation

EXHIBIT 4

INTERSTATE COMMERCE COMMISSION

MARKET SHARE TEST COMMODITY DEFINITIONS

Commodity Number	Commodity Description	STCC Definition
1	Corn	01132
2	Wheat	01137
3	Soybeans	01144
4	Marine Shells	09131
5	Iron and Manganese Ores	101, 106
6	Copper Ores	102
7	Anthracite Coal	111
8	Bituminous and Lignite	112
9	Crude Petroleum	1311
10	Dimension Stone	1411
11	Crushed and Broken Stone, Sand and Gravel	142, 144
12	Phosphate Rock	14714
13	Logs, Pulpwood, Etc.	241
14	Lumber	242
15	Pulp, Paper and Paperboard	261-263
17	Jet Fuel	2911130
18	Gasoline	2911135, 2911190
19	Distillate Fuel Oil	29113
20	Residual Fuel Oil	29117
21	Cement	32411
22	Iron and Steel	331,332, 3391
23	Motor Vehicles and Parts	371
24	Metal Scrap	4021
70	Food Products	20
71	Pulp and Paper	26
72	Chemicals	28
73	Petroleum Products	29
74	Stone, Clay and Glass Products	32
75	Primary Metal Products	33
76	Fabricated Metal Products	34
77	Machinery, Except Electrical	35
78	Electrical Machinery	36
79	Transportation Equipment	37
80	Textiles and Apparel	22, 23
81	Lumber and Furniture	24, 25
82	Miscellaneous	21, 30, 31, 38, 39
83	Total in CTS Sample	20-39


OBE ECONOMIC AREAS
DELINEATED BY THE REGIONAL ECONOMICS DIVISION OFFICE OF BUSINESS ECONOMICS U.S. DEPARTMENT OF COMMERCE
Areas are named for the largest SMSA or, where there is no SMSA, for the largest city.
DEPARTMENT OF COMMERCE

INTERSTATE COMMERCE COMMISSION

MARKET SHARE TEST REGIONAL DEFINITIONS

Rate Territories	BEA Regions
1	1, 2, 3, 4, 5
2	6, 7, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 52, 65
3	10, 64, 66, 67, 68
4	55, 56, 59, 60, 61, 62, 63, 69, 70, 71, 72, 73, 74, 75, 76
5	57, 58, 77
6	78, 79, 82, 84, 113
7	81, 83, 85, 86, 88, 89
8	45, 46, 47, 49, 54, 134, 135, 136, 137, 138
9	27, 39, 40, 41, 42, 43, 44, 48, 50, 51, 53
10	22, 23, 24, 25, 26, 28, 29, 30, 31, 32, 33
11	34, 35, 36, 37, 38
12	132, 133, 139
13	121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 140, 141, 142, 143, 144
14	116, 117, 118, 119, 120, 131
15	109, 110, 111, 112, 114, 115
16	80, 90, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108
17	87, 91, 92, 93, 96, 97
18	94, 95, 153
19	150
20	151, 152
21	149
22	147, 148
23	145, 146
24	160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171
25	154, 155, 156, 157, 158, 159

EXHIBIT 6

INTERSTATE COMMERCE COMMISSION

MARKET SHARE TEST RESULTS OF RATE TERRITORY ANALYSIS

Commodity Number	Commodity Description	Total Interstate Tonnage (000)	Total Rail Tonnage (000)	Rail Tonnage Considered Market Dominant Under Market Share Test (000)	Percent Market Dominant
1	Corn	68,369	29,094	9,841	33.8%
2	Wheat	58,850	43,248	30,740	71.1
3	Soybeans	27,087	8,307	1,971	23.7
4	Marine Shells	17,275	245	37	14.9
5	Iron and Manganese Ores	206,044	130,565	84,735	64.9
6	Copper Ores	1,230	1,229	1,229	100.0
7	Anthracite Coal	5,033	3,518	2,776	78.9
8	Bituminous and Lignite	562,291	414,160	193,004	46.6
9	Crude Petroleum	359,005	7,375	1,692	22.9
10	Dimension Stone	2,513	191	93	48.7
11	Crushed and Broken Sand and Gravel	298,790	66,303	7,295	11.0
12	Phosphate Rock	15,840	7,095	596	8.4
13	Logs, Pulpwood, Etc.	85,576	53,683	14,605	27.2
14	Lumber	62,620	16,726	6,413	38.3
15	Pulp, Paper and Paperboard	45,225	30,929	19,581	63.3
17	Jet Fuel	33,957	173	129	75.0
18	Gasoline	227,943	6,917	1,847	26.7
19	Distillate Fuel Oil	150,146	3,709	591	15.4
20	Residual Fuel Oil	109,941	37,073	16,617	44.8
21	Cement	41,753	18,864	5,553	29.4
22	Iron and Steel	90,862	49,261	27,929	56.7
23	Motor Vehicles and Parts	33,628	24,265	18,533	76.4
24	Metal Scrap	39,754	34,711	29,611	85.3
70	Food Products	178,971	76,001	13,927	18.3
71	Pulp and Paper	57,886	30,877	13,097	42.4
72	Chemicals	116,240	49,530	6,951	14.0
73	Petroleum Products	209,381	18,015	1,132	6.3
74	Stone, Clay and Glass Products	82,592	17,397	1,250	7.2
75	Primary Metal Products	112,489	45,353	2,291	5.1
76	Fabricated Metal Products	28,486	8,059	919	11.5
77	Machinery, Except Electrical	16,383	3,275	15	0.5
78	Electrical Machinery	9,024	2,396	44	1.8
79	Transportation Equipment	16,189	8,753	3,033	34.6
80	Textiles and Apparel	13,899	1,188	30	2.5
81	Lumber and Furniture	53,157	28,082	12,440	44.3
82	Miscellaneous	31,373	11,868	450	3.8
83	Total in CTS Sample	1,287,267	429,068	43,044	10.0

Source: A. T. Kearney, Inc.

EXHIBIT 7

INTERSTATE COMMERCE COMMISSION

IMPACT OF MARKET DEFINITION ON MARKET DOMINANCE
(Percent of Rail Tonnage Considered Market Dominant(1)

Number	Commodity Description	Total(2) Interstate Tonnage (000)	Total Rail Tonnage (000)	12 Rate Territory Markets	25 Rate Territory Markets	BEA Region Markets (Estimates)	U.S. Total Rail Modal Share
1	Corn	68,369	29,094	33.8%	40.9%	63.8%	42.6%
2	Wheat	58,850	43,248	71.1	77.4	83.8	73.5
3	Soybeans	27,087	8,307	23.7	49.0	72.6	30.7
4	Marine Shells	17,274	245	14.9	22.2	52.7	1.4
5	Iron and Manganese Ores	206,004	130,565	64.9	67.7	56.4	63.4
6	Copper Ores	1,230	1,229	100.0	100.0	78.1	99.9
7	Anthracite Coal	5,033	3,518	78.9	81.6	72.1	69.9
8	Bituminous and Lignite	562,291	414,160	46.6	55.3	56.3	73.7
9	Crute Petroleum	359,005	7,375	22.9	23.5	61.9	2.1
10	Dimension Stone	2,513	191	48.7	78.5	55.7	7.6
11	Crushed and Broken Sand and Gravel	298,790	66,303	11.0	22.4	45.3	22.2
12	Phosphate Rock	15,840	7,095	8.4	29.8	18.0	44.8
13	Logs, Pulpwood, Etc.	85,576	53,683	27.2	35.7	56.0	62.7
14	Lumber	62,620	16,726	38.3	44.7	61.3	26.7
15	Pulp, Paper and Paperborad	45,225	30,929	63.3	74.3	78.4	68.4
17	Jet Fuel	33,957	173	75.0	75.0	61.4	0.5
18	Gasoline	227,943	6,917	26.7	43.8	78.8	3.0
19	Distillate Fuel Oil	150,147	3,709	15.4	44.9	79.8	2.5
20	Residual Fuel Oil	109,941	37,073	44.8	67.0	77.1	33.7
21	Cement	41,753	18,864	29.4	41.1	73.1	45.2
22	Iron and Steel	90,862	49,261	56.7	58.0	78.5	54.2
23	Motor Vehicles and Parts	33,628	24,265	76.4	81.5	92.0	72.2
24	Metal Scrap	39,754	34,711	85.3	83.9	86.5	87.3
70	Food Products	178,971	76,001	18.3	23.8	48.7	42.5
71	Pulp and Paper	57,886	30,877	42.4	49.0	65.2	53.3
72	Chemicals	116,240	49,530	14.0	30.8	56.4	42.6
73	Petroleum Products	209,381	18,015	6.3	10.5	8.0	8.6
74	Stone, Clay and Glass Products	82,592	17,397	7.2	18.0	45.1	21.1
75	Primary Metal Products	112,489	45,353	5.1	11.3	38.7	40.3
76	Fabricated Metal Products	28,486	8,059	11.5	16.2	53.3	28.3
77	Machinery, Except Electrical	16,383	3,275	0.5	4.5	47.0	20.0
78	Electrical Machinery	9,024	2,396	1.8	6.8	36.8	26.5
79	Transportation Equipment	16,189	8,753	34.6	38.0	74.4	54.1
80	Textiles and Apparel	13,899	1,188	2.5	4.2	31.0	8.5
81	Lumber and Furniture	53,157	28,082	44.3	50.4	68.8	52.8
82	Miscellaneous	31,373	11,868	3.8	19.7	48.2	37.8
83	Total in CTS Sample	1,287,267	429,068	10.0	12.9	32.3	33.3

Notes: (1) Noncompensatory traffic removed.
(2) See text for explanation. Some intrastate rated traffic is included.

Source: A. T. Kearney, Inc.

INTERSTATE COMMERCE COMMISSION

MARKET SHARE TEST INTRAMODAL RAIL COMPETITION IMPACT

Commodity Number	Commodity Description	Percent[1] of Rail Tons Considered Market Dominant	70%-100% Rail Share with Intramodal Competition	Revised Rail Market Dominant Percent	Rail Market Dominance by Origin	Rail Market Dominance by Destination
1	Corn	95.3%	13,112	55.2%	60.7%	65.2%
2	Wheat	94.1	24,052	40.2	45.4	43.1
3	Soybeans	92.8	3,975	54.7	58.0	59.6
4	Marine Shells	53.8	0	53.8	53.8	53.8
5	Iron and Manganese Ores	99.1	48,894	62.4	64.7	62.4
6	Copper Ores	100.0	572	93.6	93.6	98.3
7	Anthracite Coal	97.4	190	93.1	94.2	95.0
8	Bituminous and Lignite Coal	95.4	162,611	57.6	62.5	64.0
9	Crude Petroleum	75.4	443	69.9	75.4	69.9
10	Dimension Stone	97.5	61	75.9	77.7	95.7
11	Crushed and Broken Stone and Sand	82.2	23,780	58.0	69.3	62.2
12	Phosphate Rock	99.6	47	99.5	99.6	99.5
13	Logs, Pulpwood, Etc.	92.6	23,206	60.0	62.0	69.8
14	Lumber	71.7	3,569	52.1	60.7	56.8
15	Pulp, Paper and Paperboard	98.0	12,359	60.2	74.6	69.6
17	Jet Fuel	75.0	0	75.0	75.0	75.0
18	Gasoline	96.7	0	96.7	96.7	96.7
19	Distillate Fuel Oil	93.3	9	93.1	93.3	93.1
20	Residual Fuel Oil	93.9	881	91.9	92.2	92.0
21	Cement	82.8	3,502	66.7	70.0	70.5
22	Iron and Steel	87.6	23,524	42.2	46.4	54.8
23	Motor Vehicles and Parts	96.1	13,757	42.2	49.4	60.3
24	Metal Scrap	98.2	19,167	51.8	58.1	59.1

Note: (1) Rail tonnage considered market dominant includes interstate, intrastate and noncompensatory traffic. In addition, the BEA region markets were used. As such, the percentages shown will not match results shown in other exhibits.

EXHIBIT 9

INTERSTATE COMMERCE COMMISSION

IMPACT OF WATER COMPETITITION ON RAIL MARKET DOMINANCE
(Inland River Syste, GIWW and Great Lakes)

Commodity Number	Commodity Description	Total[2] Interstate Tonnage (000)	Total Rail Tonnage (000)	Percent Rail Market Dominant Total[1]	Water Competitive	Not Water Competitive
1	Corn	68,369	29,094	95.0%	87.0%	97.4%
2	Wheat	58,850	43,248	94.3	89.9	94.9
3	Soybeans	27,087	8,307	91.7	85.0	97.9
4	Marine Shells	17,274	245	52.7	36.7	100.0
5	Iron and Manganese Ores	206,004	130,565	99.1	98.8	100.0
6	Copper Ores	1,230	1,229	100.0	100.0	100.0
7	Anthracite Coal	5,033	3,518	96.7	100.0	96.6
8	Bituminous and Lignite	562,291	414,160	95.3	89.0	99.8
9	Crude	359,005	7,375	79.5	55.7	81.8
10	Dimension Stone	2,513	191	96.3	100.0	95.5
11	Crushed and Broken Sand and Gravel	298,790	66,303	78.3	71.4	82.9
12	Phosphate Rock	15,840	7,095	98.4	99.7	97.5
13	Logs, Pulpwood, Etc	85,576	53,683	96.0	99.0	93.5
14	Lumber	62,620	16,726	72.5	88.3	69.8
15	Pulp, Paper and Paperboard	45,225	30,929	98.0	96.8	98.4
17	Jet Fuel	33,957	173	75.0	0.0	75.0
18	Gasoline	227,943	6,917	96.3	98.3	96.0
19	Distillate Fuel Oil	150,147	3,709	96.7	93.9	98.9
20	Residual Fuel Oil	109,941	37,073	94.2	88.3	95.6
21	Cement	41,753	18,864	81.5	65.7	85.7
22	Iron and Steel	90,862	49,261	87.2	81.7	92.6
23	Motor Vehicles and Parts	33,628	24,265	96.8	92.1	99.1
24	Metal Scrap	39,754	34,711	97.8	97.6	97.9
70	Food Products	178,971	76,001	64.9	54.1	69.7
71	Pulp and Paper	57,886	30,877	76.7	73.9	77.8
72	Chemicals	116,240	49,530	62.7	57.0	67.5
73	Petroleum Products	209,381	18,015	44.1	15.4	61.8
74	Stone, Clay and Glass Products	82,592	17,397	53.1	52.7	53.5
75	Primary Metal Products	112,489	45,353	43.0	41.2	45.5
76	Fabricated Metal Products	16,383	3,275	51.0	34.2	59.3
77	Machinery, Except Electrical	16,383	3,275	51.0	34.2	57.9
78	Electrical Machinery	9,024	2,396	44.0	41.4	45.8
79	Transportation Equipment	16,189	8,753	78.3	71.7	81.9
80	Textiles and Apparel	13,899	1,188	51.6	12.8	55.3
81	Lumber and Furniture	53,157	28,082	81.0	65.7	84.3
82	Miscellaneous	31,373	11,868	60.3	70.7	54.8
83	Total in CTS Sample	1,287,267	429,068	45.5	31.6	53.0

Note: (1) Total shows rail market dominance using BEA Regions as the geographic market definitions and without removing noncompensatory traffic (approximately 29%).

Source: A. T. Kearney, Inc.

EXHIBIT 10

INTERSTATE COMMERCE COMMISSION

RAIL MARKET DOMINANCE BY MILEAGE BLOCK
(000 Tons and Percent)

Commodity Number	Commodity Description	Total[2] Interstate Tonnage	Total Rail Tonnage	Percent Rail Market Dominant: Total[1]	100 Miles	100-300 Miles	300-500 Miles	500-1,000 Miles	1,000 Miles and Over	Unidentified
1	Corn	68,369	29,094	95.0%	91.8%	89.9%	95.5%	97.4%	98.9%	99.0%
2	Wheat	58,850	43,248	94.3	99.2	93.9	85.7	97.6	97.2	100.0
3	Soybeans	27,087	8,307	91.7	90.4	90.7	92.2	88.1	99.1	100.0
4	Marine Shells	17,275	245	52.7	0.0	100.0	100.0	100.0	100.0	100.0
5	Iron and Manganese Ores	206,004	130,565	99.1	100.0	96.9	100.0	99.6	100.0	100.0
6	Copper Ores	1,230	1,229	100.0	100.9	-	100.0	100.0	100.0	100.0
7	Anthracite Coal	5,033	3,518	96.7	100.9	91.9	98.2	100.0	100.0	100.0
8	Bituminous and Lignite	562,291	414,160	95.3	88.7	91.8	100.0	99.6	100.0	100.0
9	Crude Petroleum	359,005	7,375	79.5	78.6	41.1	100.0	99.7	100.0	0.0
10	Dimension Stone	2,513	191	96.3	100.0	87.3	100.0	100.0	100.0	100.0
11	Crushed and Broken Sand and Gravel	298,790	66,303	78.3	61.0	87.7	83.4	99.6	100.0	100.0
12	Phosphate Rock	15,840	7,095	98.4	100.0	100.0	100.0	89.1	98.4	-
13	Logs, Pulpwood, Etc.	85,576	53,683	96.0	97.5	93.5	99.8	99.8	100.0	100.0
14	Lumber	62,620	16,726	72.5	95.7	88.4	91.4	82.7	59.3	86.1
15	Pulp, Paper and Paperboard	45,225	30,929	98.0	89.8	92.8	99.1	98.5	99.9	100.0
17	Jet Fuel	33,957	172	75.0	100.0	100.0	0.0	0.0	0.0	0.0
18	Gasoline	227,943	6,917	96.3	94.1	99.4	37.5	97.8	100.0	0.0
19	Distillate Fuel Oil	150,147	3,709	97.6	56.9	98.8	100.0	100.0	100.0	0.0
20	Residual Fuel Oil	109,941	37,073	94.2	35.3	96.4	99.4	99.2	82.6	100.0
21	Cement	41,753	18,864	81.5	78.0	75.0	94.2	94.7	97.5	100.0
22	Iron and Steel	90,862	49,261	87.2	92.9	77.9	82.7	91.0	90.3	100.0
23	Motor Vehicles and Parts	33,628	24,265	96.8	66.4	84.5	96.8	100.0	100.0	100.0
24	Metal Scrap	39,754	34,711	97.8	96.3	98.1	97.7	98.6	100.0	100.0
70	Food Products	178,971	76,001	64.9	9.5	54.6	61.8	77.7	77.8	85.1
71	Pulp and Paper	57,886	30,877	76.7	13.8	43.5	67.0	81.7	95.1	92.6
72	Chemicals	116,240	49,530	62.7	25.5	35.2	59.1	72.8	76.2	96.9
73	Petroleum Products	209,381	18,015	44.1	0.4	27.7	35.8	59.0	75.3	76.3
74	Stone, Clay and Glass Products	82,592	17,397	53.1	13.0	43.5	63.7	70.5	81.6	86.8
75	Primary Metal Products	112,489	45,353	43.0	55.1	17.4	31.9	59.0	85.2	89.3
76	Fabricated Metal Products	28,486	8,059	56.1	6.0	28.2	48.1	63.7	82.4	91.8
77	Machinery, Except Electrical	16,383	3,275	51.0	0.0	15.1	50.2	47.0	63.0	88.9
78	Electrical Machinery	9,024	2,396	44.0	0.0	26.2	54.1	37.1	60.4	91.3
79	Transportation Equipment	16,189	8,753	78.30	17.7	75.2	68.8	81.3	93.3	95.8
80	Textiles and Apparel	13,899	1,188	51.6	1.7	13.3	78.9	48.8	65.4	49.9
81	Lumber and Furniture	53,157	28,082	81.0	58.3	39.7	58.2	82.3	95.8	96.0
82	Miscellaneous	31,373	11,868	60.3	35.8	67.1	60.6	64.9	68.4	78.1
83	Total in CTS Sample	1,287,267	429,068	45.5	7.5	20.4	33.9	58.5	73.8	83.7

Note: (1) Total shows rail market dominance using BEA Regions as the geographic market definitions and without removing noncompensatory traffic (approximately 29%).

Source: A. T. Kearney, Inc.

