Engineers ("BLE"); International Association of Machinists and Aerospace Workers (IAM-4); Transportation-Communications International Union (TCU-4); Transportation Trades Department, AFL-CIO; United Railway Supervisors Association; and New York State Legislative Board of the United Transportation Union. Each of these filings offers a bleak prediction of future job cuts and safety problems, largely predicated on the UP/SP experience. We appreciate the concerns expressed by these union representatives, but do not share their vision of the future. CSXT remains committed to adequate workforce staffing and to careful safety planning, as shown by its SIP.

American Trucking Associations -- This motor carrier trade association asks the Board to condition this proceeding on a commitment by CSXT and NS to upgrade or remove "the many hazardous highway grade crossings along the Conrail lines." ATA-6 at 8. ATA does not identify these crossings, and supports its requested condition with no more than some very general rhetoric about the dangers of rail crossings.

ATA's requested condition is unwarranted. As described in the Environmental Report and the SIP, CSXT has an aggressive program in place to reduce grade crossing collisions. These efforts have resulted in a decline in the number of collisions per million train miles from 10.9 to 5.8 in 1996, a decrease of 47 percent. Conrail has also reduced its collisions per train mile during the same period from 10.5 to 4.4, a decrease of 58 percent. In fact, Conrail has been an industry leader in this area, with the fewest number of crossing crashes per million train miles among the Class I railroads. These issues are addressed in further detail in the Environmental Report (Volume 6B at 27-32) and the SIP.

ATA claims that as of 1990, "of the 176,572 public crossings, over 110,000

had no active warning systems (that is, no devices that indicated the approach of a train); nearly 75,000 had no advance warning devices of any kind; and at about 42,500 crossings, the crossbucks did not meet uniform standards." ATA-6 at 6. It is not clear why ATA has chosen to rely on grade crossing figures that are seven years old when FRA publishes new statistics annually. The 1996 figures show a continuing trend toward fewer crossings and better crossing protection nationwide. They also show that Conrail has a better than average record here. In 1996, Conrail had 12,286 public crossings at grade and active, train-activated warning signals at over half of these crossings.

Congressional Parties -- Congressman Robert Menendez raises a safety concern based on the proposition that "CSX is facing a $2.5 billion jury award over a 1987 crash involving hazardous material[s]. . . " The Congressman's concerns are misplaced in several respects. First, CSX believes that this inappropriate jury award will be overturned. The Supreme Court of Louisiana in fact has vacated the judgment, which should allow CSX to progress its post-trial remedies and appeal without the need for posting a bond. Second, the incident at issue had nothing to do with rail transportation provided by CSXT. CSXT's involvement in the 1987 tank car fire that triggered the lawsuit is based solely on the fact that CSXT owned the interchange track on which the tank car was located. The tank car had been fitted with an improper gasket by a lessee of the car, which improper gasket caused the fire. CSXT did not own the tank car, repair the car, transport the car, load the car or own the contents of the car. Further, an National Transportation Safety Board report issued on this matter found no fault on CSXT's part.

Congressman Menedez also claims that "the proposed Conrail merger

envisions a Shared Asset Area with no operating plans, no plans for investment in facilities already operating at full capacity, expectation of huge increases in traffic, and vastly reduced labor forces in the most densely populated area in the nation." Congressman Menedez may be right about population density and anticipated traffic increases, but he is wrong on every other count.

First, CSXT and NS have submitted a North Jersey Shared Asset Area ("NJSAA") Operating Plan (CSX/NS-119) pursuant to Board Decision No. 44. The NJSAA Operating Plan offers a detailed description of NJSAA operations. Second, CSXT has plans for investment in NJSAA facilities and other capital projects that will benefit the NJSAA. These are described CSX/NS-119 at 116-118. Third, there are no plans for a "vastly reduced labor force" in the NJSAA. To the contrary, plans for the safe allocation of employee work forces in the Shared Areas are set forth in detail in the Shared Assets Areas SIP prepared by CSXT and NS.

Congressman Menendez also expresses concerns about the impact of the transaction on NJT. Those impacts, which will be minimal, are described in the Operating Plan submitted with the Application, the NJSAA Operating Plan, the Environmental Report and the SIP. In addition, the Verified Statement of Paul R. Reistrup submitted with this rebuttal addresses concerns that NJT has raised in this proceeding.

Congressman Dennis J. Kucinich raises concerns about the adequacy of post-transaction staffing levels in safety-sensitive positions. These issues have been addressed above.

Shell Oil Company -- The Verified Statement of David L. Hall, a

management consultant for Shell Oil Company and Shell Chemical Company questions CSXT's commitment to safety, citing only a news report about the FRA safety audit, which I have discussed above. (SOC-3 at pp. 9-10). Mr. Hall, who does not purport to be a safety expert, offers no evidence to support his incorrect assessment that safety has "begun to slip" at CSXT. The facts prove otherwise, as I have demonstrated. CSXT's record in safely transporting the types of hazardous materials that Shell transports is exemplary, as I have noted above and as further underscored by the fact that CSXT earned the 1996 Transportation Community Awareness and Emergency Response (TRANSCAER) award issued by TRANSCAER, a nationwide community outreach program that addresses hazardous materials transportation. Further, as our SIP explains, CSXT, like Conrail, is working to implement full participation in the Responsible Care Partnership program organized by the Chemical Manufacturers Association. Our participation in that important and rigorous safety program is a further sign of our commitment to safety in this area. Our SIP, and the Shared Areas SIP, also address in significant detail the plans for a safe integration of the CSXT and Conrail hazardous materials safety programs.

State of Ohio Parties -- The Ohio Attorney General, Ohio Rail Development Commission and Public Utilities Commission of Ohio question CSXT's decision to transfer its existing Ohio "Trouble Desk" to Jacksonville. (OAG-4 at 42-43). It is not clear what "Trouble Desk" is being described. CSXT, which has extensive operations in Ohio today, does not have any sort of "Trouble Desk" in that state. Rather, as is common in the rail industry, we have centralized police and dispatching functions in Jacksonville and have made available an "800" number that citizens or local authorities can use to reach CSXT police

officials, who are trained to take the appropriate action, whether that be contacting the dispatcher or local authorities. The transaction will have no impact on these procedures.

Conrail currently maintains a signal and communications desk in Columbus, Ohio that serves as a center for receiving telephone calls concerning signal problems in Ohio and in all other states in which Conrail operates. While no final decision has made, CSXT anticipates transferring the functions of that systemwide desk to Jacksonville, consistent with CSXT's operations on the rest of its system. This transfer will have no detrimental safety implications for the state of Ohio or any other state currently served by that Conrail facility.

Other Parties -- Several states and local interests filed comments raising concerns with respect to the safety implications of projected increased traffic on line segments of interest to those localities. I understand that these localized impact issues will be addressed in detail in the Board's Draft Environmental Impact Statement and thus I will not comment further on these issues here.

VERIFICATION

STATE OF FLORIDA)
)
COUNTY OF DUVAL)

Franklin E. Pursley, being duly sworn, deposes and says that he is Vice President - Operations Support and Safety Integration Officer of CSX Transportation, Inc., that he is qualified and authorized to submit this Verified Statement, and that he has read the foregoing statement, knows the contents thereof, and that the same is true and correct.

Franklin E. Pursley

Subscribed and sworn to before me by him this 5th day of December, 1997.

Notary Public

REBUTTAL VERIFIED STATEMENT OF

GORDON C. RAUSSER AND ROBIN A. CANTOR

TABLE OF CONTENTS

I. Introduction

Our names are Gordon C. Rausser and Robin A. Cantor. Gordon Rausser is Dean of the College of Natural Resources and the Robert Gordon Sproul Distinguished Professor at the University of California at Berkeley and a Principal of Law & Economics Consulting Group, Inc. ("LECG"). Robin Cantor is a Managing Economist of LECG. LECG is an economics consulting firm that specializes in the application of economics to complex legal and public policy issues.

This Rebuttal Verified Statement is submitted solely on behalf of Norfolk Southern Railway Company ("NS"), not on behalf of the Applicants jointly. The statement's purpose is to describe our analysis and conclusions regarding the studies of safety relied upon by the Federal Railroad Administration ("FRA") as a basis for its concerns about the Conrail transaction. We reviewed the supporting data and documentation for the statement of Mr. Edward R. English, Director of the FRA's Office of Safety Assurance and Compliance. Our analysis is based upon an independent examination of the findings presented by Mr. English as evidence of potential safety problems emerging from the Conrail transaction. Our analysis focused on the logical and statistical reliability of data sources, models and findings used by Mr. English to make inferences about the potential safety implications of the Conrail transaction. Our review emphasizes the general analytical approach and assumptions used by FRA to form its opinions about safety, and is not an analysis of the specific operating issues which stem from FRA's review of the transaction application. It is our understanding that the latter issues have been addressed by the Applicant Railroads in the Safety Integration Plans filed with the Surface Transportation Board ("STB") on December 3, 1997.

II. Qualifications

Qualifications of Gordon C. Rausser

I am the Dean of the College of Natural Resources and the Robert Gordon Sproul Distinguished Professor at the University of California at Berkeley. I received a Ph.D. With Highest Honors from the University of California at Davis in 1971 and in 1973 was awarded a Postdoctoral Fellowship in Economics and Statistics at the University of Chicago. In 1987 I was a Fulbright Scholar in Australia.

In my academic career, I have held positions teaching economics and statistics at many universities including the University of Chicago, Hebrew University, Harvard University, University of Illinois, Iowa State University, and the University of California at Davis. I have published extensively in academic and professional journals in the areas of industrial organization, public policy, agricultural and natural resource economics, and the application of statistical methods. During my academic career, I have published more than 175 articles, books, and book chapters. In addition, I have written more than 65

Commissioned Papers, Governmental Reports, and Working Papers. I have won fourteen national awards and honors for my teaching and research.

I am a Fellow of the American Association for the Advancement of Science (1994), the American Statistical Association (1991) and the American Agricultural Economics Association (1990). I am a past editor of the *American Journal of Agricultural Economics* and a past associate editor of the *Journal of the American Statistical Association* and the *Journal of Economic Dynamics and Control*. From 1986 to 1987, I was Senior Economist at the President's Council of Economic Advisors. Following that position, I served as the Chief Economist at the Agency for International Development in Washington, DC from 1988 to 1990.

In addition to my academic experience, I serve on a number of boards of directors of private companies and as a Principal and Corporate Secretary of LECG. I have extensive consulting experience in economic damage analysis, environmental remediation cost allocation, economic feasibility studies, predatory pricing and price fixing allegations, water quality contamination, regulated industries, antitrust analysis, market analysis, and statistical modeling. Over the course of my 25 year professional career, I have offered opinions on the use of statistical sampling and modeling in over 30 cases. Within the past four years, I have testified as an expert in more than 25 cases, 7 of which involved courtroom trial testimony and two of which involved arbitration testimony.

Appendix LECG-A is a copy of my *curriculum vitae (c.v.)* which contains a list of my publications and a list of expert testimony within the last 4 years.

Qualifications of Robin A. Cantor

I am a Managing Economist in the Environmental and Natural Resource Economics Practice of the Washington DC office of LECG. I received a Ph.D. in economics from Duke University in 1985. Prior to joining LECG in September, 1996, I was Director of the Decision, Risk, and Management Science Program, a research program of the National Science Foundation. From 1982 to 1991, I was a senior researcher at Oak Ridge National Laboratory. I currently have a faculty appointment in the Graduate Part-Time Program in Environmental Engineering and Science of the Johns Hopkins University.

I have been actively involved in the planning and coordination of several programs that link fundamental natural and social science, policy, and risk management. I am a past Coordinator for the NSF Human Dimensions of Global Change, the NSF Methods and Models for Integrated Assessment, and the NSF/EPA Decision Making and Valuation for Environmental Policy. I was Vice-Chair for the US Global Change Research Program Working Group on Assessment Tools and Policy Sciences, NSF Principal for the Committee on the Environment and Natural Resources' Subcommittee on Risk Assessment, and Liaison to the Subcommittee on Social and Economic Sciences. While at ORNL, I was Technical Assistant to the Associate Director for Advanced Energy Systems

which included divisions in energy technologies, fusion, fossil energy, and advanced materials.

My research and consulting expertise includes several areas of environmental economics, risk management, public policy and societal decision making. My duties as Director of the NSF Decision, Risk and Management Science Program included the review of grant proposals which covered risk-related research in engineering, health, information technology, transportation, energy, and the environment, as well as all of the social and behavioral sciences. My duties at LECG include the analysis and communication of risk and economic issues in asbestos litigation, solid waste management, property value diminution, industrial pricing, and comparative transportation risks. My forty publications include refereed journal articles, book chapters, reports for federal sponsors, and a co-authored book on economic exchange under alternative institutional and resource conditions.

I am a current Councilor of the Society for Risk Analysis, where I am also Chair of the Grants Management Committee and a member of the Annual Meeting's Program Committee for 1996 and 1997. I am a past President of the board of directors for MATRIX, The Business Center for Women and Minorities. I serve or have served on science review and advisory boards for the Harvard Center for Risk Analysis, the Johns Hopkins University Graduate Part-Time Program in Environmental Engineering and Science, the National Center for Environmental Decision-making Research, the Carnegie Council on Ethics and International Affairs, the National Oceanic and Atmospheric Administration, the National Academy of Public Administration, and the Consortium for International Earth Science Information Network. I currently serve on the editorial boards of the *Journal of Risk Analysis* and the *Journal of Risk Research*.

Appendix LECG-B is a copy of my c.v. which contains a list of my publications. I have not provided trial or deposition testimony in the last four years.