INTERSTATE COMMERCE COMMISSION

PERCENT OF INTERSTATE TONNAGE MOVING UNDER COMPENSATORY RATES AND POTENTIALLY MARKET DOMINANT UNDER THE SUBSTANTIAL INVESTMENT TEST

Commodity Group Number	Commodity Description	Percent Private Car	Percent Multiple Car	Subtotal	Less Percent Double Counted	Total Integrated Percent
1	Cotton	4.7%	*	4.7%	-	4.7%
2	Wheat	9.6	2.9%	12.5	0.1%	12.4
3	Corn and Sorghum	15.7	3.8	19.5	0.3	19.2
4	Barley	10.1	*	10.1	-	10.1
5	All Other Grain	9.8	*	9.8	-	9.8
6	Soybeans	13.7	4.0	17.7	0.2	17.5
7	Rice	6.4	8.2	14.6	0.3	14.3
8	Potatoes, Other Than Sweet	*	*	-	-	-
9	Sugar Beets	*	7.2	7.2	-	7.2
10	Citrus Fruit	*	*	-	-	-
11	Apples	*	*	-	-	-
12	Deciduous Fruits	*	*	-	-	-
13	Fresh Vegetables	*	*	-	-	-
14	Melons	*	*	-	-	-
15	Iron Ore	*	52.4	52.4	-	52.4
16	Nonferrous Concentrates	7.3	14.1	21.4	0.0	21.4
17	Calcined or Activated Bauxite Ores	4.0	27.3	31.3	0.2	31.1
18	Anthracite Coal	*	*	-	-	-
19	Coking Coak	1.6	38.4	40.0	0.8	39.2
20	Steam Bituminous Coal	4.1	22.4	26.5	1.9	24.6
21	Lignite	*	10.5	10.5	-	10.5
22	Fluxing Limestone and Dolomite	*	23.2	23.2	-	23.2
23	Aggregates	3.1	10.5	13.6	0.7	12.9
24	Sand	2.1	1.4	3.5	0.0	3.5
25	Clays	23.2	2.7	25.9	0.0	25.9
26	Feldspar	1.2	*	1.2	-	1.2
27	Potash Fertilizers	11.7	2.8	14.5	0.2	14.3
28	Phosphate Rock	*	15.5	15.5	-	15.5
29	Fresh Meats	3.9	*	3.9	-	3.9
30	Canned Fruits and Vegetables	3.2	*	3.2	-	3.2
31	Other Foodstuffs	3.8	*	3.8	-	3.8
32	Frozen Fruits and Vegetables	*	*	-	-	-
33	Wheat Flour Milling Products	12.6	2.7	15.3	0.3	15.0
34	Dry Corn Milling Products	22.4	*	22.4	-	22.4
35	Other Grain Mill Products	8.2	*	8.2	-	8.2
36	Wet Corn Mill Products	68.0	*	68.0	-	68.0
37	Cereal Preparations (Cooked)	3.7	*	3.7	-	3.7
38	Sugar	26.6	*	26.6	-	26.6
39	Malt Liquors	6.7	*	6.7	-	6.7
40	Wine and Brandy	4.5	*	4.5	-	4.5
41	Alcoholic Liquors	21.0	*	21.0	-	21.0
42	Fats and Oils	75.0	*	75.0	-	75.0
43	Seed, Nut and Vegetable Cake or Meal	11.3	4.2	15.5	0.8	14.7
44	Cigars, Cigarettes and Manufactured Tobacco	*	*	-	-	-
45	Textile Products	4.1	*	4.1	-	4.1
46	Pulpwood Logs	*	*	-	-	-
47	Pulpwood Chips	*	*	-	-	-
48	Lumber	1.2	*	1.2	-	1.2
49	Treated Wood Products	*	1.5	1.5	-	1.5
50	Wood Posts, Poles and Piling	*	*	-	-	-
51	Millwork and Other Lumber Products	*	*	-	-	-
52	Plywood and Veneer	8.2	*	8.2	-	8.2
53	Hardwood Stock and Flooring	*	*	-	-	-
54	Wood Particle Board	16.1	*	16.1	-	16.1
55	Furniture	*	*	-	-	-

PERCENT OF INTERSTATE TONNAGE MOVING UNDER COMPENSATORY RATES AND POTENTIALLY MARKET DOMINANT UNDER THE SUBSTANTIAL INVESTMENT TEST

Commodity Group Number	Commodity Description	Percent Private Car	Percent Multiple Car	Subtotal	Less Percent Double Counted	Total Integrated Percent
56	Woodpulp and Other Pulps	*	*	-	-	-
57	Newsprint	*	*	-	-	-
58	Ground Wood Paper	4.3	*	4.3	-	4.3
59	Printing Paper	1.9	*	1.9	-	1.9
60	Wrapping Paper and Paper Bags	2.5	*	2.5	-	2.5
61	Pulpboard	1.5	*	1.5	-	1.5
62	Corrugated Pulpboard	1.7	*	1.7	-	1.7
63	Sanitary Paper Products	2.1	*	2.1	-	2.1
64	Paperboard Boxes and Containers	11.6	*	11.6	-	11.6
65	Food Containers and Fibre Cans, Drums and Tubes	4.4	*	4.4	-	4.4
66	Building Paper and Board	4.7	*	4.7	-	4.7
67	Inorganic Chemicals	49.2	*	49.2	-	49.2
68	Barium and Calcium Compounds	41.8	*	41.8	-	41.8
69	Sodium Alkalies	87.6	*	87.6	-	87.6
70	Soda Ash	33.6	*	33.6	-	33.6
71	Industrial Gases	89.4	*	89.4	-	89.4
72	Organic Chemicals	82.7	*	82.7	-	82.7
73	Sulphuric Acid	88.1	*	88.1	-	88.1
74	Anhydrous Ammonia	94.5	11.1	105.6	10.7	94.9
75	Superphosphate	24.2	14.0	38.2	1.4	36.8
76	Agricultural Chemicals, Including Fertilizers	36.1	*	36.1	-	36.1
77	Plastic Materials	87.2	*	87.2	-	87.2
78	Rubber	28.9	*	28.9	-	28.9
79	Detergents and Other Cleaning Chemicals	15.7	*	15.7	-	15.7
80	Salt	28.0	23.5	51.5	9.6	41.9
81	Carbon Black	69.1	*	69.1	-	69.1
82	Petroleum Products	79.5	9.0	88.5	4.0	84.5
83	Petroleum, Lube Oils and Greases	70.9	*	70.9	-	70.9
84	Asphalt and Tars	90.6	1.4	92.0	1.1	90.9
85	Liquified Gases	95.9	*	95.9	-	95.9
86	Construction Material, Asphalt or Asbestos	6.9	*	6.9	-	6.9
87	Petroleum Coke	4.7	3.5	8.2	0.0	8.2
88	Coal Coke	*	30.3	30.3	-	30.3
89	Tires and Tubes	3.9	*	3.9	-	3.9
90	Plastic Products	3.5	*	3.5	-	3.5
91	Glass Containers	5.7	*	5.7	-	5.7
92	Hydraulic Cement	9.3	15.4	24.7	4.4	20.3
93	Brick and Blocks	1.2	*	1.2	-	1.2
94	Clay Refractories	2.3	*	2.3	-	2.3
95	Lime	1.2	6.3	7.5	0.0	7.5
96	Gypsum Building Materials	1.0	*	1.0	-	1.0
97	Mineral Wool	*	*	-	-	-
98	Pig Iron	*	20.7	20.7	-	20.7
99	Semi Finished Steel	7.9	29.0	36.9	4.1	32.8
100	Manufactured Iron or Steel	*	*	-	-	-
101	Iron and Steel Pipe	*	*	-	-	-
102	Railway Track Material	*	*	-	-	-
103	Ferroalloys	*	9.7	9.7	-	9.7
104	Primary Copper Products	*	*	-	-	-
105	Primary Zinc Products	*	*	-	-	-
106	Primary Aluminum Products	1.3	11.5	12.8	0.0	12.8
107	Brass, Bronze and Copper Shapes	*	*	-	-	-
108	Aluminum Shapes	*	*	-	-	-
109	Metal Containers	8.7	*	8.7	-	8.7

PERCENT OF INTERSTATE TONNAGE MOVING UNDER COMPENSATORY RATES AND POTENTIALLY MARKET DOMINANT UNDER THE SUBSTANTIAL INVESTMENT TEST

Commodity Group Number	Commodity Description	Percent Private Car	Percent Multiple Car	Subtotal	Less Percent Double Counted	Total Integrated Percent
110	Farm Machinery	*	*	-	-	-
111	Heavy Machinery	1.5%	*	1.5%	-	1.5%
112	Household Appliances	*	*	-	-	-
113	Radios and Television Sets	*	*	-	-	-
114	Automobiles	3.3	*	3.3	-	3.3
115	Other Motor Vehicles	3.2	*	3.2	-	3.2
116	Motor Vehicle Parts	*	*	-	-	-
117	Locomotive and Railway Car Parts	*	*	-	-	-
118	Iron and Steel Scrap	*	8.1	8.1	-	8.1
119	Nonferrous Scrap	*	*	-	-	-
120	Textile Scrap	1.8	*	1.8	-	1.8
121	Waste Paper	2.6	*	2.6	-	2.6
122	Chemical and Petroleum Waste	83.6	*	83.6	-	83.6
123	Empty Shipping Containers	*	*	-	-	-
124	Freight Forwarder Traffic	2.3	2.1	4.4	0.0	4.4
125	Shipper Association Traffic	2.1	2.3	4.4	0.0	4.4
126	Miscellaneous Mixed Shipments	2.7	2.3	5.0	0.0	5.0
127	All Other, NEC	21.0	*	21.0	-	21.0
	Total	10.5%	15.1%	25.6%	0.9%	24.7%

INTERSTATE COMMERCE COMMISSION

SUMMARY OF MARKET DOMINANCE TESTS[1]
(Unexpanded Waybill Sample Tonnage and Percent)

Commodity Group Number	Commodity Description	Total Interstate Rail Tonnage in 1975 Waybill Sample[4]	Market Share Test Market Dominance[2] Percent	Market Share Test Market Dominance[2] Tonnage	Cost Test Market Dominance[5] Percent	Cost Test Market Dominance[5] Tonnage	Substantial Inveatment Test Market Dominance[5] Percent	Substantial Inveatment Test Market Dominance[5] Tonnage
1	Cotton	9,527	90.0%(Est)	8,574	0.0%	0	4.7%	448
2	Wheat	373,568	77.4(2)	289,142	63.5	237,216(3)	12.4	46,322
3	Corn and Sorghum	286,048	40.9(1)	116,994	15.6	44,623(3)	19.2	54,921
4	Barley	34,859	45.0(Est)	15,686	69.4	24,192(3)	10.1	3,521
5	All Other Grain	18,818	50.0(Est)	9,409	15.8	2,973	9.8	1,844
6	Soybeans	64,250	29.0(3)	18,632	14.9	9,573(3)	17.5	11,244
7	Rice	4,726	20.0(Est)	945	8.9	421	14.3	676
8	Potatoes, Other Than Sweet	12,157		2,893	0.0	0	0.0	0
9	Sugar Beets	11,854		2,821	0.0	0	7.2	853
10	Citrus Fruit	4,146		986	0.0	0	0.0	0
11	Apples	1,345	23.8(70)	320	0.0	0	0.0	0
12	Deciduous Fruits	2,438		580	0.0	0	0.0	0
13	Fresh Vegetables	14,080		3,351	0.0	0	0.0	0
14	Melons	2,218		527	0.0	0	0.0	0
15	Iron Ore	311,330	67.7(5)	210,770	6.5	20,236	52.4	163,137
16	Nonferrous Concentrates	21,732	100.0(6)	21,732	16.5	3,586	21.4	4,651
17	Calcined or Activated Bauxite Ores	27,981	30.0(Est)	8,394	4.6	1,287	31.1	8,702
18	Anthracite Coal	14,822	81.6(7)	12,094	0.0	0	0.0	0
19	Coking Coal	260,749		14,494	7.9	20,599	39.2	102,214
20	Steam Bituminous Coal	2,565,361	55.3(8)	1,418,644	2.1	53,873	24.6	631,079
21	Lignite	18,209		10,069	0.0	0	10.5	1,912
22	Fluxing Limestone and Dolomite	66,026		14,789	0.7	462	23.2	15,318
23	Aggregates	176,965	22.4(11)	39,640	5.7	10,087	12.9	22,828
24	Sand	83,685		18,745	10.5	8,787	3.5	2,929
25	Clays	54,667		9,840	9.7	5,303	25.9	14,159
26	Feldspar	5,025	18.0(74)	904	11.8	593	1.2	60
27	Potash Fertilizers	28,307	29.8(12)	8,435	6.6	1,868	14.3	4,048
28	Phosphate Rock	157,689	29.8(12)	46,991	0.0	0	15.5	24,442
29	Fresh Meats	5,235		1,245	0.0	0	3.9	204
30	Canned Fruits and Vegetables	21,915		5,215	0.8	175	3.2	701
31	Other Foodstuffs	51,749		12,316	1.1	569	3.8	1,966
32	Frozen Fruits and Vegetables	21,899		5,211	0.5	109	0.0	0
33	Wheat Flour Milling Products	84,482		20,106	2.5	2,112	15.0	12,672
34	Dry Corn Milling Products	11,950		2,844	11.8	1,410	22.4	2,677
35	Other Grain Mill Products	93,429	23.8(70)	22,236	2.7	2,523	8.2	7,661
36	Wet Corn Mill Products	35,001		8,330	11.2	3,920	68.0	2,380
37	Cereal Preparations (Cooked)	13,823		3,289	0.0	0	3.7	511
38	Sugar	31,878		7,586	15.3	4,877	26.6	8,480
39	Malt Liquors	68,243		16,241	8.5	5,801	6.7	4,572
40	Wine and Brandy	10,441		2,484	0.0	0	4.5	470
41	Alcoholic Liquors	8,518		2,027	4.5	383	21.0	1,789
42	Fats and Oils	33,751		8,032	17.5	5,906	75.0	25,313
43	Seed, Nut and Vegetable Cake or Meal	52,654	23.8(70)	12,531	0.7	369	14.7	7,740
44	Cigars, Cigarettes and Manufactured Tobacco	4,097	19.7(82)	807	0.0	0	0.0	0
45	Textile Products	3,310	4.2(80)	139	0.0	0	4.1	136
46	Pulpwood Logs	127,123	35.7(13)	45,382	0.0	0	0.0	0
47	Pulpwood Chips	89,037		31,786	0.1	89	0.0	0
48	Lumber	100,122		44,754	2.8	2,803	1.2	1,201
49	Treated Wood Products	8,689	44.7(14)	3,883	2.0	174	1.5	130
50	Wood Posts, Poles and Piling	5,689		2,542	0.0	0	0.0	0
51	Millwork and Other Lumber Products	6,029		3,038	0.0	0	0.0	0
52	Plywood and Veneer	56,689	50.4(81)	28,571	9.8	5,556	8.2	4,648
53	Hardwood Stock and Flooring	1,288	44.7(14)	575	0.0	0	0.0	0
54	Wood Particle Board	19,828	50.4(81)	9,993	2.8	555	16.1	3,192
55	Furniture	12,049		6,072	0.0	0	0.0	0
56	Woodpulp and Other Pulps	35,631		26,473	13.1	4,668	0.0	0
57	Newsprint	15,530		11,538	43.1	6,693	0.0	0
58	Ground Wood Paper	13,033		9,683	0.0	0	4.3	560
59	Printing Paper	39,555	74.3(15)	29,389	4.3	1,701	1.9	752
60	Wrapping Paper and Paper Bags	30,806		22,888	6.4	1,972	2.5	770
61	Pulpboard	138,286		102,746	6.3	8,712	1.5	2,074
62	Corrugated Pulpboard	8,976		6,669	9.7	871	1.7	153
63	Sanitary Paper Products	35,291		17,292	0.1	35	2.1	741
64	Paperboard Boxes and Containers	6,295		3,084	2.4	151	11.6	730
65	Food Containers and Fibre Cans, Drums and Tubes	3,934	49.0(71)	1,927	2.3	90	4.4	173
66	Building Paper and Board	16,837		8,240	4.0	673	4.7	790

SUMMARY OF MARKET DOMINANCE TESTS[1]
(Unexpanded Waybill Sample Tonnage and Percent)

Commodity Group Number	Commodity Description	Total Interstate[4] Rail Tonnage in 1975 Waybill Sample	Market Share[2] Test Market Dominance		Cost Test[5] Market Dominance		Substantial[5] Investment Test Market Dominance	
			Percent	Tonnage	Percent	Tonnage	Percent	Tonnage
67	Inorganic Chemicals	42,250		13,013	30.8%	13,013	49.2%	20,787
68	Barium and Calcium Compounds	7,414		2,283	9.5	704	41.8	3,099
69	Sodium Alkalies	32,481		10,004	27.6	8,965	87.6	28,453
70	Soda Ash	41,014		12,632	34.9	14,314	33.6	13,781
71	Industrial Gases	36,274		11,172	24.8	8,996	89.4	32,429
72	Organic Chemicals	81,960		25,243	14.8	12,130	82.7	67,781
73	Sulphuric Acid	18,819		5,796	26.5	4,987	88.1	16,580
74	Anhydrous Ammonia	24,386		7,510	8.4	2,048	94.9	23,142
75	Superphosphate	82,380	30.8%(72)	25,373	4.8	3,955	36.8	30,316
76	Agricultural Chemicals, Including Fertilizers	92,759		28,569	7.1	6,586	36.1	33,486
77	Plastic Materials	49,615		15,281	28.6	14,190	87.2	43,264
78	Rubber	22,176		6,830	26.6	5,899	28.9	6,409
79	Detergents and Other Cleaning Chemicals	10,271		3,163	3.5	359	15.7	1,613
80	Salt	57,452		17,695	0.3	172	41.9	24,072
81	Carbon Black	9,256		2,850	13.5	1,250	69.1	6,396
82	Petroleum Products	71,373		4,496	22.3	15,916	84.5	60,310
83	Petroleum, Lube Oils and Greases	19,724	6.3(73)	1,242	5.7	1,124	70.9	13,984
84	Asphalt and Tars	18,036		1,893	48.9	8,820	90.9	16,395
85	Liquified Gases	50,114		5,261	27.2	13,631	95.9	48,059
86	Construction Material, Asphalt or Asbestos	8,610	10.5(73)	904	2.7	232	6.9	594
87	Petroleum Coke	47,953		5,035	8.0	3,836	8.2	3,932
88	Coal Coke	95,937		10,073	12.2	11,704	30.3	29,069
89	Tires and Tubes	15,864		3,125	1.6	254	3.9	619
90	Plastic Products	3,580	19.7(82)	705	3.5	125	3.5	125
91	Glass Containers	3,842	18.0(74)	691	2.2	85	5.7	219
92	Hydraulic Cement	98,644	41.1(21)	40,542	16.2	15,980	20.3	20,025
93	Brick and Blocks	28,593		5,146	0.0	0	1.2	343
94	Clay Refractories	13,764		2,477	0.0	0	2.3	317
95	Lime	35,261	18.0(74)	6,346	23.5	8,286	7.5	2,645
96	Gypsum Building Materials	11,247		2,024	4.7	529	1.0	112
97	Mineral Wool	5,236		942	9.0	471	0.0	0
98	Pig Iron	6,404		3,714	18.6	1,191	20.7	1,326
99	Semi Finished Steel	74,831		43,401	27.1	20,279	32.8	24,545
100	Manufactured Iron or Steel	190,428		110,448	45.2	86,073	0.0	0
101	Iron and Steel Pipe	40,222	58.0(22)	23,328	11.6	4,666	0.0	0
102	Railway Track Material	9,626		5,583	29.0	2,792	0.0	0
103	Ferroalloys	7,597		4,406	5.3	403	9.7	737
104	Primary Copper Products	15,739		1,778	33.2	5,225	0.0	0
105	Primary Zinc Products	2,366		267	0.0	0	0.0	0
106	Primary Aluminum Products	15,073	11.3(75)	1,703	24.4	3,678	12.8	1,929
107	Brass, Bronze and Copper Shapes	3,147		355	21.2	667	0.0	0
108	Aluminum Shapes	14,201		1,604	22.8	3,238	0.0	0
109	Metal Containers	3,873	16.2(76)	627	3.7	143	8.7	337
110	Farm Machinery	7,247		326	4.8	348	0.0	0
111	Heavy Machinery	14,952	4.5(77)	672	5.7	852	1.5	224
112	Household Appliances	15,507		1,054	19.6	3,039	0.0	0
113	Radios and Television Sets	1,807	6.8(78)	122	0.0	0	0.0	0
114	Automobiles	56,589		46,120	33.7	19,070	3.3	1,867
115	Other Motor Vehicles	21,522	81.5(23)	17,540	30.8	6,629	3.2	689
116	Motor Vehicle Parts	103,008		83,951	32.8	33,787	0.0	0
117	Locomotive and Railway Car Parts	6,522	38.0(79)	2,478	11.0	717	0.0	0
118	Iron and Steel Scrap	155,105		130,133	12.0	18,612	8.1	12,564
119	Nonferrous Scrap	12,248	83.9(24)	10,276	0.0	0	0.0	0
120	Textile Scrap	5,471	10.0(83)	547	0.0	0	1.8	98
121	Waste Paper	33,531	10.0(83)	3,353	0.6	201	2.6	872
122	Chemical and Petroleum Waste	7,301	10.0(83)	730	4.4	321	83.6	6,104
123	Empty Shipping Containers	6,312		6,312	0.0	0	0.0	0
124	Freight Forwarder Traffic	25,084	100.0	25,084	0.0	0	4.4	1,104
125	Shipper Association Traffic	41,924		41,924	3.2	1,342	4.4	1,845
126	Miscellaneous Mixed Shipments	127,075		12,707	0.0	0	5.0	6,354
127	All Other, NEC	243,695	10.0(83)	24,369	6.7	16,328	21.0	51,176
	Total	8,360,366	44.7%	3,736,793	11.1%	916,738	24.7%	1,877,598

Notes:
(1) All tests include interstate traffic and intrastate traffic moving at interstate rates. Noncompensatory traffic is excluded.
(2) The number in parenthesis in the market share column refers to the commodity number used in the market share test (see Section III). The test used the 25 rate territories as the geographic definition.
(3) Reflects grain gathering rates only, since outbound transited movements were excluded from the cost test.
(4) Defined as all traffic moving at interstate rates even though the traffic may be intrastate in nature.
(5) The percentages for the cost test and the substantial investment test were calculated using the costed 1975 Waybill Sample which represents approximately 93.2% of the interstate traffic on the total sample. These percentages were assumed to apply to the total sample.
(6) Estimated market share market dominance based on estimated rail modal shares.