III. Background

On June 23, 1997, CSX Corporation and CSX Transportation, Inc. ("CSX"), Norfolk Southern Corporation and Norfolk Southern Railway Company ("NS"), and Conrail, Inc. and Consolidated Rail Corporation ("Conrail") (collectively, "Applicants"), filed an application with the Surface Transportation Board ("STB") seeking approval and authorization for (1) the acquisition by CSX and NS of control of Conrail, and (2) the allocation of the use of Conrail's assets between CSX and NS.

The U.S. Department of Transportation ("DOT"), through the Federal Railroad Administration ("FRA"), is the federal agency with plenary authority over the safety of the railroad industry. On October 21, 1997 the DOT submitted preliminary comments on the proposed transaction to the STB.[1] In its comments, the DOT does not take a position on

[1] *See* Preliminary Comments of the U.S. Dep't of Transportation, Finance Docket No. 33388 (Oct. 21, 1997).

the merits of the application or as to whether relief would be required in the public interest as a condition to any approval by the STB. Instead, the DOT raises in its comments a number of issues concerning effects of the transaction on the US rail industry. These issues include the transaction's impact on competition, increased train volumes for some communities, passenger rail operations, railroad employees, and the financial prospects of the Applicants.

In DOT's view, "the most important issue raised by the pending transaction is its potential effect on safety."[2] To describe its concern, DOT submitted the Verified Statement of Edward R. English. Mr. English's statement expresses the DOT's "growing concern that the ever larger size and complexity of major Class I railroads, and thus of consolidations involving such carriers, pose a risk to safety in the absence of very careful and detailed implementation planning."[3] On November 3, 1997, the STB ordered the Applicants to file within 30 days a Safety Integration Plan that addresses the concerns raised by Mr. English in his statement.

Mr. English's statement is based on three studies carried out by or on behalf of FRA to examine the safety implications of the transaction. The first study is an analysis of the UP/SP and BNSF mergers. Included in this first study is an evaluation of safety culture in the context of merging organizations. The second study is a general review of issues that FRA states were not addressed adequately in the Applicants' filings. Included in the second study is a statistical analysis of risk by line segments that was conducted by ZETA-TECH Associates, Inc. for the FRA. The third study is a detailed review conducted by teams of FRA personnel of seven functional areas which might be affected by the transaction.[4]

IV. Summary of Conclusions

The Applicants have argued that for the acquired system and the portions of the current systems affected by the transaction, expected total accidents will decline and safety will improve.[5] They base this argument on an analysis of accident rates and expected changes in train miles. In fact, FRA recognizes that CSX and NS have the best accident rates among class I railroads.[6] Applying the CSX and NS accident rates both to the existing Conrail system and the planned traffic increases results in a net reduction of 52 accidents per year.[7]

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[2] *Id.* at 4.

[3] *Id.* at 6.

[4] These areas include operating practices, motive power and equipment, track and structures, signal and train control, hazardous materials, dispatch centers, and highway-rail crossings. *See* Verified Statement of Edward R. English, Finance Docket No. 33388 (Oct. 17, 1997).

[5] *See* 6A Railroad Control Application, Finance Docket No. 33388, at 75 to 77 (June 1997).

[6] *See* English Statement, *supra* note 4, at 17.

[7] *See* 6A Railroad Control Application, *supra* note 5, at 75.

In contrast, FRA's analysis looks to the recent, but very particular, experience of two other large railroad mergers and a forecasting model to examine the possible implications for safety. FRA's concerns that safety will suffer as a result of the transaction, however, are based upon evidence and methods which do not represent a balanced analysis of the future safety performance of the Applicants. Our analysis has shown that:

1. Survey results cited by FRA as evidence for merger problems are not based on sound and generally accepted survey design and protocol;

2. Results from the ZETA-TECH model of accident cost are biased and do not reflect known differences in the safety performances of Conrail, CSX, and NS;

3. Notwithstanding the bias in the data set, when results of the ZETA-TECH accident model are interpreted correctly given their statistical uncertainty, there is no significant increase in cost; and

4. FRA conclusions about culture, acquisitions, and safety are not supported either by references to professional analysis of these issues or by reliable empirical study of the Applicants or of other railroads. Our review of literature on these issues reveals a number of reasons to expect an improved safety performance from this transaction.

The materials we relied upon for our opinions are listed in Appendix LECG-C. We have also relied upon the research and investigation efforts carried out by the staff of LECG working under our direct supervision.

V. Analytical and Empirical Concerns About the FRA's Analysis of Adverse Risk Effects

Mr. English's statement is based upon a collection of studies to examine relationships between mergers and existing safety and operating patterns. These studies include (1) an analysis of the recent UP/SP and BNSF mergers and potentially relevant safety problems as identified in part by a post-merger safety survey of FRA staff that appears to have been conducted internally by FRA, (2) a second survey of FRA staff regarding potential safety problems resulting from the Conrail transaction, and (3) statistical analyses of accident costs for certain subject rail line segments and grade-crossings.

We find that these studies do not provide a sound conceptual or fact-based analysis of the implications of this transaction. The surveys do not meet professional standards for design and protocol. As we understand their structure, they are more likely than not to elicit biased responses because they requested immediate subjective reactions and there appears to be no sampling design to select respondents and ensure representative perspectives.

The statistical analysis is also an unreliable basis for the safety concerns because it fails to reflect known differences regarding the safety performances of the Applicants and modeling error is ignored in the application. As reported by Mr. English, the results of the ZETA-TECH modeling are point estimates of the 1995 costs of segment accidents.[8] Similarly, the year 2000 forecast is reported as a point estimate. This ignores that the model is not a perfect predictor of the actual data and will forecast with error. When estimation error is reflected in the model estimates, we cannot reject the hypothesis that there is no statistically significant increase in risk as measured by the year 2000 cost of accidents forecast.

V.1 The FRA Surveys

We have reviewed the supporting work papers for the two surveys and the statistical analyses. Our review revealed comments from survey respondents and data collectors that indicated that the UP/SP safety assessment survey had no formal design. There appear to be several different types of information requested and the response formats are unstructured. Attachment LECG-1 is a summary of the materials provided by the FRA as the work papers for the UP/SP survey. It shows that several information requests were being implemented and that no structured format guided the responses.

The Conrail transaction survey appears to have some structure for responses, but it is completely subjective in content and there is no summary analysis of the results. Moreover, we could find nothing in the work papers to suggest a sampling design, so there is no basis for knowing if the responses are representative. The supporting FRA work papers indicate that these surveys are essentially information requests to the FRA staff for subjective reactions to the mergers.[9]

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[8] Estimates based on a single estimated or forecast value are called "point estimates." A point estimate will not provide any information on the likely range of error. For this reason, it is standard statistical practice to report a confidence interval around point estimates. Confidence intervals convey the precision of the estimate. A common practice is to require no more than a 5% chance that an estimated value will lie outside the confidence interval. Once the level of precision is selected, knowledge of the model's estimation error is used to derive the upper and lower bounds of the confidence interval.