Source: A. T. Kearney, Inc.

INTERSTATE COMMERCE COMMISSION

INTEGRATION OF MARKET DOMINANCE TESTS[5]
(Unexpanded Waybill Sample Tonnage and Percent)

Commodity Group Number	Commodity Description	Total Interstate[1] Rail Tonnage in 1975 Waybill Sample	Low Side Integrated[3] Estimate of Market Dominant Traffic		High Side Integrated Estimate of Nonmarket Dominant Traffic			
					Not Compensatory[2] and Thus Not Market Dominant Traffic		Nonmarket Dominant[4]	
			Percent	Tonnage	Percent	Tonnage	Percent	Tonnage
1	Cotton	9,527	77.3%*	7,364	14.1%	1,343	8.6%	820
2	Wheat	373,568	77.4	289,141	11.1	41,466	11.5	42,961
3	Corn and Sorghum	286,048	40.9	116,993	33.9	96,970	25.2	72,085
4	Barley	34,859	69.4	24,192	4.5	1,569	26.1	9,098
5	All Other Grain	18,818	50.0	9,409	11.4	2,145	38.6	7,264
6	Soybeans	64,250	29.0	18,632	20.8	13,364	50.2	32,254
7	Rice	4,726	20.0	945	21.0	992	49.0	2,789
8	Potatoes, Other Than Sweet	12,157	3.7*	449	84.3	10,248	12.0	1,460
9	Sugar Beets	11,854	7.2	853	91.3	10,823	1.5	178
10	Citrus Fruit	4,146	1.0*	41	96.0	3,980	3.0	125
11	Apples	1,345	1.6*	21	93.1	1,252	5.3	72
12	Deciduous Fruits	2,438	0.8*	19	96.7	2,358	2.5	61
13	Fresh Vegetables	14,080	0.7*	98	96.9	13,644	2.4	338
14	Melons	2,218	0.0	0	100.0	2,218	0.0	0
15	Iron Ore	311,330	52.4	163,136	43.1	134,183	4.5	14,011
16	Nonferrous Concentrates	21,732	78.1	16,973	21.9	4,759	0.0	0
17	Calcined or Activated Bauxite Ores	27,981	31.1	702	25.7	7,191	41.2	20,088
18	Anthracite Coal	14,822	60.9*	9,026	25.4	3,765	13.7	2,031
19	Coking Coal	260,749	55.3	144,194	25.7	67,012	19.0	49,543
20	Steam Bituminous Coal	2,565,361	55.3	1,418,644	40.9	1,049,233	3.8	97,484
21	Lignite	18,209	14.8*	2,694	73.3	13,347	11.9	2,168
22	Fluxing Limestone and Dolomite	66,026	23.2	15,318	27.1	17,893	49.7	32,815
23	Aggregates	176,965	22.4	39,640	42.2	74,679	35.4	62,646
24	Sand	83,685	22.4	18,745	10.2	8,536	67.4	56,404
25	Clays	54,667	25.9	14,158	10.7	5,849	63.4	34,660
26	Feldspar	5,025	18.0	904	3.1	156	78.9	3,965
27	Potash Fertilizers	28,307	29.8	8,435	33.9	9,596	36.3	10,276
28	Phosphate Rock	157,689	15.5	24,441	81.7	128,832	2.8	4,416
29	Fresh Meats	5,235	23.8	1,245	21.4	1,120	54.8	2,870
30	Canned Fruits and Vegetables	21,915	23.8	5,215	20.1	4,405	56.1	12,295
31	Other Foodstuffs	51,749	23.8	12,316	27.9	14,438	48.3	24,995
32	Frozen Fruits and Vegetables	21,899	23.8	5,211	45.1	9,876	31.1	6,812
33	Wheat Flour Milling Products	84,482	23.8	20,106	32.2	27,203	44.0	37,173
34	Dry Corn Milling Products	11,950	23.8	2,844	9.1	1,087	67.1	8,019
35	Other Grain Mill Products	93,429	23.8	22,236	27.5	25,693	48.7	45,500
36	Wet Corn Mill Products	35,001	68.0	23,800	9.2	3,220	22.8	7,981
37	Cereal Preparations (Cooked)	13,823	23.8	3,289	23.2	3,207	53.0	7,327
38	Sugar	31,878	26.6	8,479	10.3	3,283	63.1	20,116
39	Malt Liquors	68,243	23.8	16,241	10.6	7,234	65.6	44,768
40	Wine and Brandy	10,441	23.8	2,484	67.9	7,089	8.3	868
41	Alcoholic Liquors	8,518	23.8	2,027	8.5	724	67.7	5,767
42	Fats and Oils	33,751	75.0	25,313	7.8	2,633	17.2	5,805
43	Seed, Nut and Vegetable Cake or Meal	52,654	23.8	12,531	15.0	7,898	61.2	32,225
44	Cigars, Cigarettes and Manufactured Tobacco	4,097	19.7	807	15.4	631	64.9	2,659
45	Textile Products	3,310	4.2	139	41.0	1,357	54.8	1,814
46	Pulpwood Logs	127,123	7.8*	9,915	78.1	99,283	14.1	17,925
47	Pulpwood Chips	89,037	35.7	31,786	39.0	34,724	25.3	22,527
48	Lumber	100,122	44.7	44,754	15.4	15,419	39.9	39,949
49	Treated Wood Products	8,689	44.7	3,883	16.2	1,408	39.1	3,398
50	Wood Posts, Poles and Piling	5,689	44.7	2,542	21.2	1,206	34.1	1,941
51	Millwork and Other Lumber Products	6,029	50.4	3,038	41.9	2,526	7.7	465
52	Plywood and Veneer	56,689	50.4	28,571	16.6	9,410	33.0	18,708
53	Hardwood Stock and Flooring	1,288	44.7	575	44.9	578	10.4	135
54	Wood Particle Board	19,828	50.4	9,993	10.4	2,062	39.2	7,773
55	Furniture	12,049	50.4	6,072	45.9	5,530	3.7	447
56	Woodpulp and Other Pulps	35,631	74.3	26,473	14.4	5,131	11.3	4,027
57	Newsprint	15,530	74.3	11,538	0.8	124	24.9	3,868
58	Ground Wood Paper	13,033	74.3	9,683	10.8	1,408	14.9	1,942
59	Printing Paper	39,555	74.3	29,389	13.6	5,379	12.1	4,787
60	Wrapping Paper and Paper Bags	30,806	74.3	22,888	17.5	5,391	8.2	2,527
61	Pulpboard	138,286	74.3	102,746	9.0	12,446	16.7	23,094
62	Corrugated Pulpboard	8,976	74.3	6,669	10.5	942	15.2	1,365
63	Sanitary Paper Products	35,291	49.0	17,292	48.3	17,222	2.2	777
64	Paperboard Boxes and Containers	6,295	49.0	3,084	25.0	1,574	26.0	1,637
65	Food Containers and Fibre Cans, Drums and Tubes	3,934	49.0	1,927	48.5	1,908	2.5	99
66	Building Paper and Board	16,817	49.0	8,240	33.3	5,600	17.7	2,977
67	Inorganic Chemicals	42,250	49.2	20,787	5.1	2,155	45.7	19,308
68	Barium and Calcium Compounds	7,414	41.8	3,099	5.1	378	53.1	3,937
69	Sodium Alkalies	32,481	87.6	28,453	2.7	877	9.7	3,151
70	Soda Ash	41,014	33.6	14,314	3.5	1,435	61.6	25,265
71	Industrial Gases	36,274	89.4	32,429	8.1	2,938	2.5	907
72	Organic Chemicals	81,960	82.7	67,781	10.6	8,688	6.7	5,491

INTEGRATION OF MARKET DOMINANCE TESTS
(Unexpanded Waybill Sample Tonnage and Percent)

Commodity Group Number	Commodity Description	Total Interstate[1] Rail Tonnage in 1975 Waybill Sample	Low Side Integrated[3] Estimate of Market Dominant Traffic		High Side Integrated Estimate of Nonmarket Dominant Traffic			
					Not Compensatory[2] and Thus Not Market Dominant Traffic		Nonmarket Dominant[4]	
			Percent	Tonnage	Percent	Tonnage	Percent	Tonnage
73	Sulphuric Acid	18,819	88.1%	16,580	8.2%	1,543	3.7%	696
74	Anhydrous Ammonia	24,386	94.9	23,142	2.0	488	3.1	756
75	Superphosphate	82,380	36.8	30,316	18.3	15,076	44.9	36,988
76	Agricultural Chemicals, Including Fertilizers	92,759	36.1	33,486	5.0	4,638	58.9	54,635
77	Plastic Materials	49,615	87.2	43,264	2.0	992	10.8	5,359
78	Rubber	22,176	30.8	6,830	4.4	976	64.8	14,370
79	Detergents and Other Cleaning Chemicals	10,271	30.8	3,163	5.6	575	63.6	6,533
80	Salt	57,452	41.9	24,072	29.9	17,178	28.2	16,202
81	Carbon Black	9,256	69.1	6,396	1.0	93	29.9	2,767
82	Petroleum Products	71,373	81.9	58,454	18.1	12,919	0.0	0
83	Petroleum, Lube Oils and Greases	19,724	70.9	13,984	16.2	3,196	12.9	2,544
84	Asphalt and Tars	18,036	90.9	16,395	2.4	433	6.7	1,208
85	Liquified Gases	50,114	95.9	48,059	3.8	1,904	0.3	151
86	Construction Material, Asphalt or Asbestos	8,610	10.5	904	4.7	405	84.8	7,301
87	Petroleum Coke	47,953	10.5	5,035	18.2	8,727	71.3	34,191
88	Coal Coke	95,937	30.3	29,069	34.1	32,715	35.6	34,153
89	Tires and Tubes	15,864	19.7	3,125	20.7	3,284	59.6	9,455
90	Plastic Products	3,580	19.7	705	33.0	1,181	47.3	1,694
91	Glass Containers	3,842	18.0	691	30.2	1,160	51.8	1,991
92	Hydraulic Cement	98,644	41.1	40,542	10.3	10,160	48.6	47,942
93	Brick and Blocks	28,593	18.0	5,146	44.5	12,724	37.5	10,723
94	Clay Refractories	13,764	18.0	2,477	13.6	1,872	68.4	9,415
95	Lime	35,261	23.5	8,286	11.7	4,126	64.8	22,849
96	Gypsum Building Materials	11,247	18.0	2,024	7.8	877	74.2	8,346
97	Mineral Wool	5,236	18.0	942	25.8	1,351	56.2	2,943
98	Pig Iron	6,404	58.0	3,714	5.7	365	36.3	2,325
99	Semi Finished Steel	74,831	58.0	43,401	14.4	10,776	27.6	20,654
100	Manufactured Iron or Steel	190,428	58.0	110,448	3.5	6,665	38.5	73,315
101	Iron and Steel Pipe	40,222	58.0	23,328	9.7	3,902	32.3	12,992
102	Railway Track Material	9,626	58.0	5,583	10.7	1,030	31.3	3,013
103	Ferroalloys	7,597	58.0	4,406	2.0	152	40.0	3,039
104	Primary Copper Products	15,739	33.2	5,225	0.7	110	66.1	10,404
105	Primary Zinc Products	2,366	11.3	267	0.0	0	88.7	2,099
106	Primary Aluminum Products	15,073	24.4	3,678	5.7	859	69.9	10,536
107	Brass, Bronze and Copper Shapes	3,147	21.2	667	5.8	183	73.0	2,297
108	Aluminum Shapes	14,201	22.8	3,238	2.6	369	74.6	10,594
109	Metal Containers	3,873	16.2	627	20.2	782	63.6	2,464
110	Farm Machinery	7,247	4.8	348	7.4	536	87.8	6,363
111	Heavy Machinery	14,952	5.7	852	5.3	792	89.0	13,308
112	Household Appliances	15,507	19.6	3,039	17.2	2,667	63.2	9,801
113	Radios and Television Sets	1,807	6.8	122	11.7	211	81.5	1,474
114	Automobiles	56,589	81.5	46,120	2.2	1,245	16.3	9,224
115	Other Motor Vehicles	21,522	81.5	17,540	5.3	1,141	13.2	2,841
116	Motor Vehicle Parts	103,008	81.5	83,951	6.6	6,799	11.9	12,258
117	Locomotive and Railway Car Parts	6,522	38.0	2,478	4.4	287	57.6	3,757
118	Iron and Steel Scrap	155,105	83.9	130,133	11.6	17,992	4.5	6,980
119	Nonferrous Scrap	12,248	83.9	10,276	7.5	919	8.6	1,053
120	Textile Scrap	5,471	10.0	547	54.1	2,960	35.9	1,964
121	Waste Paper	33,531	10.0	3,353	31.9	10,696	58.1	19,482
122	Chemical and Petroleum Waste	7,301	83.6	6,103	6.3	460	10.1	738
123	Empty Shipping Containers	6,312	27.7	1,748	72.3	4,564	0.0	0
124	Freight Forwarder Traffic	25,084	37.8	9,482	62.2	15,602	0.0	0
125	Shipper Association Traffic	41,924	38.7	16,225	61.3	25,699	0.0	0
126	Miscellaneous Mixed Shipments	127,075	10.0	12,707	41.7	52,990	48.3	61,378
127	All Other, NEC	243,695	10.0	24,369	18.4	44,840	71.6	174,486
	Total	8,360,346	48.5%	4,054,433	29.3%	2,448,429	22.2%	1,857,484

Notes: (1) Defined as all traffic moving at interstate rates even though the traffic may be intrastate in nature.
(2) Noncompensatory traffic cannot be found to be market dominant.
(3) Estimated as the single largest presumptive test result of the market share test, the cost test and the substantial investment test. In some cases, the total of the noncompensatory percent and the market dominant percent would exceed 100%. This was caused by the commodity aggregation in the market share test. This condition was corrected by assuming a proportionate share of the compensatory traffic remains market dominant. An asterisk (*) indicates where this condition occurred.
(4) Calculated as 100% minus noncompensatory traffic minus market dominant traffic.
(5) Based exclusively on presumptive tests.

Source: A. T. Kearney, Inc.

INTERSTATE COMMERCE COMMISSION

PRIMARY FACTORS CONSIDERED
IN ESTIMATION OF COSTS FOR
SELECTED DISTINCT RAIL SERVICES

Service	Cost Factors
Transit	1. Added car handling at intermediate terminal for placement at transit facility.
	2. Added paperwork necessitated by second origination and termination.
	3. Lost car utilization due to additional origination and termination activity.
Diversion & Reconsignment	1. Creation of additional records relating to the diversion and reconsignment.
	2. Added car handling required to change car's destination.
	3. Lost car utilization due to added terminal handling.
	4. Personnel and computer systems needed for car tracing.
Intra-Plant Switching	1. Car handling within shipper's plant.
	2. Creation of records on car status and billing.
Weighing	1. Car handling involved in movement onto scale.
	2. Creation of records on car status, weight and billing.
	3. Lost car utilization during stop for weighing.
Car Cleaning	1. Car handling to and from cleaning track.
	2. Creation of records on car status.
	3. Lost car utilization while car is on cleaning track.
	4. Inspection labor to determine nature of cleaning required.
	5. Labor to clean car and dispose of debris.
Loading & Unloading	1. Creation of records on billable tasks.
	2. Incremental cost of labor and equipment used in performing service.
Stopoffs	1. Car handling within intermediate terminal and to and from customer's siding.
	2. Creation of additional records on car movement and placement.
	3. Lost car utilization during intermediate stop.
Expedited Service	1. Car handling within rail terminal and movement to customer's siding.
	2. Clerical effort in locating car and ordering expedited handling.
Car Tracing	1. Clerical effort in performing tracing operation and handling customer's inquiry.
	2. Operation and maintenance of computer terminal device.
	3. Communication cost between terminal and central processing unit.
Load Adjustment	1. Creation of records on maintenance activity.
	2. Labor and material involved in repair effort.
	3. Equipment devoted to adjustment.
Car Upgrading	1. Car handling to and from cleaning track.
	2. Creation of records on car status and classification.
	3. Lost car utilization during upgrading process.
	4. Labor and materials committed to car cleaning and upgrading.

EXHIBIT 14

INTERSTATE COMMERCE COMMISSION

COMPONENTS OF CALCULATED COSTS
FOR SELECTED DISTINCT RAIL SERVICES

Service	Unit	Clerical Time (@ $1.12 per Document)	Car Handling (@ $36.73 per Engine Hour)	Car Ownership (@ $1.39-$5.07 per Day)	Labor and Materials	Specialized Equipment and Facilities	Total
Transit	Per Car	$13.44-$13.44	$40.92-$61.39	$8.34-$30.42	-	-	$62.70-$105.25
Diversion and Reconsignment	Per Car	3.36- 5.60	7.28- 26.17	1.39- 10.14	-	$ 1.32-$ 2.64	13.35- 43.55
Inter-Plant Switching	Per Car	1.68- 1.68	1.96- 32.79	-	-	-	3.64- 34.47
Weighing	Per Car	4.48- 5.60	2.23- 3.35	0.93- 3.40	-	4.58- 4.58	10.12- 16.93
Car Cleaning	Per Car	3.92- 5.04	14.25- 21.38	2.09- 7.60	$ 8.19-$15.29	* - *	28.40- 49.31
Loading and Unloading	Per Car	2.24- 2.24	-	-	16.39- 24.58	14.28- 21.42	32.91- 48.24
Stopoffs	Per Stop	6.72- 6.72	20.46- 30.70	4.17- 15.21	-	-	31.35- 52.63
Expedited Service	Per Car	3.36- 7.84	19.11- 49.24	-	-	-	22.47- 57.08
Car Tracing	Per Inquiry	2.35- 3.65	-	-	-	1.38- 2.95	3.73- 6.60
Load Adjustment	Per Car	0.00- 3.36	-	-	21.47- 98.82	9.23- 138.00	30.70- 240.18
Car Upgrading	Per Car	3.92- 9.52	14.25- 42.76	3.48- 12.68	26.04- 33.04	* - *	48.07- 98.58

Note: (*) No standard data available for these recognized cost elements.