[9] The following statements from written guidelines for the safety assessment surveys support our concern that these judgments were formed hastily.

- "Do sitting at your desk off the top of your head. If you cannot arrive at an immediate conclusion, mark the item "No Opinion" as noted below because there is not enough time to do anything else."
- "As you recall the announced future intentions . . . please factor these into your decisions. If you are not reasonably sure, then simply indicate "No Opinion"."
- "Rating scheme:
    1. "0" is excellent, "10" is very poor.
    2. Unsure, don't know, no opinion: mark with an "X"."

For the yard evaluation sheet:

- "When considering a location, provide an immediate response based on your experience and in accordance with the rating scheme noted below (same as for the route segments). There is no time for research."

We understand from survey instructions that the FRA had a limited amount of time to conduct these analyses. This may account for the shortcomings we find in the methodology. As a matter of standard practice, however, the survey instrument and response collection protocol are critical for the quality of the data collected and the reliability of the survey results

V.2 The ZETA-TECH Statistical Analysis

To evaluate the implications of the transaction on accident risk, ZETA-TECH examined accident costs for certain subject Conrail, CSX, and NS line segments. ZETA-TECH estimated a model of average annual accident cost per line segment. Accident costs were based on data from 1989-1996. An "eight-year average cost" was derived from these yearly data. The eight year average per segment was used to estimate a model of cost that included train miles, curvature, and indicator variables for each of the three firms. These indicator variables are included in the model to capture inter-railroad differences in accident risk. Once estimated, the model was used to estimate a "Year 1995" value and forecast the "Year 2000" value

ZETA-TECH's various calculations have little probative value because of major defects, any one of which could be fatal. Specifically:

- The results do not properly incorporate or reflect known differences in the safety performance of Conrail, CSX and NS
- The model is not properly structured to detect and measure potential inter-railroad accident cost differences, even though this is the entire point of the exercise.
- ZETA-TECH ignores the fact that statistical estimates are made with error, and when properly viewed, the results are consistent with no accident cost effects from the transaction

The data used by ZETA-TECH to estimate the accident cost model are not valid representations of the safety performances of the Applicants. Attachment LECG-2 shows system safety performance for seven years as measured by annual accident rates (preliminary rates for 1997) for Conrail, CSX, and NS. Standard statistical tests confirm that Conrail's performance is significantly worse than that of NS and CSX.

In contrast, the data relied upon by ZETA-TECH do not exhibit these distinguishing characteristics. Attachment LECG-3 shows the accident rates for the data set. Again, we applied standard statistical tests to look for significant differences in the underlying patterns of accident rates. These tests, however, fail to reject that the data for all three operators come from the same underlying pattern of accident risks when based on the limited segments used in the ZETA-TECH model. This means that the segments analyzed

by ZETA-TECH are not representative of the railroads' actual safety experiences with their systems.

The main point of statistical accident (cost) analysis is to estimate inter-railroad differences in accident costs, allowing for other relevant factors. In its model, ZETA-TECH allows the data to inform us about this key difference in safety performance in one and only one way: through shifts in the average level of accident costs. The results of the ZETA-TECH model, however, only serve to confirm that these data do not reveal the known safety distinctions among the railroads.

Attachment LECG-4 shows the results of tests to compare accident costs across firms. Differences across firms are measured by indicator variables included in the model. The statistical uncertainty surrounding the estimates of each firm's effect on costs is sufficiently large that each test result is consistent with there being no difference among railroads in cost experiences. In other words, the model is telling us that there are no *statistically* significant safety distinctions among the railroads even though the *estimates* show small differences.

Moreover, neither ZETA-TECH's "1995" cost estimate nor their forecast for the year 2000 can be statistically distinguished from their "8-year average cost." We reached this conclusion by estimating the statistical uncertainty surrounding the ZETA-TECH estimates and forecast, using the generally accepted and appropriate method of confidence intervals.

As we have already indicated, estimates based on a single estimated or forecast value are called "point estimates." A point estimate will not provide any information on the likely range of error. For this reason, it is standard statistical practice to report a confidence interval around point estimates. Confidence intervals convey the precision of the estimate. Once the level of precision is selected, knowledge of the model's estimation error is used to derive the upper and lower bounds of the confidence interval.

Our confidence intervals for both the "Year 1995" prediction and the "Year 2000" forecast bracketed the "8-year average cost," indicating that neither the 1995 predition nor the 2000 forecast can be statistically distinguished from the 8 year average value.[10] Thus, the ZETA-TECH results are entirely consistent with there being no discernible effect of this transaction on accident costs.

Our conclusion on the accident costs is based on careful analysis of ZETA-TECH's own data, in the framework of their model (which we do not endorse) to take account of the inherent statistical uncertainty surrounding any accident cost estimates. This uncertainty is

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[10] The methods used in calculating the variance of ZETA-TECH's nonlinear transformation of their predicted values and the confidence intervals for the estimate and the forecast were based on standard and accepted statistical methods as discussed by William H. Green, *Econometric Analysis*, p. 57, 196 (2d ed. 1993). We used the 5% level of significance for calculating the upper and lower bounds, which is standard practice.

ignored by both ZETA-TECH and Mr. English in their interpretations of the model results.[11] A proper consideration of statistical uncertainty yields the following results from the ZETA-TECH model:

Figure LECG-1: 95% Confidence Intervals on ZETA-TECH Actual and Adjusted Values[12]

8-Year Average Cost = **$23,582,157**

	Lower Bound	Year 1995	Upper Bound
Actual	$16,203,309	$20,910,017	$25,616,725
Adjusted	$18,273,968	$23,582,157	$28,890,346

	Lower Bound	Year 2000	Upper Bound
Actual	$18,303,737	$23,564,375	$28,825,012
Adjusted	$20,642,815	$26,575,721	$32,508,627

For the "Year 1995," the $23.6 million estimate is highly uncertain, by conventional standards—the confidence interval spans from 77.5% to 123% of the prediction. Proper analysis of the "Year 2000" forecast reveals the major flaw of the ZETA-TECH results and interpretation. Here, the confidence interval widely brackets the 8-year average of $23.6 million. In other words, the $23.6 million value for the 8-year average is well within the range $20.6 - $32.5 million. Thus, this "prediction" cannot be statistically distinguished from the 8-year average. We conclude that the ZETA-TECH model does not provide a basis for predicting an increase in accidents due to this transaction.

VI. There is Substantial Evidence That Shows Acquisitions Are Not Detrimental to Safety

Mr. English relies heavily on the analysis of two particular mergers, UP/SP and BNSF, to infer that large railroad consolidations lead to safety problems. He acknowledges that there are several reasons to have anticipated safety problems with the UP/SP and BNSF mergers.

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[11] A similar criticism applies to the analysis of grade-crossing accidents. We did not receive a grade crossing accident model from ZETA-TECH, but their analysis for grade crossing accidents also relies on point estimates without any consideration of the error in these forecasts.

[12] The actual values are the predicted values from ZETA-TECH's model. The adjusted values incorporate ZETA-TECH's adjustment to calibrate the results to the 8-year average dollar costs.

> Prior to their mergers, three of the four railroad parties had relatively poor safety records . with UP having the highest rate of any of the large railroads for five of the last six years. Southern Pacific consistently had the second highest rate (except for 1995, when it led the industry in major accident rate). It is then, perhaps no surprise that the merged company (UP/SP) has experienced safety problems almost since the day of the merger. These problems have been aggravated by rapid traffic growth and shortages of both locomotives and the crews to operate them. This has led to major disruption in UP/SP services to customers, overworked supervisors, overworked train and engine service personnel and a severe shortage of qualified employees in Texas (Houston) and other UP/SP system locations. So again, it might have been anticipated that the new company, faced with booming traffic and the challenge of operating service over more than 3,500 miles of trackage rights on competitor UP, would exhibit a relatively poor safety performance.[13]

According to Mr. English, "the poor safety experiences of the UP/SP merger and the safety related problems FRA also identified in the context of the BNSF merger"[14] and the potential complexities of this transaction led FRA to conclude that a safety assessment of the proposed transaction was imperative.

Data on the railroad industry, however, demonstrate that the UP/SP performance discussed by FRA is not a general result. Acquisitions and mergers have been on-going, large, and wide-spread in the industry since the early 1980s. The accident data do not suggest that this has been detrimental for safety. In fact, as we argue below, the opposite conclusion is more consistent with the data. Notably, preliminary data on 1997 UP and BNSF accidents rates are *lower* than the comparable period in 1996, and lower than rates for calendar 1996.[15]

VI.1 Safety and Organizational Change in the Rail Industry

The structure of the railroad industry has changed dramatically since the passage of the Staggers Act in 1980. According to the United States General Accounting Office ("GAO")

> From 1976 through 1995, the nation's largest freight railroads cut costs, increased the tonnage each train carried and the distance this tonnage was carried, downsized their

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[13] *See* English Statement, *supra* note 4, at 2-3.

[14] *Id.* at 17.

[15] The FRA Preliminary Summary for Jan-Jun 1997 show rates for UP and BNSF of 3.28 and 2.71 (accidents per million train miles), respectively. The comparable rates for 1996 are 4.13 and 3.60, and for calendar 1996, the rates are 4.18 and 3.31. In addition, preliminary 1997 Employee on Duty ("EOD") accident rates also show declines for UP/SP and BNSF. The 1997 rates are 2.64 and 1.47, respectively. The comparable rates for 1996 were 3.04 and 1.86. *See* Federal Railroad Administration Office of Safety, U.S. Dep't of Transportation, *Accident Incident Bulletin*, Nos. 160-65 (1992-97).

workforce, and eliminated, sold, or abandoned thousands of miles of unprofitable or little-used track.[16]

In short, the competition fostered by the Staggers Act has greatly improved the efficiency of rail services. Notably, increases in efficiency have been coincident with substantial merger activity. GAO reports that in 1976, 88 class I railroads accounted for 98 percent of industry revenue and 89 percent of the train miles. In 1995, 15 class I railroads accounted for 91 percent of the revenue and 82 percent of the train miles.[17]

An equally notable change in railroad economics stems from improvements in safety. Accident prevention has been a high priority for the railroad industry. In fact, we have seen dramatic improvements in accident rates. Attachment LECG-5 shows that accident rates have dropped to less than a third of what they were in 1976 for the nation as a whole.

The declining accident rate has not occurred by chance. During the 1960s and 1970s, increases in average train lengths, car sizes, and loadings increased derailment rates.[18] In contrast, capital investments, deregulation, and technological change are cited as factors in the decline of accident rates during the 1990s.[19] All of these safety improvements have been made in an environment of increasing merger activity among the railroads.

The decline in accidents rates, however, has slowed in the 1990s. GAO reports that the annual percentage decline in accidents was 9% in the 1976-87 period and fell to a 2% annual rate in the 1987-95 period. The more recent accident data show an increasing proportion of accidents are caused by human factors and error.[20] More generally, industry analysts recognize that the most easily identified accident causes have been addressed and further improvements to safety are becoming more difficult to identify:

> After many years of industry efforts to improve safety, it is not easy to identify where further effort would be best allocated for the greatest effect. There are two reasons for this. One is that no single problem stands out as being dramatically larger than the

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[16] GAO, *Rail Transportation: Federal Railroad Administration's New Approach to Railroad Safety* 2 (Pub. No. GAO-RCED-97-142, July 1997).

[17] *Id.* at 15.

[18] *See* R. E. Thompson et al., *Hazardous Materials Car Placement In A Train Consist — Vol. 1 (Review and Analysis)* 15 (U.S. Dep't of Trans. Report No. DOT/FRA/ORD-92/18.1, 1992).

[19] *See* Aviva E. Harvey et al., *Statistical Trends in Railroad Hazardous Materials Transportation Safety 1978 to 1986* at 1-6 (Association of American Railroads Pub. No. R-640, 1987).

[20] Federal Railroad Administration, U.S. Dep't of Transportation, *Enhancing Rail Safety Now and into the 21st Century: The Federal Railroad Administration's Safety Programs and Initiatives* 13 (1996).

others. Second, the relatively low rate of accidents in recent years provides less statistical information with which to work.[21]

Because it is becoming increasingly difficult to identify accident causes from empirical studies, it is not surprising that competing perspectives on railroad management and operations are used to explain risk causes. In its review of railroad safety, the GAO identified these fundamental differences in operational perspectives:

> Safety on the nation's railroads has improved since 1976, although the most rapid decrease in accidents occurred before 1987. FRA and industry officials attribute these improvements to advancements in technology, increased investment focused on a downsized infrastructure, and a more scientific approach toward reducing injuries. However, class I freight railroads, which account for most of the industry's revenues and train miles, are now using fewer people, locomotives, and cars to haul more tonnage over fewer miles of track. Labor officials believe that these changes in operations could lead to more rail collisions and accidents as a result of greater congestion and fewer qualified employees to perform essential maintenance. While current safety trends are positive, it is uncertain how further advancements in technology or reductions in employment will affect safety in the future.[22]

The GAO report makes clear that one of the results from years of mergers, acquisitions, track reductions, and technological improvements is downsizing of the railroad labor force. Attachment LECG-6 shows the decline in class I freight railroad employment between 1976 and 1995. This decline in employment does not appear to have been detrimental to safety, as measured by data on accident rates which have fallen 74% since 1976.