Source: Propriatary Railroad Cost Data.

EXHIBIT 15

EXHIBIT 16

COMMODITY CODES FROM AAR CARLOADING STATISTICS
AND DETAIL SUBCOMMODITIES USED FOR SEASONALITY ANALYSIS

AAR Code	Commodity	Special Seasonal Commodity Code	Commodity
1	Grain	1	Coybeans
		2	Corn
		3	Wheat
		4	All Other Grain
2	Farm Products Other Than Grain	5	Other Field Crops
		6	Fresh Fruits
		7	Fresh Vegetables
		8	Livestock and Products
		9	Poultry and Products
3	Metallic Ore	10	Iron Ore
		11	Copper Ore
		12	All Other Ore
4	Coal	13	All Coal
5	Crushed Stone, Sand and Gravel	14	Crushed Stone
		15	Sand and Gravel
6	Nonmetallic Minerals	16	Potash and Phosphate Rock
		17	All Others
7	Grain Mill Products		Not Seasonal
8	Food and Kindred Products	18	Meat and Poultry
		19	Canned Goods
		20	All Other (Except Grain Mill Products)
9	Primary Forest Products	21	Primary Forest Products
10	Lumber and Wood Products	22	All Lumber - Finished and Pressed
		23	Plywood
11	Pulp, Paper and Allied Products	24	Pulp, Paper and Allied Products
12	Chemicals and Allied Products	25	Agricultural Chemicals
		26	All Other
13	Petroleum Products	27	Petroleum Products
14	Stone Clay and Glass Products	28	Glass
		29	Stone and Building Materials
		30	Abrasives and Other
15	Coke	31	Coke
16	Metals and Products		Not Seasonal
17	Motor Vehicles and Equipment	32	Assembled
		33	Components
18	Waste and Scrap	34	Metal Scrap
		35	All Other
19	Forwarder and Shapper Association Traffic	-	
20	All Other Carloads	-	
21	Less Than Carload Traffic	-	
22	Total Cars Loaded	-	
23	Total Cars of Revenue Freight Received from Connections	-	

SEASONAL RAIL MARKET ANALYSIS

SUMMARY DATA BY FIVE RAIL-RATE REGIONS -
BASED ON REGION OF ORIGINATING CARRIER

REGION 1

Commodity	Total Seasonal Cars Originated	Percent Seasonal by Cars	Total Seasonal Tons Originated	Percent Seasonal by Tons	Total Revenue on Seasonal Traffic ($ 000)	Percent Seasonal by Revenue	Percent of Total Seasonal Tons Originated in This Region
1. Soybeans	0	0	0	0.0%	0	0	0
2. Corn	0	0	0	0.0	0	0	0
3. Wheat	0	0	0	0.0	0	0	0
4. Other Grain	0	0	0	0	0	0	0
5. Field Crops	12	86	355	86.0%	$ 9	91%	0
6. Fruits	0	0	0	0.0	0	0	0
7. Vegetables	0	0	0	0.0	0	0	0
8. Livestock	0	0	0	0.0	0	0	0
9. Poultry	0	0	0	0.0	0	0	0
10. Iron Ore	0	0	0	0.0	0	0	0
11. Copper Ore	0	0	0	0.0	0	0	0
12. Other Ore	0	0	0	0.0	0	0	0
13. Coal	0	0	0	0.0	0	0	0
14. Crushed Stone	0	0	0	0.0	0	0	0
15. Sand and Gravel	0	0	0	0.0	0	0	0
16. Potash and Phosphate	0	0	0	0.0	0	0	0
17. Other Minerals	0	0	0	0.0	0	0	0
18. Meat	0	0	0	0.0	0	0	0
19. Canned Goods	0	0	0	0.0	0	0	0
20. Other Food	0	0	0	0.0	0	0	0
21. Forest Product	0	0	0	0.0	0	0	0
22. Lumber	0	0	0	0.0	0	0	0
23. Plywood	0	0	0	0.0	0	0	0
24. Pulp and Paper	0	0	0	0.0	0	0	0
25. Agricultural Chemicals	0	0	0	0.0	0	0	0
26. Other Chemicals	0	0	0	0.0	0	0	0
27. Petroleum	217	89	11,157	87.6	35	78	41
28. Glass	0	0	0	0.0	0	0	0
29. Stone	0	0	0	0.0	0	0	0
30. Abrasives	0	0	0	0.0	0	0	0
31. Coke	0	0	0	0.0	0	0	0
32. Assembled Motor Vehicles	0	0	0	0.0	0	0	0
33. Components	00	0	0	0.0	0	0	0
34. Metal Scrap	0	0	0	0.0	0	0	0
35. Other Scrap	0	0	0	0.0	0	0	0
Total	229	19%	11,512	19.4%	$44	6%	

EXHIBIT 17

SEASONAL RAIL MARKET ANALYSIS

SUMMARY DATA BY FIVE RAIL-RATE REGIONS -
BASED ON REGION OF ORIGINATING CARRIER

REGION 2

	Commodity	Total Seasonal Cars Originated	Percent Seasonal by Cars	Total Seasonal Tons Originated	Percent Seasonal by Tons	Total Revenue on Seasonal Traffic ($ 000)	Percent Seasonal by Revenue	Percent of Total Seasonal Tons Originated in This Region
1.	Soybeans	180	93%	16,854	93.3%	$ 117	95%	23%
2.	Corn	757	88	72,105	88.0	510	85	30
3.	Wheat	252	95	23,655	95.2	181	92	7
4.	Other Grain	43	84	3,178	81.4	35	87	3
5.	Field Crops	0	0	0	0.0	0	0	0
6.	Fruits	18	58	824	58.4	9	38	11
7.	Vegetables	4	25	285	26.4	4	20	2
8.	Livestock	9	82	450	91.8	7	81	21
9.	Poultry	1	25	57	27.4	1	28	3
10.	Iron Ore	3,067	98	244,548	98.0	1,167	97	29
11.	Copper Ore	2	100	153	100.0	1	100	0
12.	Other Ore	137	77	11,723	77.4	110	79	20
13.	Coal	175	1	15,653	1.0	40	0	75
14.	Crushed Stone	1,413	75	102,976	73.4	339	68	60
15.	Sand and Gravel	657	71	54,523	73.0	271	71	43
16.	Potash and Phosphate	0	0	0	0.0	0	0	0
17.	Other Minerals	34	9	2,386	7.3	32	13	3
18.	Meat	0	0	0	0.0	0	0	0
19.	Canned Goods	0	0	0	0.0	0	0	0
20.	Other Food	0	0	0	0.0	0	0	0
21.	Forest Product	0	0	0	0.0	0	0	0
22.	Lumber	0	0	0	0.0	0	0	0
23.	Plywood	0	0	0	0.0	0	0	0
24.	Pulp and Paper	0	0	0	0.0	0	0	0
25.	Agricultural Chemicals	0	0	0	0.0	0	0	0
26.	Other Chemicals	0	0	0	0.0	0	0	0
27.	Petroleum	0	0	0	0.0	0	0	0
28.	Glass	3	2	57	1.0	2	1	13
29.	Stone	0	0	0	0.0	0	0	0
30.	Abrasives	23	3	1,378	3.2	9	2	11
31.	Coke	388	19	18,010	17.6	144	18	71
32.	Assembled Motor Vehicles	1,451	72	30,790	66.5	2,414	72	84
33.	Components	282	7	9,704	9.6	261	7	83
34.	Metal Scrap	118	5	6,466	4.6	37	3	55
35.	Other Scrap	6	1	275	1.5	1	0	14
	Total	9,020	20%	616,050	20.5%	5,691	21%	

EXHIBIT 18

SEASONAL RAIL MARKET ANALYSIS

SUMMARY DATA BY FIVE RAIL-RATE REGIONS -
BASED ON REGION OF ORIGINATING CARRIER

REGION 4

	Commodity	Total Seasonal Cars Originated	Percent Seasonal by Cars	Total Seasonal Tons Originated	Percent Seasonal by Tons	Total Revenue on Seasonal Traffic ($ 000)	Percent Seasonal by Revenue	Percent of Total Seasonal Tons Originated in This Region
1.	Soybeans	268	100%	23,755	100.0%	$ 123	100%	32%
2.	Corn	447	100	41,039	100.0	236	100	17
3.	Wheat	76	100	7,215	100.0	49	100	2
4.	Other Grain	22	100	1,571	100.0	10	100	1
5.	Field Crops	760	100	19,307	100.0	51	100	21
6.	Fruits	14	100	625	100.0	11	100	8
7.	Vegetables	3	100	71	100.0	2	100	0
8.	Livestock	0	0	0	0.0	0	0	0
9.	Poultry	10	100	390	100.0	5	100	21
10.	Iron Ore	72	99	6,087	98.7	22	97	1
11.	Copper Ore	0	0	0	0.0	0	0	0
12.	Other Ore	106	82	9,899	86.0	101	80	16
13.	Coal	0	0	0	0.0	0	0	0
14.	Crushed Stone	75	5	5,783	5.1	20	6	3
15.	Sand and Gravel	85	12	6,525	12.0	13	7	5
16.	Potash and Phosphate	1	100	99	100.0	1	100	1
17.	Other Minerals	23	1	1,526	0.5	8	2	2
18.	Meat	1	1	58	1.5	1	2	2
19.	Canned Goods	3	2	180	2.2	5	2	3
20.	Other Food	40	6	2,794	7.3	25	5	6
21.	Forest Product	0	0	0	0.0	0	0	0
22.	Lumber	0	0	0	0.0	0	0	0
23.	Plywood	0	0	0	0.0	0	0	0
24.	Pulp and Paper	0	0	0	0.0	0	0	0
25.	Agricultural Chemicals	1,016	73	71,361	74.1	677	67	87
26.	Other Chemicals	363	26	23,161	24.4	260	18	53
27.	Petroleum	57	26	3,945	26.2	36	24	14
28.	Glass	0	0	0	0.0	0	0	0
29.	Stone	0	0	0	0.0	0	0	0
30.	Abrasives	0	0	0	0.0	0	0	0
31.	Coke	0	0	0	0.0	0	0	0
32.	Assembled Motor Vehicles	0	0	0	0.0	0	0	0
33.	Components	59	70	1,222	73.9	46	67	10
34.	Metal Scrap	0	0	0	0.0	0	0	0
35.	Other Scrap	0	0	0	0.0	0	0	0
	Total	3,501	14%	226,613	13.6%	1,702	15%	

EXHIBIT 19

SEASONAL RAIL MARKET ANALYSIS

SUMMARY DATA BY FIVE RAIL-RATE REGIONS -
BASED ON REGION OF ORIGINATING CARRIER

REGION 5

	Commodity	Total Seasonal Cars Originated	Percent Seasonal by Cars	Total Seasonal Tons Originated	Percent Seasonal by Tons	Total Revenue on Seasonal Traffic ($ 000)	Percent Seasonal by Revenue	Percent of Total Seasonal Tons Originated in This Region
1.	Soybeans	281	88%	21,596	88.8%	$ 165	89%	29%
2.	Corn	837	94	62,883	92.4	593	97	26
3.	Wheat	1,094	99	96,609	99.4	1,031	99	27
4.	Other Grain	452	92	33,680	91.2	325	97	32
5.	Field Crops	105	63	3,454	66.6	58	65	4
6.	Fruits	11	100	433	100.0	16	100	6
7.	Vegetables	14	78	397	59.3	16	77	2
8.	Livestock	0	0	0	0.0	0	0	0
9.	Poultry	2	40	116	50.0	1	29	6
10.	Iron Ore	6,778	98	491,894	96.7	829	91	58
11.	Copper Ore	0	0	0	0.0	0	0	0
12.	Other Ore	0	0	0	0.0	0	0	0
13.	Coal	74	4	5,339	3.1	20	5	25
14.	Crushed Stone	134	17	9,804	16.6	34	17	6
15.	Sand and Gravel	113	25	7,708	21.1	30	14	6
16.	Potash and Phosphate	9	82	763	81.3	11	90	4
17.	Other Minerals	151	79	11,316	78.5	79	72	16
18.	Meat	0	0	0	0.0	0	0	0
19.	Canned Goods	0	0	0	0.0	0	0	0
20.	Other Food	0	0	0	0.0	0	0	0
21.	Forest Product	0	0	0	0.0	0	0	0
22.	Lumber	0	0	0	0.0	0	0	0
23.	Plywood	0	0	0	0.0	0	0	0
24.	Pulp and Paper	0	0	0	0.0	0	0	0
25.	Agricultural Chemicals	0	0	0	0.0	0	0	0
26.	Other Chemicals	81	6	5,393	5.5	72	4	12
27.	Petroleum	0	0	0	0.0	0	0	0
28.	Glass	0	0	0	0.0	0	0	0
29.	Stone	0	0	0	0.0	0	0	0
30.	Abrasives	0	0	0	0.0	0	0	0
31.	Coke	125	29	7,478	28.8	61	31	29
32.	Assembled Motor Vehicles	114	22	2,605	22.9	133	18	7
33.	Components	22	27	549	33.0	19	25	5
34.	Metal Scrap	97	18	5,213	17.1	55	21	45
35.	Other Scrap	35	16	1,656	18.2	18	18	86
	Total	10,529	46%	768,886	50.0%	$3,567	30%	

EXHIBIT 20

SEASONAL RAIL MARKET ANALYSIS

SUMMARY DATA BY FIVE RAIL-RATE REGIONS - BASED ON REGION OF ORIGINATING CARRIER

REGION 6

Commodity	Total Seasonal Cars Originated	Percent Seasonal by Cars	Total Seasonal Tons Originated	Percent Seasonal by Tons	Total Revenue on Seasonal Traffic ($ 000)	Percent Seasonal by Revenue	Percent of Total Seasonal Tons Originated in This Region
1. Soybeans	165	100%	12,147	100.0%	$ 85	100%	16%
2. Corn	814	100	67,985	99.7	681	100	28
3. Wheat	2,694	100	226,866	99.6	2,766	100	64
4. Other Grain	909	99	66,600	98.8	792	98	63
5. Field Crops	1,465	98	68,716	98.1	895	99	75
6. Fruits	190	99	5,878	99.6	400	100	76
7. Vegetables	548	100	16,032	99.6	929	100	96
8. Livestock	80	99	1,711	98.8	83	98	79
9. Poultry	31	100	1,296	100.0	29	100	70
10. Iron Ore	1,293	83	99,328	78.7	359	85	12
11. Copper Ore	881	100	61,732	99.8	112	97	100
12. Other Ore	429	96	38,451	96.4	244	83	64
13. Coal	0	0	0	0.0	0	0	0
14. Crushed Stone	721	62	53,524	60.1	195	61	31
15. Sand and Gravel	771	55	57,490	50.5	237	61	46
16. Potash and Phosphate	186	100	17,520	100.0	111	100	95
17. Other Minerals	711	54	57,404	58.8	364	57	79
18. Meat	67	30	3,614	30.3	78	30	98
19. Canned Goods	115	14	5,880	15.5	202	15	97
20. Other Food	135	7	43,603	41.7	1,164	46	94
21. Forest Product	1,001	43	52,706	40.5	212	34	100
22. Lumber	0	0	0	0.0	0	0	0
23. Plywood	0	0	0	0.0	0	0	0
24. Pulp and Paper	0	0	0	0.0	0	0	0
25. Agricultural Chemicals	144	38	10,468	37.4	116	32	13
26. Other Chemicals	221	10	15,413	8.7	230	6	35
27. Petroleum	187	17	12,414	17.3	194	16	45
28. Glass	13	25	372	19.3	7	14	87
29. Stone	218	22	15,402	21.5	137	24	100
30. Abrasives	0	0	11,063	28.7	261	41	89
31. Coke	0	0	0	0	0	0	0
32. Assembled Motor Vehicles	137	44	3,171	46.9	296	53	9
33. Components	9	5	260	5.9	18	10	2
34. Metal Scrap	0	0	0	0.0	0	0	0
35. Other Scrap	0	0	0	0.0	0	0	0
Total	14,135	40	1,027,046	34.6%	$11,196	37	

EXHIBIT 21

SEASONAL RAIL MARKET ANALYSIS

SUMMARY DATA FOR SEASONAL TRAFFIC - ALL CLASS ONE CARRIERS

Commodity	Average Revenue/ Cost Ratio	Percent Tons Below Cost	Percent Tons Over 1.30 Revenue Cost Ratio	Percent Tons Over 1.40 Revenue Cost Ratio	Percent Tons Over 1.50 Revenue Cost Ratio	Total Seasonal Cars Originated	Percent Seasonal by Cars	Total Seasonal Tons Originated	Percent Seasonal by Tons	Total Revenue on Seasonal Traffic ($ 000)	Percent Seasonal by Revenue	Seasonality Measures: Average Highest Seasonality Multiplier	Seasonality Measures: Average Lowest Seasonality Multiplier	Percent of Traffic Where Carrier Moves 70% of Rail Movement: Below Cost	Over 1.30	Over 1.40	Over 1.50	Total
1. Soybeans	1.136	31%	46%	42%	29%	894	94%	74,352	95.0%	$ 490	95%	1.91	0.45	10%	4%	2%	2%	23%
2. Corn	1.039	41	37	35	27	2,855	95	244,012	94.1	2,019	95	1.50	0.60	16	3	3	2	23
3. Wheat	1.644	13	81	81	75	4,116	99	354,345	99.2	4,027	99	1.78	0.55	2	11	11	10	14
4. Other Grain	1.486	12	59	54	49	1,426	96	105,029	95.6	1,162	98	1.66	0.52	1	21	20	19	21
5. Field Crops	0.815	87	5	4	3	2,342	96	91,832	96.1	1,013	95	2.28	0.21	42	2	2	0	47
6. Fruits	0.675	86	5	5	5	233	94	7,760	92.7	436	96	1.49	0.52	15	1	0	0	16
7. Vegetables	0.595	91	2	1	0	569	97	16,785	93.6	951	98	1.49	0.63	66	2	0	0	68
8. Livestock	1.169	1	3	3	2	89	93	2,161	93.1	90	91	1.66	0.67	0	0	0	0	0
9. Poultry	1.007	22	28	13	13	44	88	1,859	87.4	36	88	2.18	0.18	0	0	0	0	0
10. Iron Ore	0.901	71	11	5	0	11,210	96	841,857	94.5	2,377	93	1.36	0.66	43	6	0	0	61
11. Copper Ore	0.441	97	2	0	0	883	100	61,885	99.5	113	96	1.44	0.28	96	1	0	0	98
12. Other Ore	1.042	34	18	10	7	672	79	60,073	79.4	455	71	1.28	0.70	34	8	7	6	57
13. Coal	0.956	55	0	0	0	249	1	20,992	0.7	60	0	1.41	0.66	0	0	0	0	0
14. Crushed Stone	0.929	67	5	4	4	2,343	44	172,087	42.7	587	44	1.37	0.70	17	5	4	4	33
15. Sand and Gravel	0.993	67	16	9	4	1,626	46	126,246	45.0	551	47	1.41	0.60	7	7	3	2	24
16. Potash and Phosphate	0.870	47	10	10	7	196	98	18,382	97.5	123	98	1.41	0.65	38	7	7	4	83
17. Other Minerals	0.939	73	14	9	7	919	16	72,632	16.2	482	34	2.00	0.40	55	4	2	2	62
18. Meat	1.445	11	78	55	55	68	13	3,672	13.0	79	14	1.47	0.71	0	0	0	0	0
19. Canned Goods	0.931	55	20	9	2	118	9	6,060	9.5	206	10	1.36	0.47	0	0	0	0	0
20. Other Food	0.964	38	30	13	7	175	4	46,397	19.9	1,189	25	1.30	0.80	0	0	0	0	0
21. Forest Products	0.730	90	1	1	1	1,001	13	52,706	11.3	212	13	1.29	0.76	1	0	0	0	3
22. Lumber	0.000	0	0	0	0	0	0	0	0.0	0	0	0.00	0.00	0	0	0	0	0
23. Plywood	0.000	0	0	0	0	0	0	0	0.0	0	0	0.00	0.00	0	0	0	0	0
24. Pulp and Paper	0.000	0	0	0	0	0	0	0	0.0	0	0	0.00	0.00	0	0	0	0	0
25. Agricultural Chemicals	1.108	14	15	10	8	1,160	52	81,829	52.1	793	45	1.26	0.86	13	5	3	2	80
26. Other Chemicals	1.369	12	58	52	46	665	10	43,967	9.1	562	6	1.17	0.77	3	18	16	15	45
27. Petroleum	1.254	41	35	34	27	461	17	27,516	16.2	266	11	1.39	0.59	0	24	24	23	43
28. Glass	1.558	0	92	57	57	16	6	429	4.9	9	3	1.25	0.75	0	0	0	0	0
29. Stone	1.257	14	28	28	24	218	6	15,402	6.3	137	7	1.36	0.64	0	0	0	0	0
30. Abrasives	1.259	17	42	12	8	23	1	12,441	6.6	270	12	1.74	0.0	0	0	0	0	0
31. Coke	1.010	55	30	1	1	513	17	25,488	16.0	205	15	1.43	0.67	52	0	0	0	53
32. Assembled Motor Vehicles	1.918	1	97	92	87	1,702	54	36,566	51.6	2,844	57	1.19	0.77	0	27	26	24	27
33. Components	1.559	1	95	74	64	372	8	11,735	10.8	344	8	1.20	0.77	0	11	11	4	12
34. Metal Scrap	1.323	1	46	34	13	215	5	11,679	4.9	92	5	1.43	0.76	0	1	1	1	2
35. Other Scrap	1.179	22	47	27	27	41	3	1,931	3.5	18	3	1.17	0.78	0	0	0	0	7
Total						37,414	29%	2,650,107	28.7%	22,199	27%							

EXHIBIT 23

RAILROAD CODES FOR SEASONALITY ANALYSIS

Railroad Code Number	Railroad Initials	Region
3	ACY	2
22	ATSF	6
50	B&O	2
61	B&LE	2
76	BN	6
125	C&O	2
129	C&EI	2
131	C&NW	5
140	CMSTP&P	6
145	ROCK	5
157	C&S	6
195	D&H	2
197	C&RGW	6
206	DT&I	2
213	DM&IR	5
238	EJ&E	2
263	FEC	4
308	GTW	2
444	L&N	4
350	ICG	4
425	LS&I	5
456	MC	1
490	MKT	5
494	MP	5
550	N&W	2
622	PC	2
626	P&LE	2
693	FRISCO	5
712	SCL	4
721	SP	6
724	SOU	4
802	UP	6
840	WP	6

The regions referred to are ICC cost regions. They are (1) New England, (2) Official, (3) Combination of (1) and (2), (4) Southern, (5) Midwestern, (6) Mountain and Pacific, (7) Combination of (5) and (6). Regions (3) and (7) were omitted from the analysis to avoid double counting.

49 SPECIAL ZONES FOR
REGIONAL RATE ANALYSIS

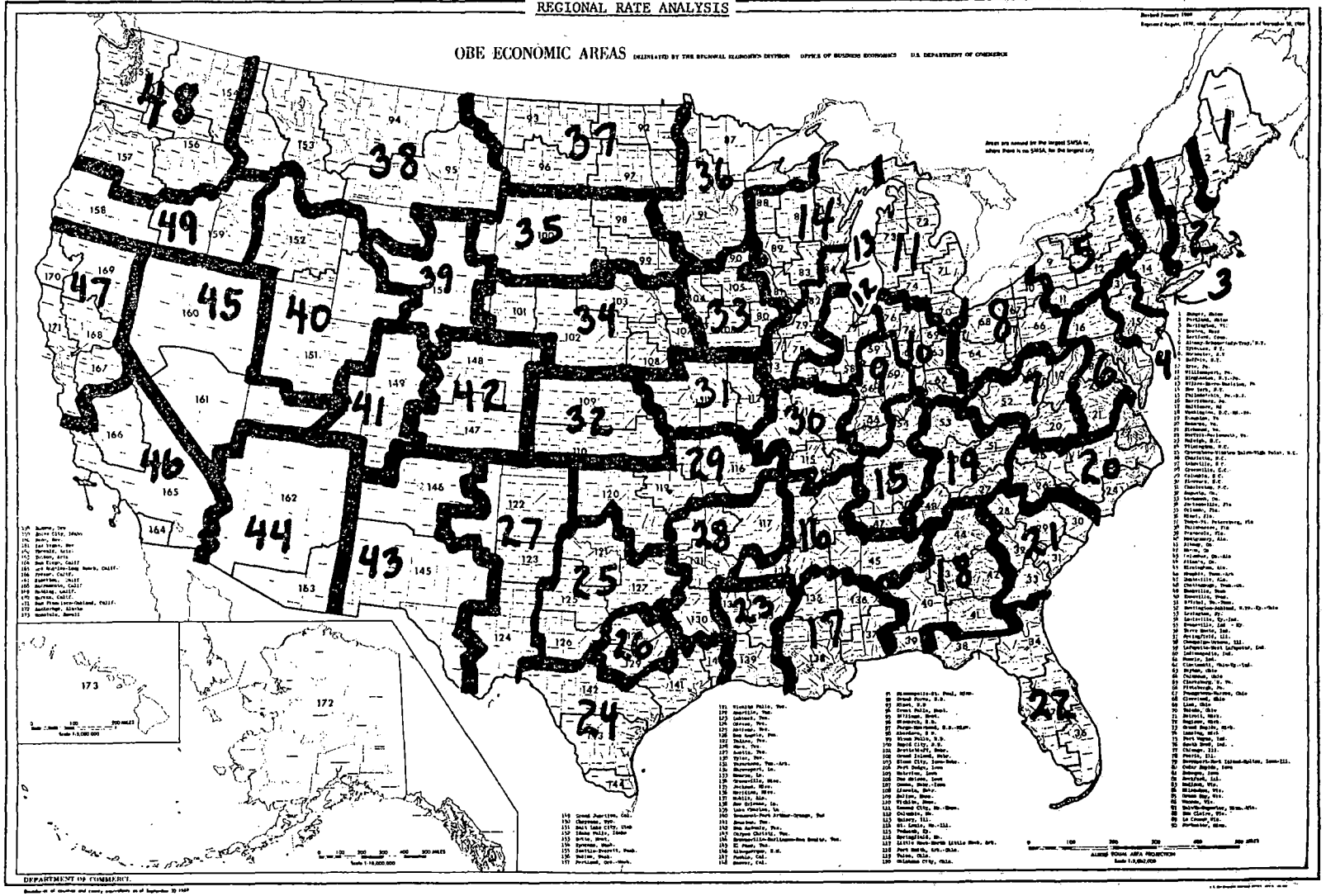


EXHIBIT 24

INTERSTATE COMMERCE COMMISSION
RATE/COST ANALYSIS
TOTAL ALL COMMODITIES

INTERSTATE MOVEMENTS

REV/COST RATIO	ORIGINATING TERRITORY 1	2	3	TONNAGE 4	5	TOTAL TONNAGE	PERCENT	REVENUE $000	REVENUE PERCENT	CARS NUMBER	CARS PERCENT	REVENUE PER TONMILE
0% - 60%	126230.	137420.	26944.	19866.	125886.	436346.	5.8%	2048.	2.1%	7542.	6.1%	$0.0093
60%- 70%	79760.	101802.	68036.	10451.	43065.	303114.	4.0%	1997.	2.0%	4712.	3.8%	$0.0145
70%- 80%	75534.	115835.	116690.	26018.	98464.	436541.	5.8%	3404.	3.5%	7047.	5.7%	$0.0148
80%- 90%	134105.	149958.	114756.	29863.	86879.	515661.	6.8%	4795.	4.9%	8723.	7.1%	$0.0173
90%-100%	181582.	151633.	70658.	36767.	58960.	499600.	6.6%	5472.	5.6%	8989.	7.3%	$0.0201
100-107%	160013.	116757.	47590.	31688.	43570.	399658.	5.3%	4664.	4.8%	6983.	5.7%	$0.0207
107-110%	71190.	46258.	15188.	14747.	21254.	168637.	2.2%	2192.	2.2%	3065.	2.5%	$0.0216
110-120%	260932.	170782.	125389.	51508.	73277.	681888.	9.0%	8012.	8.2%	11420.	9.2%	$0.0218
120-130%	260969.	162492.	80905.	62230.	73631.	640227.	8.5%	8143.	8.3%	10449.	8.5%	$0.0227
130-140%	230599.	143659.	66958.	51542.	68282.	561440.	7.4%	7743.	7.9%	9137.	7.4%	$0.0239
140-150%	197798.	119742.	49217.	54291.	65283.	486331.	6.5%	7170.	7.3%	7865.	6.4%	$0.0253
150-160%	175436.	85560.	43416.	48004.	49954.	402370.	5.3%	6187.	6.3%	6534.	5.3%	$0.0273
160-170%	150919.	60091.	47816.	44972.	42587.	346385.	4.6%	5566.	5.7%	5723.	4.6%	$0.0293
170-180%	124330.	44535.	41169.	37778.	34716.	282528.	3.7%	4549.	4.6%	4583.	3.7%	$0.0315
180%& UP	557381.	145780.	307465.	226082.	140373.	1377081.	18.3%	25910.	26.5%	20803.	16.8%	$0.0411
TOTAL	2786778.	1756384.	1222231.	746227.	1026161.	7537807.	100.0%	97851.	100.0%	123559.	100.0%	$0.0245

INTRASTATE MOVEMENTS

0% - 60%	155156.	189792.	119715.	46298.	145515.	656480.	22.4%	603.	5.7%	10016.	23.8%	$0.0190
60%- 70%	32175.	44075.	25402.	25318.	15999.	142969.	4.9%	308.	2.9%	2288.	5.4%	$0.0209
70%- 80%	41710.	57783.	36774.	36403.	22496.	199166.	6.7%	446.	4.2%	2923.	7.0%	$0.0217
80%- 90%	70267.	77852.	26714.	32167.	58411.	265411.	9.0%	679.	6.4%	3691.	8.8%	$0.0210
90%-100%	53185.	73328.	19352.	31151.	24051.	201067.	6.9%	624.	5.9%	2912.	6.9%	$0.0233
100-107%	41881.	41473.	9786.	21917.	17547.	133004.	4.5%	482.	4.5%	1904.	4.5%	$0.0241
107-110%	20920.	14659.	3507.	10211.	11912.	61209.	2.1%	243.	2.3%	869.	2.1%	$0.0246
110-120%	71717.	41018.	15449.	22367.	37388.	187959.	6.4%	784.	7.4%	2631.	6.3%	$0.0250
120-130%	64371.	30697.	12129.	25334.	51335.	183866.	6.3%	809.	7.6%	2532.	6.0%	$0.0260
130-140%	63056.	20055.	14740.	18009.	25570.	141836.	4.8%	669.	6.3%	1934.	4.6%	$0.0281
140-150%	49207.	14374.	13144.	19250.	14242.	110217.	3.8%	580.	5.5%	1524.	3.6%	$0.0304
150-160%	44214.	9866.	11751.	14746.	11856.	92533.	3.2%	535.	5.0%	1303.	3.1%	$0.0327
160-170%	37041.	12781.	8675.	11790.	8790.	79077.	2.7%	454.	4.3%	1107.	2.6%	$0.0365
170-180%	28169.	11441.	8253.	11226.	8478.	67567.	2.3%	421.	4.0%	935.	2.2%	$0.0368
180%& UP	194247.	32738.	82282.	65433.	40190.	414890.	14.1%	2990.	28.1%	5442.	13.0%	$0.0535
TOTAL	967316.	671552.	407713.	391540.	494630.	2933251.	100.0%	10628.	100.0%	42011.	100.0%	$0.0297

TOTAL FOR ALL MOVEMENTS

0% - 60%	281386.	327212.	146659.	66164.	271405.	1092826.	10.4%	2651.	2.4%	17558.	10.6%	$0.0105
60%- 70%	111935.	145877.	93438.	35769.	59064.	446083.	4.3%	2305.	2.1%	7000.	4.2%	$0.0151
70%- 80%	117244.	173618.	153464.	62421.	120960.	631707.	6.0%	3850.	3.5%	9970.	6.0%	$0.0154
80%- 90%	204372.	227850.	141510.	62050.	145290.	781072.	7.5%	5475.	5.0%	12414.	7.5%	$0.0177
90%-100%	234767.	224961.	90010.	67918.	83011.	700667.	6.7%	6096.	5.6%	11901.	7.2%	$0.0204
100-107%	201894.	156270.	57376.	53605.	61517.	532662.	5.1%	5146.	4.7%	8887.	5.4%	$0.0210
107-110%	92110.	60917.	18695.	24958.	33166.	229846.	2.2%	2435.	2.2%	3934.	2.4%	$0.0218
110-120%	332649.	211800.	140836.	73895.	110665.	869847.	8.3%	8796.	8.1%	14051.	8.5%	$0.0221
120-130%	325340.	193189.	93034.	87564.	124966.	824093.	7.9%	8952.	9.3%	12981.	7.8%	$0.0230
130-140%	293655.	163714.	81698.	69951.	94258.	703276.	6.7%	8412.	7.8%	11071.	6.7%	$0.0242
140-150%	247005.	134116.	62361.	73541.	79525.	596548.	5.7%	7749.	7.1%	9393.	5.7%	$0.0256
150-160%	219650.	99446.	55207.	62750.	61850.	494903.	4.7%	6723.	6.2%	7837.	4.7%	$0.0276
160-170%	187960.	72672.	56491.	56762.	51377.	425462.	4.1%	6020.	5.5%	6820.	4.1%	$0.0298
170-180%	152499.	55976.	49422.	49004.	43154.	350095.	3.3%	4969.	4.6%	5498.	3.3%	$0.0319
180%& UP	751628.	178519.	389747.	291515.	160563.	1791971.	17.1%	28901.	26.6%	26245.	15.9%	$0.0421
TOTAL	3754094.	2428336.	1629950.	1137867.	1520811.	10471058.	100.0%	108478.	100.0%	165570.	100.0%	$0.0249

SOURCE: UNEXPANDED 1975 1% WAYBILL SAMPLE PROCESSED BY A.T.KEARNEY, INC.

INTERSTATE COMMERCE COMMISSION

REVENUE/COST ANALYSIS NONCOMPENSATORY RATES

Commodity Group Number	Commodity Description	Unexpanded Total Tonnage in Costed 1975 Waybill Sample	Percent of Tonnage Noncompensatory			Average Revenue per Ton-Mile		
			Interstate	Intrastate	Total	Interstate (Cents)	Intrastate (Cents)	Total (Cents)
1	Cotton	11,919	14.1%	39.9%	18.6%	2.84¢	4.91¢	2.94¢
2	Wheat	63,716	11.1	6.6	10.0	2.66	3.90	2.80
3	Corn and Sorghum	329,123	33.9	7.7	27.5	1.61	3.59	1.76
4	Barley	33,112	4.5	8.1	5.2	3.09	3.80	3.18
5	All Other Grain	29,810	11.4	17.6	12.6	2.61	3.93	2.70
6	Soybeans	86,449	20.8	8.0	16.9	1.83	4.34	2.10
7	Rice	22,561	21.0	61.9	34.9	2.40	3.90	2.51
8	Potatoes, Other Than Sweet	11,927	84.3	54.2	83.9	2.39	3.13	2.40
9	Sugar Beets	71,392	91.3	95.5	94.3	2.10	2.26	2.21
10	Citrus Fruit	2,888	96.0	100.0	96.0	2.43	2.27	2.43
11	Apples	1,273	93.1	0.0	93.1	2.55	0.00	2.55
12	Deciduous Fruits	1,650	96.7	0.0	96.7	2.61	0.00	2.61
13	Fresh Vegetables	13,050	96.9	57.2	98.3	2.44	3.03	2.45
14	Melons	1,818	100.0	0.0	100.0	2.48	0.00	2.48
15	Iron Ore	899,306	43.1	49.5	45.1	2.02	2.31	2.08
16	Nonferrous Concentrates	90,513	21.9	61.7	39.6	1.73	2.31	1.80
17	Calcined or Activated Bauxite Ores	46,285	25.7	28.9	26.8	1.62	2.35	1.70
18	Anthracite Coal	18,546	25.4	3.5	20.8	2.01	5.05	2.21
19	Coking Coal	332,498	25.7	43.7	29.3	1.73	2.78	1.80
20	Steam Bituminous Coal	2,466,289	40.9	46.4	42.0	1.38	2.29	1.45
21	Lignite	32,309	73.3	85.9	79.6	1.22	1.71	1.34
22	Fluxing Limestone and Dolomite	110,376	27.1	47.0	35.2	2.34	1.73	2.12
23	Aggregates	606,047	42.2	61.3	55.3	1.98	2.11	2.05
24	Sand	104,684	10.2	33.8	18.1	2.35	3.02	2.47
25	Clays	75,143	10.7	67.5	20.5	2.11	3.23	2.13
26	Feldspar	5,166	3.1	61.5	5.7	2.71	3.17	2.72
27	Potash Fertilizers	110,366	33.9	54.3	39.4	1.67	2.61	1.71
28	Phosphate Rock	357,023	81.7	96.4	90.7	1.57	2.05	1.72
29	Fresh Meats	4,389	21.4	9.6	20.1	3.30	5.15	3.34
30	Canned Fruits and Vegetables	18,896	20.1	15.5	19.7	2.34	3.88	2.37
31	Other Foodstuffs	83,159	27.9	36.4	28.9	2.23	3.29	2.26
32	Frozen Fruits and Vegetables	18,767	45.1	9.5	42.7	2.44	3.88	2.46
33	Wheat Flour Milling Products	33,622	32.2	44.9	35.2	2.83	4.15	2.97
34	Dry Corn Milling Products	4,731	9.2	0.0	9.1	2.71	6.17	2.74
35	Other Grain Mill Products	53,184	27.5	49.0	33.8	2.83	3.79	2.93
36	Wet Corn Mill Products	15,564	9.1	7.4	9.0	2.96	4.90	3.00
37	Cereal Preparations (Cooked)	10,019	23.2	42.5	24.5	4.97	9.16	5.04
38	Sugar	47,098	10.3	18.1	11.9	2.18	3.35	2.26
39	Malt Liquors	74,200	10.6	2.9	9.9	2.50	3.15	2.53
40	Wine and Brandy	9,688	67.9	8.8	66.8	1.83	4.36	1.84
41	Alcoholic Liquors	8,433	8.5	78.7	14.1	3.16	5.80	3.18
42	Fats and Oils	60,504	7.8	21.3	9.3	2.76	4.52	2.81
43	Seed, Nut and Vegetable Cake or Meal	50,664	15.0	48.5	25.5	2.33	3.27	2.42
44	Cigars, Cigarettes and Manufactured Tobacco	3,739	15.4	31.6	15.9	3.33	6.04	3.35
45	Textile Products	3,949	41.0	15.5	40.5	4.92	3.32	4.89
46	Pulpwood Logs	294,449	78.1	89.8	84.7	2.14	2.26	2.19
47	Pulpwood Chips	211,244	39.0	54.3	47.3	1.93	2.43	2.12
48	Lumber	96,868	15.4	26.5	16.3	2.15	3.11	2.17
49	Treated Wood Products	9,371	16.2	32.3	20.1	3.44	5.35	3.59
50	Wood Posts, Poles and Piling	7,817	21.2	37.8	24.0	2.80	5.68	2.91