More recently, analysts have raised incompatibilities in safety cultures as an additional detrimental influence on safety performance following large mergers or acquisitions. We do not dispute that organizational factors such as safety culture may play a role in safety performance. We have already noted that accidents caused by human factors and errors have not experienced the dramatic reductions since deregulation that we find in non-human causes. Attention to the interaction of organizations factors and individual actions that might contribute to accident rates is a natural extension of the scientific approach to safety improvements:

> Few phrases occur more frequently in discussion about hazardous technologies than *safety culture*. Few things are so sought after and yet so little understood. However, should anyone think that the current preoccupation with safety culture is just another

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[21] Christopher P. L. Barkan, *Data Requirements for the Development of a Quantitative Risk Assessment Model for Rail Transportation of Hazardous Materials*, Conference on the Transportation of Hazardous Materials and Wastes, at 2-85 to 2-88 (1991).

[22] GAO, *supra* note 16, at 4.

passing fad, consider the following facts. Commercial aviation is an industry that possesses an unusual degree of uniformity world-wide. Airlines across the globe fly much the same types of aircraft in comparable conditions. Flight crews, air traffic controllers and maintenance engineers are trained and licensed to very similar standards. Yet, in 1995, the risks to passengers (the probability of becoming involved in an accident with at least one fatality) varied by a factor of 42 across the world's air carriers.. While factors such as national and company resources will play their part, there can be little doubt that differences in safety culture are likely to contribute the lion's share to this enormous variation.[23]

Scholarly research on cultural factors, however, is limited and does not provide the kinds of general conclusions that can easily be extrapolated to a specific case. The current state of the art in the study of corporate culture is best summarized by the following statement from leading researchers in the area:

> The literature on organizational cultures consists of a remarkable collection of pep talks, war stories, and some insightful in-depth case studies. There is, we believe, a dearth of ordinary research as taught by standard behavioral research methodology textbooks.[24]

In the context of railroad accidents, there have been some attempts to develop assessment tools for organizational and managerial root causes. As one example of the few applications, the Railway Accident Investigation Tool ("RAIT") was developed by a research team from the University of Manchester for the British Railways Board. RAIT is a practical investigative tool that builds on the analytical concepts emerging from safety culture analysis. Application of RAIT is a highly structured process involving specific attention to the influence of managerial root causes (such as training, provision of tools and equipment, materials, design, communications, rules, supervision, planning, commercial and operational pressures, and maintenance) on latent and active safety failures.[25]

We found no documents in the work papers to show that any structured procedure like RAIT had been applied by the FRA to review the Applicant's accidents. Although the FRA work papers contain descriptions of Conrail/CSX/NS employee fatalities and train accidents for the period 1994-1997, there is no separate analysis of these accidents in the context of cultural root causes. Regulations or conditions affecting this transaction may have unintended consequences for safety if based on what appears to be a limited understanding of how safety and organizational factors interact.

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[23] James Reason, *Corporate Culture and Safety*, NTSB Symposium on Corporate Culture and Transportation Safety, at 1 (1997) (emphasis in original).

[24] Geert Hofstede et al., *Measuring organizational cultures: a qualitative and quantitative study across twenty cases*, 35 Admin. Sci. Q. 286-287 (1990).

[25] Daniel E. Maurino et al., *Beyond Aviation Human Factors: Safety in High Technology Systems* 142 (1995).

VI.2 Safety and Organizational Change in Other Transportation Industries

Organization and market structural changes undertaken to gain economic efficiencies are not unique to the railroad industry. Other transportation sectors have been similarly transformed in the recent past. These transformations raised almost identical concerns about safety, organization change, congestion, and maintenance as those raised by Mr. English. It is therefore enlightening to look at airline and trucking experience as an additional source of information about the safety and organizational change relationship.

Numerous studies have been conducted on the safety of airlines and the effects of deregulation. Airline safety has been steadily improving since the Airline Deregulation Act of 1978. Safety analysts report that based on five different measures of airline accident rates, safety improved or remained statistically unchanged after deregulation in the 1979-85 period.[26] Moreover, review of the 1986-88 period indicates that airline mergers did not have a significant impact on safety as measured by the accident data. The same analysts review accident causes to confirm that the organizational and market structure changes did not adversely affect safety:

> The rate for equipment failure related accidents in the first six years following deregulation is less than one third of the pre-deregulation rate. The 1986-88 rate is less than one half of the pre-deregulation rate. If deregulation had indeed induced shortcuts in aircraft maintenance, the rate of equipment failures might be expected to have increased. The sharp decline in this rate suggests that, at least through 1988, deregulation has not led to widespread maintenance deficiencies.
>
> Accident rates declined in the air traffic control category, reducing the already low rate even further. In terms of accidents, there is no evidence that the air traffic control system has functioned less safely after deregulation than it did before.[27]

Similar results have been found for worker safety in the airline and trucking industries:

> In terms of the economic forces set in motion by transportation deregulation, almost all factors suggest that there should be a drop in safety as a consequence of deregulation. Moreover, if there is such a decline it is likely to be larger in the initial years of deregulation than after the industry settles down into the postderegulation equilibrium.
>
> Examination of several BLS accident rate series fails to indicate any cause for alarm in terms of major departures from expected accident trends. There has been no apparent

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[26] Clinton V. Oster et al., *Why Airplanes Crash: Aviation Safety in a Changing World* 23 (1992).

[27] *Id.* at 30-31.

upsurge in accident levels in the postderegulation period ...A variety of regression specifications fail to reveal any adverse effects of deregulation.[28]

Industry analysts have identified a number of reasons why actual safety performance does not deteriorate with changing organizational and market structures. First, there are private incentives to avoid accidents. Insurance costs, casualty losses, reputation, and employee oversight are all active incentives that encourage safety improvements.[29] Second, accident data are actively collected, investigated, and reported by regulatory agencies.[30] Third, as we have already noted, the transportation industries have paid some attention to the organizational and human factor influences on safety.

VII. Conclusions

The FRA analysis of this transaction attempts to look at a number of areas where safety problems may emerge. The FRA's review is heavily influenced by the recent, but very particular, experiences of two other large railroad combinations. While concern about the UP/SP and BNSF mergers is understandable, focus on these recent transactions to the exclusion of other relevant factors does not lead to a balanced assessment of the future safety performance of CSX and NS. FRA's approach to information sources would be of greater value for understanding the implications of this transaction if:

1. The safety correlates of the UP/SP and BNSF mergers could be extrapolated to this transaction;

2. FRA's surveys had followed sound sample designs and protocol;

3. The ZETA-TECH forecasting model was properly constructed and interpreted; and

4. The other findings of safety risk were based on reliable, preferably empirical evidence.

Our review indicates that the FRA's evidence of risk and safety effects does not provide a proper basis for predicting the consequences of this transaction. Regulations or conditions affecting the transaction, if premised on this evidence, could have unintended consequences for safety.

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[28] W. Kip Viscusi, *The Effect of Transportation Deregulation on Worker Safety*, in *Transportation Safety in an Age of Deregulation* 89 (Leon N. Moses & Ian Savage, eds., 1989).

[29] Nancy L. Rose, *Financial Influences on Airline Safety*, in *id.* at 94.

[30] Thomas G. Moore, *The Myth of Deregulation's Negative Effect on Safety*, in *id.* at 10.