REVENUE/COST ANALYSIS NONCOMPENSATORY RATES

Commodity Group Number	Commodity Description	Unexpanded Total Tonnage in Costed 1975 Waybill Sample	Percent of Tonnage Noncompensatory			Average Revenue per Ton-Mile		
			Interstate	Intrastate	Total	Interstate (Cents)	Intrastate (Cents)	Total (Cents)
51	Millwork and Other Lumber Products	10,129	41.9%	47.3%	43.4%	2.47¢	3.80¢	2.54¢
52	Plywood and Veneer	52,730	16.6	8.5	15.8	2.11	3.69	2.14
53	Hardwood Stock and Flooring	1,235	44.9	0.0	43.0	2.41	11.04	2.43
54	Wood Particle Board	20,899	10.4	8.6	10.4	2.12	2.49	2.13
55	Furniture	11,249	45.9	69.1	47.6	8.79	12.35	8.83
56	Woodpulp and Other Pulps	39,648	14.4	21.7	15.9	1.99	4.15	2.07
57	Newsprint	14,574	0.8	5.2	1.4	2.87	3.98	2.91
58	Ground Wood Paper	11,340	10.8	3.7	10.3	2.59	4.40	2.61
59	Printing Paper	39,051	13.6	40.4	16.1	2.77	4.30	2.79
60	Wrapping Paper and Paper Bags	29,082	17.5	38.1	18.3	2.72	4.46	2.73
61	Pulpboard	131,707	9.0	8.7	9.0	2.39	3.64	2.42
62	Corrugated Pulpboard	8,946	10.5	15.3	10.9	2.50	3.34	2.52
63	Sanitary Paper Products	35,074	48.8	50.3	48.8	4.19	6.97	4.25
64	Paperboard Boxes and Containers	6,875	25.0	41.2	28.3	4.19	7.38	4.38
65	Food Containers and Fibre Cans, Drums and Tubes	4,201	48.5	25.0	46.0	4.59	12.59	4.70
66	Building Paper and Board	16,260	33.3	23.1	32.8	2.68	3.23	2.69
67	Inorganic Chemicals	47,947	5.1	8.9	5.5	2.62	4.62	2.66
68	Barium and Calcium Compounds	7,903	5.1	11.9	5.9	2.93	3.75	2.96
69	Sodium Alkalies	38,913	2.7	5.9	3.5	2.97	4.34	3.10
70	Soda Ash	41,738	3.5	3.2	3.5	1.91	3.91	1.92
71	Industrial Gases	41,904	8.1	9.1	8.3	2.74	5.57	2.90
72	Organic Chemicals	92,830	10.6	11.1	10.6	2.52	3.91	2.55
73	Sulphuric Acid	23,695	8.2	23.3	13.4	2.76	2.90	2.79
74	Anhydrous Ammonia	20,452	2.0	10.0	3.1	3.03	4.25	3.11
75	Superphosphate	92,353	18.3	25.3	19.3	1.75	3.41	1.80
76	Agricultural Chemicals, Including Fertilizers	101,059	5.0	13.3	6.5	2.46	3.28	2.51
77	Plastic Materials	50,083	2.0	7.2	2.9	2.80	6.81	2.88
78	Rubber	20,686	4.4	50.6	8.2	2.47	4.87	2.50
79	Detergents and Other Cleaning Chemicals	6,480	5.6	0.0	5.3	3.44	4.15	3.46
80	Salt	54,929	29.9	13.4	28.8	1.88	2.64	1.91
81	Carbon Black	9,911	1.0	18.4	3.3	3.31	6.33	3.43
82	Petroleum Products	119,401	18.1	41.5	24.4	2.50	3.31	2.56
83	Petroleum, Lube Oils and Greases	21,520	16.2	7.8	15.1	2.74	3.29	2.77
84	Asphalt and Tars	22,635	2.4	1.0	2.0	2.80	3.46	2.87
85	Liquified Gases	50,387	3.8	1.0	3.3	2.78	3.73	2.85
86	Construction Material, Asphalt or Asbestos	11,999	4.7	0.9	4.3	3.01	3.75	3.06
87	Petroleum Coke	59,308	18.2	23.9	19.7	1.74	3.48	1.85
88	Coal Coke	118,736	34.1	45.8	36.6	2.29	4.88	2.46
89	Tires and Tubes	14,128	20.7	12.0	20.1	4.79	9.43	4.88
90	Plastic Products	4,350	33.0	15.1	31.2	8.99	16.85	9.22
91	Glass Containers	2,810	30.2	13.3	28.7	4.28	4.98	4.30
92	Hydraulic Cement	150,229	10.3	13.4	11.6	2.61	2.79	2.66
93	Brick and Blocks	27,999	44.5	48.5	45.0	1.90	2.11	1.91
94	Clay Refractories	13,580	13.6	11.1	13.5	2.59	3.38	2.60
95	Lime	53,641	11.7	20.5	22.6	2.97	4.03	3.13
96	Gypsum Building Materials	13,517	7.8	4.5	7.1	2.41	2.27	2.40
97	Mineral Wool	5,416	25.8	41.7	28.2	7.86	6.95	7.82
98	Pig Iron	19,883	5.7	13.4	11.0	2.66	6.29	3.30
99	Semifinished Steel	110,078	14.4	21.4	16.2	2.56	5.00	2.72

REVENUE/COST ANALYSIS NONCOMPENSATORY RATES

Commodity Group Number	Commodity Description	Unexpanded Total Tonnage in Costed 1975 Waybill Sample	Percent of Tonnage Noncompensatory			Average Revenue per Ton-Mile		
			Interstate	Intrastate	Total	Interstate (Cents)	Intrastate (Cents)	Total (Cents
100	Manufactured Iron or Steel	218,239	3.5%	10.0%	4.4%	3.54¢	5.32¢	3.61¢
101	Iron and Steel Pipe	39,516	9.7	8.7	9.7	2.98	6.79	3.02
102	Railway Track Material	10,505	10.7	33.3	13.8	4.32	6.03	4.37
103	Ferroalloys	7,870	2.0	0.0	1.9	2.54	4.81	2.56
104	Primary Copper Products	13,859	0.7	0.0	0.6	1.98	4.03	2.04
105	Primary Zinc Products	2,506	0.0	0.0	0.0	2.53	2.71	2.54
106	Primary Aluminum Products	16,444	5.7	18.9	7.1	2.25	3.26	2.29
107	Brass, Bronze and Copper Shapes	1,041	5.8	0.0	5.6	3.07	21.94	3.10
108	Aluminum Shapes	12,758	2.6	4.8	2.7	3.15	4.95	3.17
109	Metal Containers	3,844	20.2	67.0	27.7	8.07	11.28	8.21
110	Farm Machinery	6,597	7.4	40.0	8.8	6.37	10.70	6.40
111	Heavy Machinery	14,105	5.3	11.1	5.7	5.64	25.51	5.70
112	Household Appliances	12,489	17.2	15.8	17.1	7.93	17.08	7.99
113	Radios and Television Sets	269	11.7	0.0	11.2	6.35	26.82	6.39
114	Automobiles	55,183	2.2	28.9	2.2	6.59	8.00	6.59
115	Other Motor Vehicles	20,457	5.3	0.0	5.3	6.47	8.34	6.48
116	Motor Vehicle Parts	110,337	6.6	0.9	6.2	6.40	20.23	6.57
117	Locomotive and Railway Car Parts	6,688	4.4	0.0	3.9	4.69	8.78	4.82
118	Iron and Steel Scrap	247,114	11.6	31.3	19.5	3.53	6.11	3.96
119	Nonferrous Scrap	12,175	7.5	19.2	9.0	3.14	4.32	3.19
120	Textile Scrap	5,157	54.1	19.0	49.5	2.73	5.72	2.82
121	Waste Paper	37,543	31.9	24.0	30.4	2.60	4.60	2.74
122	Chemical and Petroleum Waste	8,882	6.3	20.6	9.7	2.39	3.10	2.47
123	Empty Shipping Containers	5,859	72.3	76.4	72.7	3.33	6.06	3.38
124	Freight Forwarder Traffic	3,095	62.2	79.8	62.8	4.00	6.56	4.02
125	Shipper Association Traffic	4,726	61.3	57.3	61.3	4.20	7.74	4.21
126	Miscellaneous Mixed Shipments	8,160	41.7	21.0	39.9	4.23	8.67	4.28
127	All Other, NEC	339,000	18.4	69.3	32.7	3.12	3.72	3.14
	Total	10,471,058	29.0%	49.9%	34.9%	2.45¢	2.97¢	2.49¢

Source: A. T. Kearney, Inc.

INTERSTATE COMMERCE COMMISSION

ESTIMATES OF RAIL DEMAND ELASTICITIES

Commodity Group Number	Commodity Description	1975 Estimated Supply Price per Short Ton	1975(2) Freight Rate Ratio	1972(5) Estimated Rail Modal Share	Range of Estimated Rail Demand Elasticities	
					Less Elastic	More Elastic
1	Cotton	$1,002.30	0.022	90.0%(6)	-0.11	-0.837(M)
2	Wheat	117.10	0.081	73.6(3)	-0.38	-0.837(M)
3	Corn and Sorghum	87.50	0.087	45.1(3)	-0.837(M)	-1.32
4	Barley	99.50	0.117	52.5(6)	-0.38	-0.95
5	All Other Grain	-	-	-	-0.5(E)	-1.0(E)
6	Soybeans	153.40	0.041	34.6(3)	-0.837(M)	-1.95
7	Rice	174.80	0.058	20.0(6)	-0.5(E)	-2.5
8	Potatoes, Other Than Sweet	96.30	0.306	15.0(6)	-1.0(E)	-2.05
9	Sugar Beets	27.40	0.098	32.5(6)	-1.10	-2.20
10	Citrus Fruit	62.60	0.480	-	-0.63	-10.0(E)
11	Apples	128.00	0.346	10.0(6)	-0.45	-13.0
12	Deciduous Fruits	-	-	-	-0.50(E)	-10.0(E)
13	Fresh Vegetables	124.00	0.331	15.0(6)	-1.0	-12.0
14	Melons	80.00	0.441	5.0(6)	-1.3	-10.0(E)
15	Iron Ore	19.10	0.132	63.9(3)	-0.39	-0.819(M)
16	Nonferrous Concentrates	1,284.00	0.007	100.0(3)	-0.05	-0.819(M)
17	Calcined or Activated Bauxite Ores	20.67	0.299	30.0(6)	-0.819(M)	-2.6
18	Anthracite Coal	32.45	0.214	74.2(3)	-0.128(M)	-0.38
19	Coking Coal	36.50(1)	0.133		-0.128(M)	-0.37
20	Steam Bituminous Coal	18.75	0.180	73.9(3)	-0.128(M)	-0.38
21	Lignite		0.141		-0.128(M)	-0.37
22	Fluxing Limestone and Dolomite	2.15	0.649	50.0(6)	-0.32	-1.65
23	Aggregates	1.48(1)	0.692	24.9(3)	-0.35	-4.40
24	Sand		0.828		-0.41	-4.70
25	Clays	6.95(1)	0.701	15.0(6)	-0.35	-8.0
26	Feldspar	17.00(1)	0.482	40.0(6)	-0.24	-2.1
27	Potash Fertilizers	49.25	0.167	90.0(6)	-0.20	-0.56
28	Phosphate Rock	23.00	0.048	76.9(3)	-0.33	-0.65
29	Fresh Meats	1,500.00	0.026	18.7(4)	-2.67	-4.42
30	Canned Fruits and Vegetables	579.00(8)	0.041		-1.0	-1.9
31	Other Foodstuffs	-	-	35.2(4)	-1.0(E)	-1.9(E)
32	Frozen Fruits and Vegetables	447.00(8)	0.079		-1.0	-1.9
33	Wheat Flour Milling Products	211.00	0.053		-0.74	-2.37
34	Dry Corn Milling Products	200.00(8)	0.065		-0.77	-2.37
35	Other Grain Mill Products	-	-	61.9(4)	-0.80(E)	-2.37
36	Wet Corn Mill Products	142.00(8)	0.124		-0.91	-2.37
37	Cereal Preparations (Cooked)	1,450.00(8)	0.020		-0.66	-2.37
38	Sugar	622.00	0.026	44.4(4)	-2.11	-3.31
39	Malt Liquors	297.00(8)	0.059		-3.50	-5.5
40	Wine and Brandy	556.00(8)	0.073	15.9(4)	-4.28	-5.6
41	Alcoholic Liquors	557.00(8)	0.047		-1.57	-5.36
42	Fats and Oils	325.00(8)	0.055	46.9(4)	-0.75	-1.17
43	Seed, Nut and Vegetable Cake or Meal	123.65	0.067	46.9(4)	-0.75	-1.18
44	Cigars, Cigarettes and Manufactured Tobacco	-	-	51.3(4)	-0.5(E)	-1.0(E)
45	Textile Products	2,950.00(8)	0.012	5.0(4)	-5.0	-13.5
46	Pulpwood Logs	-	-	61.4(3)	-0.366(M)	-0.814
47	Pulpwood Chips	-	-		-0.366(M)	-0.814
48	Lumber		0.025	45.4(4)	-0.366(M)	-1.23
49	Treated Wood Products	125.00(8)	0.102	38.4(4)	-0.366(M)	-1.74
50	Wood Posts, Poles and Piling		0.108	38.4(4)	-0.366(M)	-1.75

ESTIMATES OF RAIL DEMAND ELASTICITIES

Commodity Group Number	Commodity Description	1975 Estimated Supply Price per Short Ton	1975[2] Freight Rate Ratio	1972[5] Estimated Rail Modal Share	Range of Estimated Rail Demand Elasticities	
					Less Elastic	More Elastic
51	Millwork and Other Lumber Products	$ 220.00(8)	0.086	50.2%(4)	-0.366(M)	-1.08
52	Plywood and Veneer		0.113	50.2(4)	-0.366(M)	-1.10
53	Hardwood Stock and Flooring	125.00(8)	0.186	45.4(4)	-0.366(M)	-1.41
54	Wood Particle Board	154.00(8)	0.148	38.4(4)	-0.366(M)	-1.80
55	Furniture	1,262.00(8)	0.051	26.9(4)	-3.0	-5.5
56	Woodpulp and Other Pulps	364.00	0.041	78.0(4)	-0.366(M)	-0.64
57	Newsprint		0.037	58.7(4)	-0.366(M)	-0.85
58	Ground Wood Paper	485.00(8)	0.039	58.7(4)	-0.366(M)	-0.85
59	Printing Paper		0.043		-0.366(M)	-0.85
60	Wrapping Paper and Paper Bags		0.050		-0.366(M)	-0.85
61	Pulpboard		0.021	71.9(4)	-0.366(M)	-0.70
62	Corrugated Pulpboard	814.00(8)	0.023		-0.366(M)	-0.70
63	Sanitary Paper Products		0.333	51.3(4)	-0.366(M)	-0.98
64	Paperboard Boxes and Containers		0.046	7.2(4)	-0.366(M)	-6.9
65	Food Containers and Fibre Cans, Drums and Tubes	518.00(8)	0.069	7.2(4)	-0.366(M)	-6.9
66	Building Paper and Board	146.00(8)	0.134	71.9(4)	-0.366(M)	-0.70
67	Inorganic Chemicals	530.00(9)	0.038			
68	Barium and Calcium Compounds	225.00(9)	0.084			
69	Sodium Alkalies	170.00	0.061			
70	Soda Ash	57.00(9)	0.277	45.3(4)	-0.4(E)	-0.7(E)
71	Industrial Gases	135.00	0.104			
72	Organic Chemicals	290.00(9)	0.066			
73	Sulphuric Acid	48.00	0.152			
74	Anhydrous Ammonia	180.00(9)	0.068			
75	Superphosphate	240.00(9)	0.042	56.0(4)	-0.05(E)	-0.3(E)
76	Agricultural Chemicals, Including Fertilizers	160.00(9)	0.075			
77	Plastic Materials	670.00	0.035	44.5(4)		
78	Rubber	598.00	0.035	44.5(4)	-0.5(E)	-1.5(E)
79	Detergents and Other Cleaning Chemicals	680.00	0.039	21.1(4)		
80	Salt	9.00	0.482	30.1(4)	-0.75(E)	-1.5(E)
81	Carbon Black			30.1(4)	-0.5(E)	-1.5(E)
82	Petroleum Products			8.3(4)	-0.5(E)	-1.5(E)
83	Petroleum, Lube Oils and Greases			8.3(4)		
84	Asphalt and Tars			8.3(4)	-0.5(E)	-1.5(E)
85	Liquified Gases			8.3(4)		
86	Construction Material, Asphalt or Asbestos			20.8(4)	-0.5(E)	-1.5(E)
87	Petroleum Coke					
88	Coal Coke	73.25(1)	0.103	70.1(4)		
89	Tires and Tubes	1,097.00(8)	0.031	40.9(4)	-0.5(E)	-1.60
90	Plastic Products	1,366.00(8)	0.038	16.0	-0.5(E)	-1.5(E)
91	Glass Containers	250.00(8)	0.097	10.8(4)		
92	Hydraulic Cement	26.79(1)	0.197	15.1(4)		
93	Brick and Blocks			24.0(4)		
94	Clay Refractories			24.0(4)	-0.75(E)	-1.5(E)
95	Lime	21.92(1)	0.232	16.8(4)		
96	Gypsum Building Materials	-	-	16.8(4)		
97	Mineral Wool			53.9(4)		

ESTIMATES OF RAIL DEMAND ELASTICITIES

Commodity Group Number	Commodity Description	1975 Estimated Supply Price per Short Ton	1975(2) Freight Rate Ratio	1972(5) Estimated Rail Modal Share	Range of Estimated Rail Demand Elasticities	
					Less Elastic	More Elastic
98	Pig Iron	$ 181.76	0.038			
99	Semifinished Steel	195.00	0.040			
100	Manufactured Iron or Steel	319.00	0.048	43.7%(4)	-0.1(E)	-0.3(E)
101	Iron and Steel Pipe	507.00	0.052			
102	Railway Track Material	254.40	0.072			
103	Ferroalloys					
104	Primary Copper Products	1,286.00	0.017			
105	Primary Zinc Products	780.00	0.031	67.2(4)	-0.2(E)	-0.6(E)
106	Primary Aluminum Products	796.00	0.036		-0.56	-1.93
107	Brass, Bronze and Copper Shapes	1,300.00	0.020	35.4(4)	-0.2(E)	-0.6(E)
108	Aluminum Shapes	1,280.00	0.023			
109	Metal Containers			18.9(4)	-1.0(E)	-2.5(E)
110	Farm Machinery	1,455.00(8)	0.037	24.8(4)	-3.18	-4.0
111	Heavy Machinery		0.033	20.4(4)	-3.16	-4.0
112	Household Appliances	1,285.00(8)	0.047	58.3(4)	-0.84	-2.7
113	Radios and Television Sets		0.037	18.7(4)	-4.66	-8.38
114	Automobiles		0.009		-0.76	-1.68
115	Other Motor Vehicles	7,400.00(8)	0.010	57.3(4)	-0.76	-1.75
116	Motor Vehicle Parts		0.005		-0.75	-1.68
117	Locomotive and Railway Car Parts		0.004	79.9(4)	-0.75	-1.75
118	Iron and Steel Scrap	63.00	0.112	87.9(3)	-0.05	-0.14
119	Nonferrous Scrap				-0.05(E)	-0.14(E)
120	Textile Scrap			-		
121	Waste Paper			32.5(6)	-0.1(E)	-0.7(E)
122	Chemical and Petroleum Waste	282.00	0.029	50.0(6)		
123	Empty Shipping Containers	-	-	100.0	0.0	0.0
124	Freight Forwarder Traffic	-	-	100.0	-2.50(E)	-3.0(E)
125	Shipper Association Traffic	-	-	100.0		
126	Miscellaneous Mixed Shipments	-	-	30.0(7)	-1.0(E)	-1.5(E)
127	All Other, NEC	-	-	30.0(7)		
	Total	-	-	30.0(7)		

Notes:
(1) Value per ton in 1974.
(2) Rail revenue per ton calculated from 1975 1% Waybill Sample.
(3) Source is the bulk commodity data base from the Transportation Systems Center.
(4) Source is the 1972 Census of Transportation.
(5) Percent of tons.
(6) A. T. Kearney, Inc. estimate based on production levels, 1% Waybill Information and Annual Rail Freight Commodity Statistics.
(7) Source is TAA. In ton-miles, nearly 38% moved by rail in 1972.
(8) Value per ton in 1972 inflated to 1975 levels using wholesale price indices.
(9) February 6, 1976 prices, Chemical Marketing Reporter.
(10) Indicative rates for elasticity estimates:
(E) = Estimate
(M) = Morton study, opcit.