VERIFICATION

I, Gordon C. Rausser, verify under penalty of perjury that the foregoing statement is true and correct. Further, I certify that I am qualified and authorized to file this statement.

Executed on December 8, 1997.

Gordon Rausser

Gordon C. Rausser

VERIFICATION

I, Robin A. Cantor, verify under penalty of perjury that the foregoing statement is true and correct. Further, I certify that I am qualified and authorized to file this statement.

Executed on December 9, 1997.

Rob Cantor

Robin A. Cantor

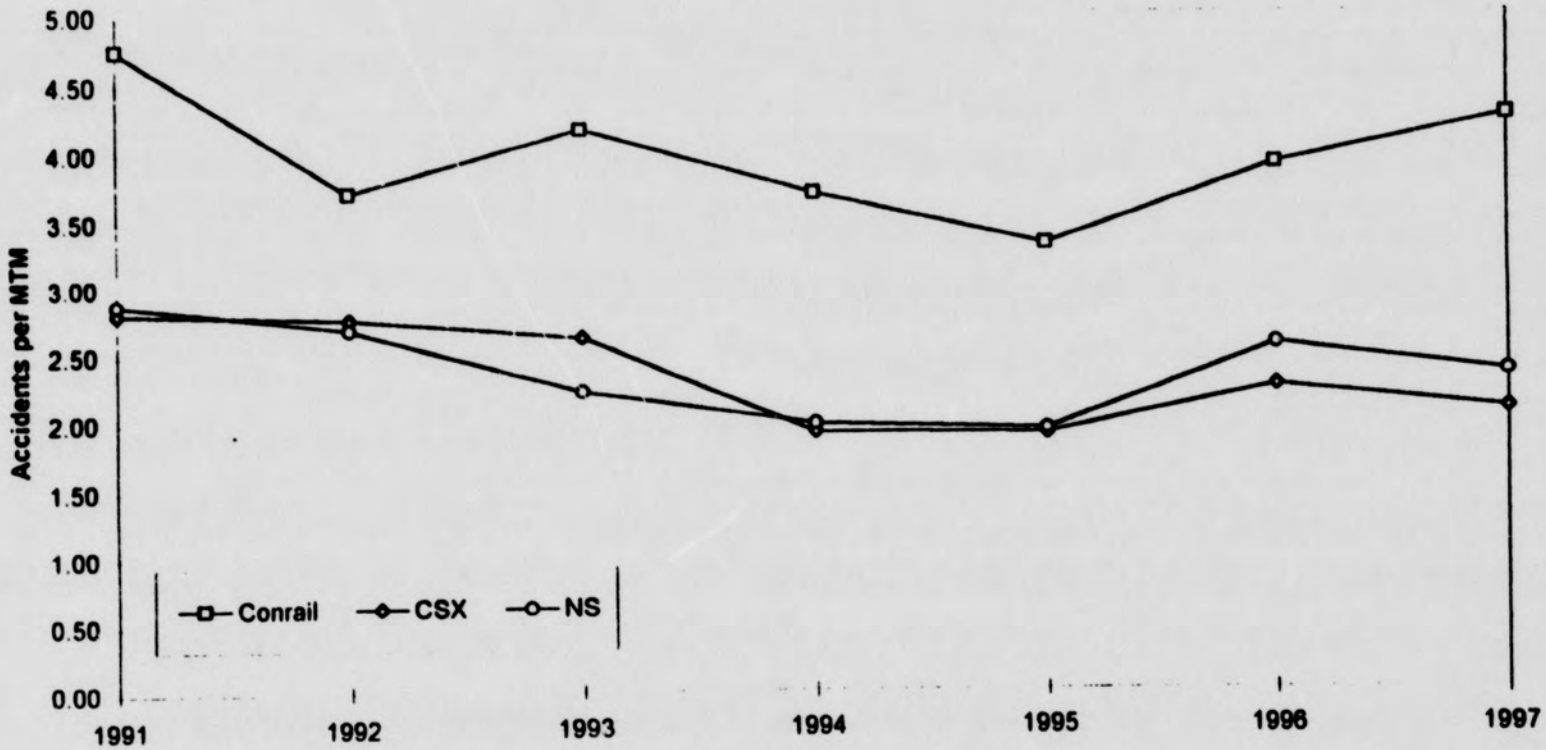
Attachment LECG - 1

SUMMARY OF FORMATS FOR THE UP/SP MERGER SURVEYS

Respondent	Information Request	Format
1. S. Gallant	UP/SP Merger	E-mail
2. Mark Daniels[1]	Follow-Up Safety Assessment of UP/SP Merger	List of problems
3. L.H. Hasvold, Regional Administrator, RRS-44	Follow-Up Safety Assessment of UP/SP Merger	Memo/list - Operating practices and hazardous materials issues
4. David H. Green	UP/SP Merger Safety Assessment	Paper - Region 5 issues with the merger
5. R.M. Centracco, Supervisory Railroad Safety Specialist (HM), RRS-35	UP/SP Merger	Memo - Region 5 hazardous materials (actual/perceived) issues
6. Louis H. Richard, Jr., Railroad Safety Inspector (HM)	UP/SP Merger	Memo - Actual deficiencies and violations found during inspections
7. Billy J. Steel, Railroad Safety Inspector (HM), RRS-35	Follow-Up Safety assessment of UP/SP Merger	Memo - Regional actual/perceived deficiencies (San Antonio, TX)
8. W. A. Fernau, Railroad Safety Inspector (HM), RRS-35	UP/SP Merger	Memo - New Orleans actual/perceived situation
9. Tremelle Sykes, Railroad Safety Inspector (HM)	Follow-Up Safety Assessment of UP/SP Merger	Memo - Actual/Perceived safety issues in the last 12 months
10. Mark Glenn	UP/SP Merger	Unknown/List - Actual/Perceived issues in Houston Area
11. James E Duncan, Hazardous Material Inspector	Follow-Up Safety Assessment of UP/SP Merger	Memo - Various deficiencies listed
12. H D. Campbell	UP/SP Merger	Unknown/List - Deficiencies, violations and additional problems with the UP/SP in Houston Area
13. R A. Krippendorf, Hazardous Materials Safety Inspector	Follow-Up Safety Assessment of UP/SP Merger	Letter - Summary of actual documented hazmat safety defects and violations in Little Rock, AR territory for UP/SP
14. Henry L Jacobs	Follow-Up Safety Assessment of UP/SP Merger	Email - Some UP/SP hazardous materials field perceptions
15. Robert Scieszinski	UP/SP Merger	Email - Perceived negative impact for UP/SP trackage in Region 8
16. Jim Adams	UP/SP Merger	Email - Incidents/concerns from "the Track"
17. George E. Hardy, Jr.	Follow-Up Safety Assessment of UP/SP Merger	Email - Information on train dispatchers (SP) in Denver and some perceptions
18. Lonnie Ramos	UP/SP Merger	Email/WP Attachment-Compilation of accidents reflecting a negative impact

[1] Due to the ambiguity of the document in question, it is uncertain if Mark Daniels is the correct respondent.