INTERSTATE COMMERCE COMMISSION

POTENTIAL RATE ACTIONS RESULTING FROM "FOUR R" ACT RATEMAKING PROVISIONS

(UNEXPANDED 1975 WAYBILL SAMPLE INFORMATION PROCESSED BY A.T.KEARNEY,INC.)

CURRENTLY NON-COMPENSATORY TRAFFIC

COMMODITY	TOTAL INTERSTATE TONNAGE	TOTAL INTERSTATE REVENUE	PERCENT NON-COMPENSATORY TONS	PERCENT NON-COMPENSATORY REV	PERCENT INCREASE TO ACHIEVE COMPENSATORY LEVEL	PERCENTAGE IMPACTS GIVEN: NO DIVERSION TONS	NO DIVERSION REV	LOW ELASTICITY TONS	LOW ELASTICITY REV	HIGH ELASTICITY TONS	HIGH ELASTICITY REV
1 COTTON	9527	$ 255401	14.1%	11.4%	19.3%	0.0%	2.2%	-0.3%	1.9%	-1.9%	0.3%
2 WHEAT	373568	$ 4091905	11.1%	5.2%	40.4%	0.0%	2.1%	-1.3%	1.2%	-2.7%	0.3%
3 CORN	286048	$ 2629695	33.9%	25.5%	32.2%	0.0%	8.2%	-7.1%	1.2%	-10.4%	-2.2%
4 BARLEY	34059	$ 507435	4.5%	2.1%	57.1%	0.0%	1.2%	-0.7%	0.7%	-1.6%	0.0%
5 OTHER GR	18618	$ 210660	11.4%	14.3%	21.7%	0.0%	3.1%	-1.1%	1.5%	-2.0%	-0.0%
6 SOYBEANS	64250	$ 462274	20.8%	19.4%	28.9%	0.0%	5.6%	-4.0%	0.8%	-8.1%	-4.2%
7 RICE	4726	$ 59824	21.0%	14.7%	26.5%	0.0%	3.9%	-2.1%	1.8%	-9.3%	-4.4%
8 POTATOES	12157	$ 522021	84.3%	87.3%	29.7%	0.0%	25.9%	-19.3%	-0.0%	-34.8%	-20.8%
9 SUGAR BT	11854	$ 60023	91.3%	76.9%	118.3%	0.0%	91.0%	-52.6%	-5.8%	-74.9%	-46.8%
10 CIT FRUI	4146	$ 240262	96.0%	95.4%	60.1%	0.0%	57.3%	-24.6%	18.1%	-95.1%	-94.0%
11 APPLES	1345	$ 91147	93.1%	93.6%	42.8%	0.0%	40.1%	-13.8%	20.3%	-92.2%	-92.3%
12 DEC FRUI	2438	$ 172443	96.7%	98.3%	77.6%	0.0%	76.3%	-24.1%	32.7%	-96.4%	-97.7%
13 FR VEG	14060	$ 878448	96.9%	98.6%	84.2%	0.0%	83.0%	-44.3%	-0.0%	-96.8%	-98.5%
14 MELONS	2218	$ 140019	100.0%	100.0%	63.6%	0.0%	63.6%	-47.3%	-13.7%	-99.3%	-98.8%
15 IRON ORE	311330	$ 1394692	43.1%	29.1%	24.1%	0.0%	7.0%	-3.5%	4.1%	-7.0%	1.2%
16 NF CONC	21732	$ 207765	21.9%	18.8%	67.0%	0.0%	12.6%	-0.6%	11.8%	-7.5%	1.8%
17 BAUXITE	27981	$ 290925	25.7%	25.9%	34.7%	0.0%	9.0%	-5.6%	1.4%	-13.9%	-9.8%
18 COAL ANT	14822	$ 140527	25.4%	34.4%	18.3%	0.0%	6.3%	-0.5%	5.4%	-1.6%	3.8%
19 COK COAL	260749	$ 1629457	25.7%	14.9%	26.2%	0.0%	3.9%	-0.8%	3.3%	-2.1%	2.4%
20 BIT COAL	2565361	$ 11273093	40.9%	27.8%	38.5%	0.0%	10.7%	-1.7%	9.1%	-4.8%	6.2%
21 LIGNITE	16209	$ 76226	73.3%	60.6%	51.3%	0.0%	31.1%	-3.8%	26.4%	-10.4%	18.1%
22 FLUX LM	66026	$ 289967	27.1%	22.7%	17.2%	0.0%	3.9%	-1.3%	2.6%	-6.2%	-2.2%
23 AGGREGAT	176965	$ 821072	42.2%	26.3%	30.4%	0.0%	8.0%	-3.7%	5.0%	-29.1%	-15.6%
24 IND SAND	83685	$ 697115	10.2%	9.6%	19.8%	0.0%	1.9%	-0.7%	1.1%	-5.8%	-4.7%
25 CLAYS	54667	$ 1122750	10.7%	9.1%	17.6%	0.0%	1.6%	-0.6%	1.0%	-7.8%	-6.2%
26 FELDSPAR	9025	$ 82349	3.1%	0.1%	200.0%	0.0%	0.2%	-0.7%	0.1%	-2.8%	-0.1%
27 POTASH	28307	$ 486376	33.9%	23.6%	23.3%	0.0%	5.5%	-1.4%	4.3%	-3.8%	2.3%
28 PHOS ROK	157689	$ 291197	81.7%	63.0%	45.9%	0.0%	28.9%	-9.6%	18.1%	-17.8%	8.9%
29 MEATS FR	5235	$ 265592	21.4%	20.0%	35.0%	0.0%	7.0%	-11.8%	-7.9%	-15.7%	-12.8%
30 CAN F+V	21915	$ 560378	20.1%	23.8%	31.5%	0.0%	7.5%	-4.8%	-0.0%	-8.2%	-5.2%
31 OTH FOOD	51749	$ 1349609	27.9%	28.8%	57.3%	0.0%	16.5%	-10.2%	-0.0%	-16.1%	-9.6%
32 FRZ F+V	21899	$ 876738	45.1%	48.3%	23.6%	0.0%	11.4%	-8.6%	-0.0%	-14.9%	-8.4%
33 WH MILL	84482	$ 1065431	32.2%	25.1%	45.0%	0.0%	11.3%	-7.7%	2.5%	-18.9%	-10.0%
34 D CN MIL	11950	$ 170907	9.1%	7.7%	37.7%	0.0%	2.9%	-2.0%	0.6%	-4.8%	-2.7%
35 OTH MILL	53429	$ 1140702	27.5%	21.1%	35.1%	0.0%	7.4%	-5.9%	1.3%	-14.0%	-7.1%
36 W CN MIL	35001	$ 726273	9.2%	6.6%	39.4%	0.0%	2.6%	-2.4%	0.2%	-5.0%	-2.4%
37 CEREAL	13823	$ 419728	23.2%	22.6%	25.7%	0.0%	5.8%	-3.2%	1.8%	-9.7%	-6.1%
38 SUGAR	31676	$ 693092	10.3%	7.9%	24.1%	0.0%	1.9%	-3.8%	-1.7%	-5.3%	-3.1%
39 MALT LIQ	68243	$ 1432936	10.6%	11.2%	12.5%	0.0%	1.4%	-3.6%	-2.9%	-5.1%	-4.6%
40 WINE+BR	10441	$ 461774	67.9%	70.5%	25.7%	0.0%	19.1%	-42.4%	-37.2%	-49.0%	-45.9%

INTERSTATE COMMERCE COMMISSION

POTENTIAL RATE ACTIONS RESULTING FROM "FOUR R" ACT RATEMAKING PROVISIONS
(UNEXPANDED 1975 WAYBILL SAMPLE INFORMATION PROCESSED BY A.T.KEARNEY,INC.)

CURRENTLY NON-COMPENSATORY TRAFFIC

COMMODITY	TOTAL INTERSTATE TONNAGE	TOTAL INTERSTATE REVENUE	PERCENT NON-COMPENSATORY TONS	PERCENT NON-COMPENSATORY REV	PERCENT INCREASE TO ACHIEVE COMPENSATORY LEVEL	PERCENTAGE IMPACTS GIVEN: NO DIVERSION TONS	NO DIVERSION REV	LOW ELASTICITY TONS	LOW ELASTICITY REV	HIGH ELASTICITY TONS	HIGH ELASTICITY REV
41 ALC LIQ	8518	$ 295476	8.5%	6.1%	24.6%	0.0%	1.5%	-2.5%	-0.7%	-5.9%	-3.8%
42 FATS+OIL	33751	$ 716393	7.8%	8.9%	21.3%	0.0%	1.9%	-1.1%	0.4%	-1.6%	-0.3%
43 SEED MEL	52654	$ 552691	15.0%	8.7%	31.0%	0.0%	2.7%	-2.8%	0.6%	-4.1%	-0.4%
44 TOBACCO	4097	$ 192133	15.4%	14.5%	8.3%	0.0%	1.2%	-0.6%	0.6%	-1.2%	-0.0%
45 TEXTILES	3310	$ 91249	41.0%	38.7%	24.3%	0.0%	9.4%	-27.2%	-22.5%	-38.8%	-36.1%
46 PULP LGS	127123	$ 428606	78.1%	64.0%	31.4%	0.0%	20.1%	-7.4%	12.1%	-15.6%	3.3%
47 PULP CPS	89037	$ 434665	39.0%	30.3%	24.4%	0.0%	7.4%	-3.0%	4.5%	-6.4%	1.3%
48 LUMBER	100122	$ 3413795	15.4%	18.3%	21.3%	0.0%	3.9%	-1.1%	2.4%	-3.3%	-0.6%
49 TR WD PR	8689	$ 140313	16.2%	10.0%	27.0%	0.0%	2.7%	-1.4%	1.6%	-5.5%	-1.6%
50 WD POSTS	5689	$ 113034	21.2%	12.5%	31.2%	0.0%	3.9%	-2.0%	2.3%	-8.0%	-2.3%
51 MILLWORK	6029	$ 208087	41.9%	43.7%	41.2%	0.0%	18.0%	-5.0%	10.7%	-13.0%	-1.2%
52 PLYWOOD	56689	$ 1684601	16.6%	23.4%	17.5%	0.0%	4.1%	-1.0%	2.5%	-2.7%	-0.4%
53 HARDWOOD	1288	$ 37928	44.9%	49.5%	34.5%	0.0%	17.1%	-4.6%	10.2%	-15.4%	-5.7%
54 PART BRD	19828	$ 545371	10.4%	13.3%	24.1%	0.0%	3.2%	-0.8%	1.9%	-3.3%	-2.1%
55 FURNITUR	12049	$ 871942	45.9%	41.6%	21.9%	0.0%	9.1%	-20.5%	-13.6%	-30.4%	-24.5%
56 WOODPULP	35631	$ 648326	14.4%	15.9%	19.5%	0.0%	3.1%	-0.9%	1.9%	-1.6%	1.1%
57 NEWSPRIN	15530	$ 306773	0.8%	0.5%	40.0%	0.0%	0.2%	-0.1%	0.1%	-0.2%	0.0%
58 WOOD PAP	13033	$ 263426	10.8%	12.4%	21.0%	0.0%	2.6%	-0.7%	1.6%	-1.6%	0.4%
59 PRIN PAP	39555	$ 919310	13.6%	17.1%	18.7%	0.0%	3.2%	-0.8%	2.0%	-1.8%	0.4%
60 WRAP PAP	30806	$ 777984	17.5%	20.5%	29.8%	0.0%	6.1%	-1.6%	3.7%	-3.5%	0.8%
61 PULPBRD	138286	$ 2499348	9.0%	10.2%	15.7%	0.0%	1.6%	-0.5%	1.0%	-0.9%	0.5%
62 COR PULP	8976	$ 173753	10.5%	11.0%	14.5%	0.0%	1.6%	-0.5%	1.0%	-1.0%	0.5%
63 SANI PAP	35291	$ 1027993	48.8%	48.4%	25.0%	0.0%	12.1%	-3.8%	7.4%	-9.6%	0.2%
64 PAPERBRD	6295	$ 174985	25.0%	24.3%	17.7%	0.0%	4.3%	-1.4%	2.6%	-16.9%	-15.0%
65 FOOD CON	3934	$ 161315	48.5%	43.8%	29.7%	0.0%	13.0%	-4.4%	7.8%	-40.4%	-34.3%
66 BLD PAPR	16817	$ 388274	33.3%	36.1%	19.1%	0.0%	6.9%	-2.1%	4.2%	-3.8%	1.9%
67 INOR CHM	42250	$ 1054865	5.1%	5.5%	23.6%	0.0%	1.3%	-0.4%	0.7%	-0.7%	0.4%
68 BARIUM	7414	$ 164920	5.1%	5.7%	8.8%	0.0%	0.5%	-0.2%	0.3%	-0.3%	0.1%
69 SODIUM A	32481	$ 400471	2.7%	2.9%	17.2%	0.0%	0.5%	-0.2%	0.3%	-0.3%	0.1%
70 SODA ASH	41014	$ 918736	3.5%	1.9%	26.3%	0.0%	0.5%	-0.3%	0.3%	-0.5%	0.1%
71 IND GAS	36274	$ 674008	8.1%	6.0%	15.0%	0.0%	0.9%	-0.4%	0.5%	-0.8%	0.3%
72 ORG CHEM	81960	$ 1765180	10.6%	9.3%	19.4%	0.0%	1.8%	-0.7%	1.0%	-1.2%	0.5%
73 SUL ACID	18819	$ 190320	8.2%	9.3%	17.2%	0.0%	1.6%	-0.5%	0.9%	-0.9%	0.5%
74 ANH AMM	24386	$ 331779	2.0%	2.2%	22.7%	0.0%	0.5%	-0.0%	0.5%	-0.1%	0.3%
75 SUPERPHS	82380	$ 958300	18.3%	12.3%	19.5%	0.0%	2.4%	-0.2%	2.3%	-1.0%	1.6%
76 AG CHEM	92759	$ 1342428	5.0%	4.4%	15.9%	0.0%	0.7%	-0.0%	0.7%	-0.2%	0.5%
77 PLAS MAT	49615	$ 1346701	2.0%	1.7%	23.5%	0.0%	0.4%	-0.2%	0.2%	-0.5%	-0.2%
78 RUBBER	22176	$ 505802	4.4%	2.7%	33.3%	0.0%	0.9%	-0.6%	0.4%	-1.5%	-0.4%
79 DETERGNT	10271	$ 293370	5.6%	4.6%	15.2%	0.0%	0.7%	-0.4%	0.3%	-1.1%	-0.3%
80 SALT	57452	$ 492258	29.9%	24.9%	23.7%	0.0%	5.9%	-4.4%	1.4%	-8.2%	-2.5%

INTERSTATE COMMERCE COMMISSION

POTENTIAL RATE ACTIONS RESULTING FROM "FOUR R" ACT RATEMAKING PROVISIONS
(UNEXPANDED 1975 WAYBILL SAMPLE INFORMATION PROCESSED BY A.T.KEARNEY, INC.)

CURRENTLY NON-COMPENSATORY TRAFFIC

COMMODITY	TOTAL INTERSTATE TONNAGE	TOTAL INTERSTATE REVENUE	PERCENT NON-COMPENSATORY TONS	PERCENT NON-COMPENSATORY REV	PERCENT INCREASE TO ACHIEVE COMPENSATORY LEVEL	PERCENTAGE IMPACTS GIVEN: NO DIVERSION TONS	NO DIVERSION REV	LOW ELASTICITY TONS	LOW ELASTICITY REV	HIGH ELASTICITY TONS	HIGH ELASTICITY REV
81 CAR BLCK	9256	$ 221978	1.0%	0.5%	20.0%	0.0%	0.1%	-0.1%	0.0%	-0.2%	-0.0%
82 PET PROD	71373	$ 1185988	18.1%	12.4%	45.2%	0.0%	5.6%	-3.1%	2.5%	-7.8%	-2.1%
83 OIL+GREA	19724	$ 419+36	16.2%	17.4%	19.5%	0.0%	3.4%	-1.4%	1.6%	-3.8%	-1.5%
84 ASPHALT	18036	$ 273718	2.4%	3.4%	11.8%	0.0%	0.4%	-0.1%	0.2%	-0.4%	-0.2%
85 LIQ GAS	50114	$ 733985	3.8%	3.5%	14.3%	0.0%	0.5%	-0.2%	0.2%	-0.7%	-0.2%
86 CONS MAT	3610	$ 115517	4.7%	7.3%	19.2%	0.0%	1.4%	-0.4%	0.7%	-1.1%	-0.6%
87 PET COKE	47953	$ 487505	18.2%	18.9%	22.2%	0.0%	4.2%	-1.7%	2.0%	-4.7%	-1.8%
88 COAL CKE	95937	$ 895925	34.1%	38.9%	20.3%	0.0%	7.9%	-3.0%	3.8%	-8.3%	-3.4%
89 TIRES	15864	$ 594715	20.7%	19.0%	18.9%	0.0%	3.6%	-1.7%	1.7%	-5.0%	-1.9%
90 PLAS PRO	3580	$ 215743	33.0%	26.6%	19.5%	0.0%	5.2%	-2.9%	2.5%	-7.8%	-2.3%
91 GLASS CO	3842	$ 109333	30.2%	29.2%	17.5%	0.0%	5.1%	-3.4%	1.2%	-6.5%	-2.3%
92 HYD CEMT	98644	$ 744994	10.3%	8.6%	23.3%	0.0%	2.0%	-1.5%	0.5%	-2.8%	-0.9%
93 BRICKS	28593	$ 252103	44.5%	38.2%	15.7%	0.0%	6.0%	-4.6%	1.4%	-8.7%	-2.7%
94 CLAY REF	13764	$ 267004	13.6%	14.2%	14.1%	0.0%	2.0%	-1.3%	0.5%	-2.4%	-0.9%
95 LIME	35261	$ 300508	11.7%	9.5%	24.2%	0.0%	2.3%	-1.8%	0.5%	-3.2%	-1.0%
96 GYPSUM	11247	$ 200182	7.8%	9.7%	17.5%	0.0%	1.7%	-0.9%	0.4%	-1.7%	-0.8%
97 MIN WOOL	5236	$ 250204	25.8%	27.5%	16.7%	0.0%	4.6%	-2.8%	1.1%	-5.3%	-2.0%
98 PIG IRON	6404	$ 96065	5.7%	3.0%	26.7%	0.0%	0.8%	-0.1%	0.7%	-0.4%	0.5%
99 S-F STL	76831	$ 713447	14.4%	7.2%	31.9%	0.0%	2.3%	-0.4%	2.0%	-1.1%	1.5%
100 MFG STL	190428	$ 3335639	3.5%	3.7%	18.9%	0.0%	0.7%	-0.1%	0.6%	-0.2%	0.5%
101 STL PIPE	40222	$ 1182906	9.7%	7.2%	25.0%	0.0%	1.8%	-0.2%	1.6%	-0.6%	1.2%
102 TRACK MT	9626	$ 214945	10.7%	2.6%	69.2%	0.0%	1.8%	-0.5%	1.6%	-1.6%	1.2%
103 FERUALLY	7597	$ 128285	2.0%	1.3%	30.8%	0.0%	0.4%	-0.1%	0.3%	-0.3%	0.1%
104 CUPPER P	15739	$ 372474	0.7%	0.3%	66.7%	0.0%	0.2%	-0.1%	0.2%	-0.2%	0.1%
105 ZINC PRO	2366	$ 61311	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
106 ALUM PRO	15073	$ 471530	5.7%	3.0%	30.0%	0.0%	0.9%	-0.8%	0.4%	-2.3%	-0.6%
107 N-F SHPS	3147	$ 81303	5.8%	11.7%	66.7%	0.0%	7.8%	-0.6%	5.9%	-1.5%	2.7%
108 ALU SHPS	14201	$ 436236	2.6%	3.9%	33.3%	0.0%	1.3%	-0.1%	1.0%	-0.4%	0.5%
109 METAL CO	3873	$ 221372	20.2%	18.7%	28.9%	0.0%	5.4%	-4.5%	-0.0%	-9.5%	-5.9%
110 FARM MAC	7247	$ 414379	7.4%	6.8%	17.6%	0.0%	1.2%	-3.0%	-2.0%	-3.5%	-2.6%
111 HVY MACH	14952	$ 774508	5.3%	5.3%	20.8%	0.0%	1.1%	-2.4%	-1.8%	-2.8%	-2.3%
112 APPLIANC	15507	$ 1003463	17.2%	16.1%	17.4%	0.0%	2.8%	-2.2%	0.4%	-6.0%	-3.8%
113 RADIO/TV	1807	$ 90319	11.7%	12.4%	63.7%	0.0%	7.9%	-10.5%	-10.4%	-11.5%	-12.1%
114 AUTOS	56589	$ 3795372	2.2%	0.6%	50.0%	0.0%	0.3%	-0.6%	0.1%	-1.1%	-0.1%
115 OTH MV	21522	$ 1565539	5.3%	1.3%	23.1%	0.0%	0.3%	-0.8%	0.1%	-1.6%	-0.2%
116 MV PARTS	103008	$ 4107435	6.6%	8.8%	20.5%	0.0%	1.8%	-0.9%	0.4%	-1.8%	-1.0%
117 RR PARTS	6522	$ 235437	4.4%	1.8%	55.6%	0.0%	1.0%	-1.2%	0.2%	-2.4%	-0.5%
118 I+S SCRP	155105	$ 1511158	11.6%	5.1%	113.7%	0.0%	5.8%	-0.4%	5.4%	-1.2%	4.7%
119 N-F SCRP	12248	$ 260806	7.5%	6.1%	16.4%	0.0%	1.0%	-0.1%	0.9%	-0.2%	0.9%
120 TEX SCRP	5471	$ 111201	54.1%	58.1%	42.5%	0.0%	24.7%	-1.9%	21.8%	-11.9%	6.5%
121 PAP SCRP	33531	$ 423414	31.9%	35.0%	21.1%	0.0%	7.4%	-0.6%	6.6%	-4.0%	2.1%
122 CHM WAST	7301	$ 68581	6.3%	8.5%	22.4%	0.0%	1.9%	-0.1%	1.7%	-0.8%	0.5%
123 SHP CONT	6312	$ 166225	72.3%	59.4%	72.7%	0.0%	43.2%	0.0%	43.2%	0.0%	43.2%
124 FF TRAF	25084	$ 1231161	62.2%	57.8%	31.1%	0.0%	18.0%	-30.6%	-19.3%	-34.6%	-24.2%
125 SA TRAF	4192+	$ 1490778	61.3%	60.9%	45.3%	0.0%	27.6%	-37.2%	-26.1%	-41.3%	-32.1%
126 MIXD SHP	127075	$ 3663326	41.7%	40.6%	50.5%	0.0%	20.5%	-14.0%	-0.0%	-19.1%	-7.5%
127 ALL OTH	243695	$ 6363000	18.4%	14.7%	33.3%	0.0%	4.9%	-4.6%	-0.0%	-6.4%	-2.0%
128 TOTAL***	8360346	$107658884	29.3%	19.5%	35.7%	0.0%	7.0%	-3.0%	1.4%	-6.6%	-3.2%

INTERSTATE COMMERCE COMMISSION

POTENTIAL RATE ACTIONS RESULTING FROM "FOUR R" ACT RATEMAKING PROVISIONS
(UNEXPANDED 1975 WAYBILL SAMPLE INFORMATION PROCESSED BY A.T.KEARNEY,INC.)

CURRENTLY COMPENSATORY AND NON MARKET DOMINANT TRAFFIC

	COMMODITY	TOTAL INTERSTATE TONNAGE		TOTAL INTERSTATE REVENUE	PERCENT NON-MARKET DOMINANT TONS	PERCENT NON-MARKET DOMINANT REV	PERCENT INCREASE APPLIED	PERCENTAGE IMPACTS GIVEN: NO DIVERSION TONS	NO DIVERSION REV	LOW ELASTICITY TONS	LOW ELASTICITY REV	HIGH ELASTICITY TONS	HIGH ELASTICITY REV
1	COTTON	9527	$	255401	8.6%	8.6%	7.0%	0.0%	0.6%	-0.1%	0.5%	-0.5%	0.1%
2	WHEAT	373568	$	4091905	11.5%	11.5%	7.0%	0.0%	0.8%	-0.3%	0.5%	-0.6%	0.1%
3	CORN	286048	$	2629695	25.2%	25.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
4	BARLEY	34859	$	507435	26.1%	26.1%	7.0%	0.0%	1.8%	-0.7%	1.1%	-1.6%	0.1%
5	OTHER GR	18813	$	210660	38.6%	38.6%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
6	SOYBEANS	64250	$	462274	50.2%	50.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
7	RICE	4726	$	59324	49.0%	49.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
8	POTATOES	12157	$	522021	12.0%	12.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
9	SUGAR BT	11854	$	60023	1.5%	1.5%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
10	CIT FRUI	4146	$	240262	3.0%	3.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
11	APPLES	1345	$	91147	5.3%	5.3%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
12	DEC FRUI	2438	$	172443	2.5%	2.5%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
13	FR VEG	14080	$	878448	2.4%	2.4%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
14	MELONS	2218	$	140019	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
15	IRON ORE	311330	$	1394692	4.5%	4.5%	7.0%	0.0%	0.3%	-0.1%	0.2%	-0.2%	0.1%
16	NF CONC	21732	$	207765	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
17	BAUXITE	27981	$	290925	41.2%	41.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
18	COAL ANT	14622	$	140527	13.7%	13.7%	7.0%	0.0%	1.0%	-0.1%	0.8%	-0.3%	0.6%
19	COK COAL	260749	$	1629457	19.0%	19.0%	7.0%	0.0%	1.3%	-0.2%	1.2%	-0.5%	0.8%
20	BIT COAL	2565361	$	11273093	3.8%	3.8%	7.0%	0.0%	0.3%	-0.0%	0.2%	-0.1%	0.2%
21	LIGNITE	18209	$	76226	11.9%	11.9%	7.0%	0.0%	0.8%	-0.1%	0.7%	-0.3%	0.5%
22	FLUX LM	66026	$	289967	49.7%	49.7%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
23	AGGREGAT	176965	$	821072	35.4%	35.4%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
24	IND SAND	83685	$	697115	67.3%	67.3%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
25	CLAYS	54667	$	1122750	63.4%	63.4%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
26	FELDSPAR	5025	$	82349	78.9%	78.9%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
27	POTASH	28307	$	486376	36.3%	36.3%	7.0%	0.0%	2.5%	-0.5%	2.0%	-1.3%	1.1%
28	PHOS RCK	157689	$	291197	2.8%	2.8%	7.0%	0.0%	0.2%	-0.1%	0.1%	-0.1%	0.1%
29	MEATS FR	5235	$	265592	54.8%	54.8%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
30	CAN F+V	21915	$	560378	56.1%	56.1%	-7.0%	0.0%	-3.9%	4.2%	-0.0%	8.3%	3.8%
31	OTH FOOD	51749	$	1349899	48.3%	48.3%	-7.0%	0.0%	-3.4%	3.6%	-0.0%	7.1%	3.3%
32	FRZ F+V	21899	$	876738	31.1%	31.1%	-7.0%	0.0%	-2.2%	2.3%	-0.0%	4.6%	2.1%
33	WH MILL	34462	$	1065431	44.0%	44.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
34	D CN MIL	11950	$	170907	67.1%	67.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
35	OTH MILL	93429	$	1140702	48.7%	48.7%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
36	W CN MIL	35001	$	726273	22.8%	22.8%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
37	CEREAL	13825	$	419728	53.0%	53.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
38	SUGAR	31878	$	693092	63.1%	63.1%	-7.0%	0.0%	-4.4%	10.4%	5.3%	17.1%	11.5%
39	MALT LIQ	68243	$	1432936	65.6%	65.6%	-7.0%	0.0%	-4.6%	19.0%	13.0%	32.2%	25.3%
40	WINE+BR	10441	$	461774	8.3%	8.3%	-7.0%	0.0%	-0.6%	3.0%	2.2%	4.2%	3.3%

INTERSTATE COMMERCE COMMISSION

POTENTIAL RATE ACTIONS RESULTING FROM "FOUR R" ACT RATEMAKING PROVISIONS
(UNEXPANDED 1975 WAYBILL SAMPLE INFORMATION PROCESSED BY A.T.KEARNEY,INC.)

CURRENTLY COMPENSATORY AND NON MARKET DOMINANT TRAFFIC

COMMODITY	TOTAL INTERSTATE TONNAGE	TOTAL INTERSTATE REVENUE	PERCENT NON-MARKET DOMINANT TONS	PERCENT NON-MARKET DOMINANT REV	PERCENT INCREASE APPLIED	PERCENTAGE IMPACTS GIVEN: NO DIVERSION TONS	NO DIVERSION REV	LOW ELASTICITY TONS	LOW ELASTICITY REV	HIGH ELASTICITY TONS	HIGH ELASTICITY REV
41 ALC LIQ	8518	$ 295476	67.7%	67.7%	-7.0%	0.0%	-4.7%	8.2%	2.9%	32.2%	25.2%
42 FATS+OIL	33751	$ 716393	17.2%	17.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
43 SEED MEL	52654	$ 552591	61.2%	61.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
44 TOBACCO	4097	$ 192133	64.9%	64.9%	7.0%	0.0%	4.5%	-2.2%	2.2%	-4.2%	-0.0%
45 TEXTILES	3310	$ 91249	54.8%	54.8%	-7.0%	0.0%	-3.8%	24.0%	18.5%	91.2%	81.0%
46 PULP LGS	127123	$ 428606	14.1%	14.1%	7.0%	0.0%	1.0%	-0.3%	0.6%	-0.8%	0.2%
47 PULP CPS	89037	$ 434665	25.3%	25.3%	7.0%	0.0%	1.8%	-0.6%	1.1%	-1.4%	0.3%
48 LUMBER	100122	$ 3413795	39.9%	39.9%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
49 TR WD PR	8689	$ 140313	39.1%	39.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
50 WD POSTS	5689	$ 113034	34.1%	34.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
51 MILLWORK	6029	$ 208087	7.7%	7.7%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
52 PLYWOOD	56689	$ 1684601	33.0%	33.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
53 HARDWOOD	1288	$ 37928	10.4%	10.4%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
54 PART BRD	19828	$ 545371	39.2%	39.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	-0.0%	-0.0%
55 FURNITUR	12049	$ 871942	3.7%	3.7%	-7.0%	0.0%	-0.3%	0.9%	0.6%	1.8%	1.4%
56 WOODPULP	35631	$ 648326	11.3%	11.3%	7.0%	0.0%	0.8%	-0.3%	0.5%	-0.5%	0.3%
57 NEWSPRIN	15530	$ 306773	24.9%	24.9%	7.0%	0.0%	1.7%	-0.6%	1.1%	-1.4%	0.3%
58 WOOD PAP	13033	$ 263426	14.9%	14.9%	7.0%	0.0%	1.0%	-0.4%	0.7%	-0.8%	0.2%
59 PRIN PAP	39555	$ 919310	12.1%	12.1%	7.0%	0.0%	0.8%	-0.3%	0.5%	-0.7%	0.1%
60 WRAP PAP	30806	$ 777984	8.2%	8.2%	7.0%	0.0%	0.6%	-0.2%	0.4%	-0.5%	0.1%
61 PULPBRD	138286	$ 2499348	16.7%	16.7%	7.0%	0.0%	1.2%	-0.4%	0.7%	-0.8%	0.3%
62 COR PULP	8976	$ 173753	15.2%	15.2%	7.0%	0.0%	1.1%	-0.4%	0.7%	-0.7%	0.3%
63 SANI PAP	35291	$ 1027993	2.2%	2.2%	7.0%	0.0%	0.2%	-0.1%	0.1%	-0.1%	0.0%
64 PAPERBRD	6295	$ 174985	26.0%	26.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
65 FOOD CON	3934	$ 161315	2.5%	2.5%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
66 BLD PAPR	16817	$ 388274	17.7%	17.7%	7.0%	0.0%	1.2%	-0.4%	0.8%	-0.8%	0.4%
67 INOR CHM	42250	$ 1054865	45.7%	45.7%	7.0%	0.0%	3.2%	-1.2%	1.9%	-2.1%	0.9%
68 BARIUM	7414	$ 164920	53.1%	53.1%	7.0%	0.0%	3.7%	-1.4%	2.2%	-2.5%	1.1%
69 SODIUM A	32481	$ 400471	9.7%	9.7%	7.0%	0.0%	0.7%	-0.3%	0.4%	-0.4%	0.2%
70 SODA ASH	41014	$ 918736	61.6%	61.6%	7.0%	0.0%	4.3%	-1.6%	2.6%	-2.8%	1.3%
71 IND GAS	36274	$ 674008	2.5%	2.5%	7.0%	0.0%	0.2%	-0.1%	0.1%	-0.1%	0.1%
72 ORG CHEM	61960	$ 1765180	6.7%	6.7%	7.0%	0.0%	0.5%	-0.2%	0.3%	-0.3%	0.1%
73 SUL ACID	18819	$ 190320	3.7%	3.7%	7.0%	0.0%	0.3%	-0.1%	0.2%	-0.2%	0.1%
74 ANH AMM	24386	$ 334779	3.1%	3.1%	7.0%	0.0%	0.2%	-0.0%	0.2%	-0.1%	0.2%
75 SUPERPHS	82330	$ 958300	44.9%	44.9%	7.0%	0.0%	3.1%	-0.2%	3.0%	-0.9%	2.2%
76 AG CHEM	92759	$ 1342428	58.9%	58.9%	7.0%	0.0%	4.1%	-0.2%	3.9%	-1.2%	2.9%
77 PLAS MAT	49615	$ 1346701	10.8%	10.8%	7.0%	0.0%	0.8%	-0.4%	0.4%	-1.0%	-0.4%
78 RUBBER	22176	$ 505802	64.8%	64.8%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
79 DETERGNT	10271	$ 293370	63.6%	63.6%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
80 SALT	57452	$ 492258	28.2%	28.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%

INTERSTATE COMMERCE COMMISSION

POTENTIAL RATE ACTIONS RESULTING FROM "FOUR R" ACT RATEMAKING PROVISIONS

(UNEXPANDED 1975 WAYBILL SAMPLE INFORMATION PROCESSED BY A.T.KEARNEY, INC.)

CURRENTLY COMPENSATORY AND NON MARKET DOMINANT TRAFFIC

COMMODITY	TOTAL INTERSTATE TONNAGE	TOTAL INTERSTATE REVENUE	PERCENT NON-MARKET DOMINANT TONS	PERCENT NON-MARKET DOMINANT REV	PERCENT INCREASE APPLIED	PERCENTAGE IMPACTS GIVEN: NO DIVERSION TONS	NO DIVERSION REV	LOW ELASTICITY TONS	LOW ELASTICITY REV	HIGH ELASTICITY TONS	HIGH ELASTICITY REV
81 CAR BLCK	9256	$ 221978	29.9%	29.9%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
82 PET PROD	71373	$ 1185988	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
83 OIL+GREA	19724	$ 419436	12.9%	12.9%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
84 ASPHALT	18036	$ 273718	6.7%	6.7%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
85 LIQ GAS	50114	$ 733985	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
86 CONS MAT	8610	$ 115517	84.8%	84.8%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
87 PET COKE	47953	$ 487505	71.3%	71.3%	7.0%	0.0%	5.0%	-2.4%	2.5%	-6.9%	-2.4%
88 COAL CKE	95937	$ 895925	35.6%	35.6%	7.0%	0.0%	2.5%	-1.2%	1.2%	-3.4%	-1.2%
89 TIRES	15864	$ 594715	59.6%	59.6%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
90 PLAS PRO	3580	$ 215743	47.3%	47.3%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
91 GLASS CO	3842	$ 109333	51.8%	51.8%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
92 HYD CEMT	98644	$ 744994	48.6%	48.6%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
93 BRICKS	28593	$ 252103	37.5%	37.5%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
94 CLAY REF	13764	$ 267004	68.4%	68.4%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
95 LIME	35261	$ 300508	64.8%	64.8%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
96 GYPSUM	11247	$ 200182	74.2%	74.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
97 MIN WOOL	5236	$ 250204	56.2%	56.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
98 PIG IRON	6404	$ 96065	36.3%	36.3%	7.0%	0.0%	2.5%	-0.2%	2.3%	-0.7%	1.8%
99 S-F STL	74831	$ 713447	27.6%	27.6%	7.0%	0.0%	1.9%	-0.2%	1.7%	-0.6%	1.3%
100 MFG STL	190428	$ 3335639	38.5%	38.5%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
101 STL PIPE	40222	$ 1182906	32.3%	32.3%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
102 TRACK MT	9626	$ 214949	31.3%	31.3%	7.0%	0.0%	2.2%	-0.2%	2.0%	-0.6%	1.5%
103 FERCALLY	7597	$ 128285	40.0%	40.0%	7.0%	0.0%	2.8%	-0.5%	2.2%	-1.6%	1.1%
104 COPPER P	15739	$ 372474	66.1%	66.1%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
105 ZINC PRO	2366	$ 61311	88.7%	88.7%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
106 ALUM PRO	15073	$ 471530	69.9%	69.9%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
107 N-F SHPS	3147	$ 81303	73.0%	73.0%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
108 ALU SHPS	14201	$ 436236	74.6%	74.6%	7.0%	0.0%	5.2%	-1.0%	4.1%	-3.0%	2.0%
109 METAL CO	3873	$ 221372	63.6%	63.6%	-7.0%	0.0%	-4.5%	4.8%	-0.0%	12.7%	7.3%
110 FARM MAC	7247	$ 414379	87.8%	87.8%	-7.0%	0.0%	-6.1%	22.8%	15.0%	29.6%	21.4%
111 HVY MACH	14952	$ 774508	89.0%	89.0%	-7.0%	0.0%	-6.2%	22.9%	15.1%	30.0%	21.6%
112 APPLIANC	15507	$ 1003463	63.2%	63.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
113 RADIO/TV	1807	$ 90319	81.5%	81.5%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
114 AUTOS	56589	$ 3795372	16.3%	16.3%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
115 OTH MV	21522	$ 1565539	13.2%	13.2%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
116 MV PARTS	103008	$ 4107435	11.9%	11.9%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
117 RR PARTS	6522	$ 235437	57.6%	57.6%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
118 I+S SCRP	155105	$ 1511158	4.5%	4.5%	7.0%	0.0%	0.3%	-0.0%	0.3%	-0.0%	0.3%
119 N-F SCRP	12248	$ 260806	8.6%	8.6%	7.0%	0.0%	0.6%	-0.0%	0.6%	-0.1%	0.5%
120 TEX SCRP	5471	$ 111201	35.9%	35.9%	7.0%	0.0%	2.5%	-0.2%	2.3%	-1.7%	0.7%
121 PAP SCRP	33531	$ 423414	58.1%	58.1%	7.0%	0.0%	4.1%	-0.4%	3.6%	-2.7%	1.2%
122 CHM WAST	7301	$ 68581	10.1%	10.1%	7.0%	0.0%	0.7%	-0.1%	0.6%	-0.5%	0.2%
123 SHP CONT	6312	$ 166225	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
124 FF TRAF	25084	$ 1231161	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
125 SA TRAF	41924	$ 1490778	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
126 MIXD SHP	127075	$ 3663326	48.3%	48.3%	-7.0%	0.0%	-3.4%	3.6%	-0.0%	5.6%	1.8%
127 ALL OTH	243695	$ 6363000	71.6%	71.6%	0.0%	0.0%	0.0%	0.0%	-0.0%	0.0%	-0.0%
128 TOTAL***	8360346	$107658884	22.1%	29.8%	0.3%	0.0%	0.1%	0.3%	0.8%	0.3%	1.1%