Accident Rates for the Entire Systems
- Conrail, CSX, and Norfolk Southern -



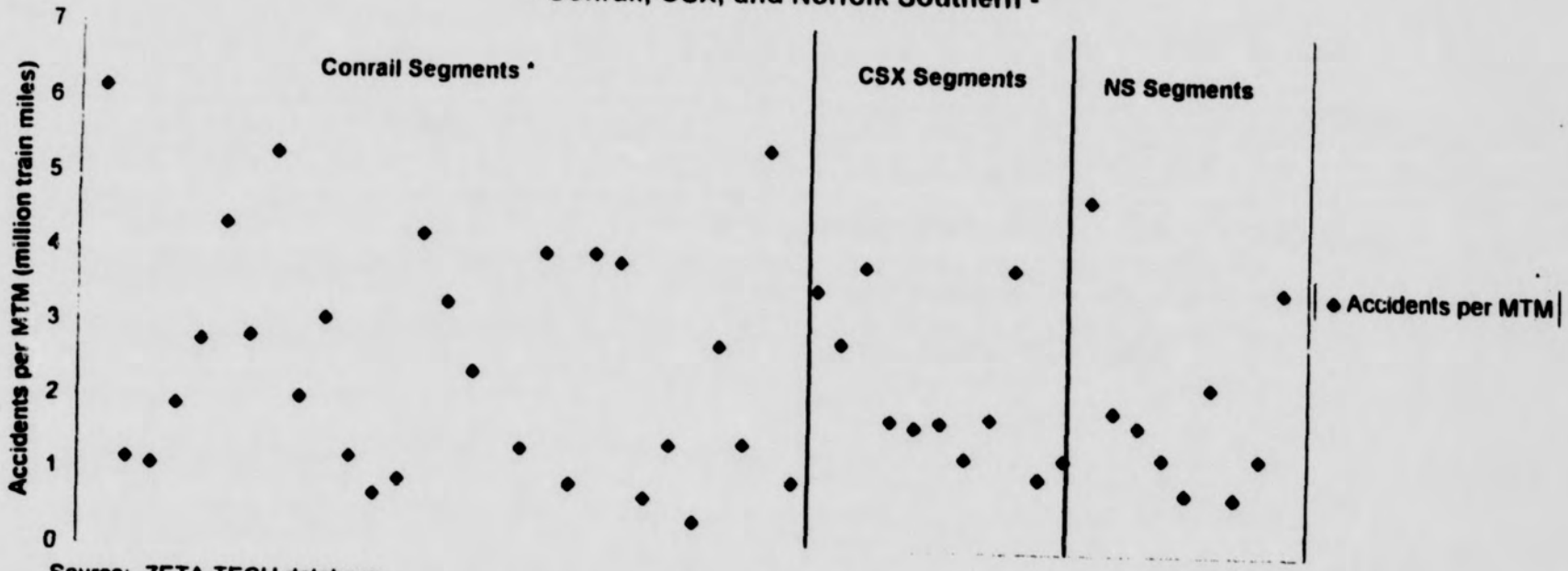
Source: FRA Accident / Incident Bulletin

Statistical Tests for Significantly Different Risk Performance

A standard non-pararnetric hypothesis test for population homogeneity shows a statistically significant difference among the three railroads. Separate tests performed between Conrail and each of the two applicants (CSX and Norfolk Southern) also indicate statistically significant differences.

Attachment LECG - 3

Accident Rates for the Subject Segments
- Conrail, CSX, and Norfolk Southern -



Source: ZETA-TECH database

Statistical Tests for Significantly Different Risk Performance

A standard non-parametric hypothesis test for population homogeneity shows no statistically significant differences among the three railroads. Likewise, separate tests performed between Conrail and each of the two applicants (CSX and Norfolk Southern) do not indicate any statistically significant differences.

*One Conrail segment showed an accident rate of 136 accidents per MTM and is not shown on this graph.

Attachment LECG - 4

Testing for Statistical Differences Between the System Coefficients

Indicator Variable	Parameter Estimate	Standard Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Conrail	566.91	107.26	356.68	777.13
CSX	521.52	135.83	255.30	787.75
NS	509.72	140.81	233.73	785.72

A standard hypothesis test for differences in the regression coefficients shows no statistically significant difference among the three firm variables for estimating average accident costs. The test results are shown below:

	Calculated T-value	Critical T-value
Ho: Conrail = CSX	0.46	< 1.96
Ho: Conrail = NS	0.62	< 1.96

Calculated T-values less than the critical values above indicate no statistically significant difference between the parameter estimates at the 95% level of confidence.

Figure 2.1: Total Train Accidents, All Railroads, Calendar Years 1976 Through 1995

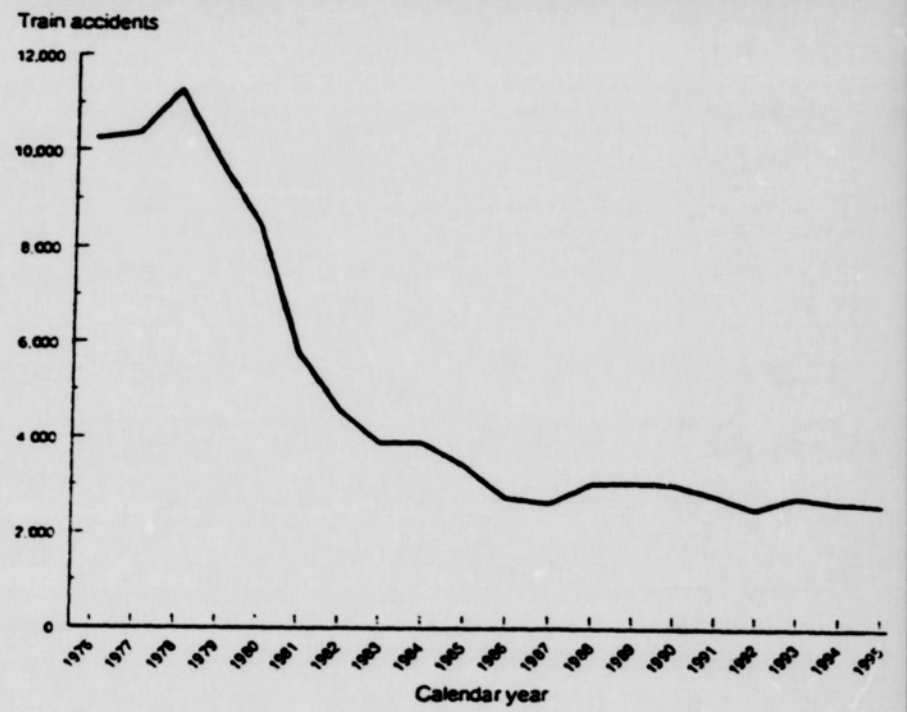
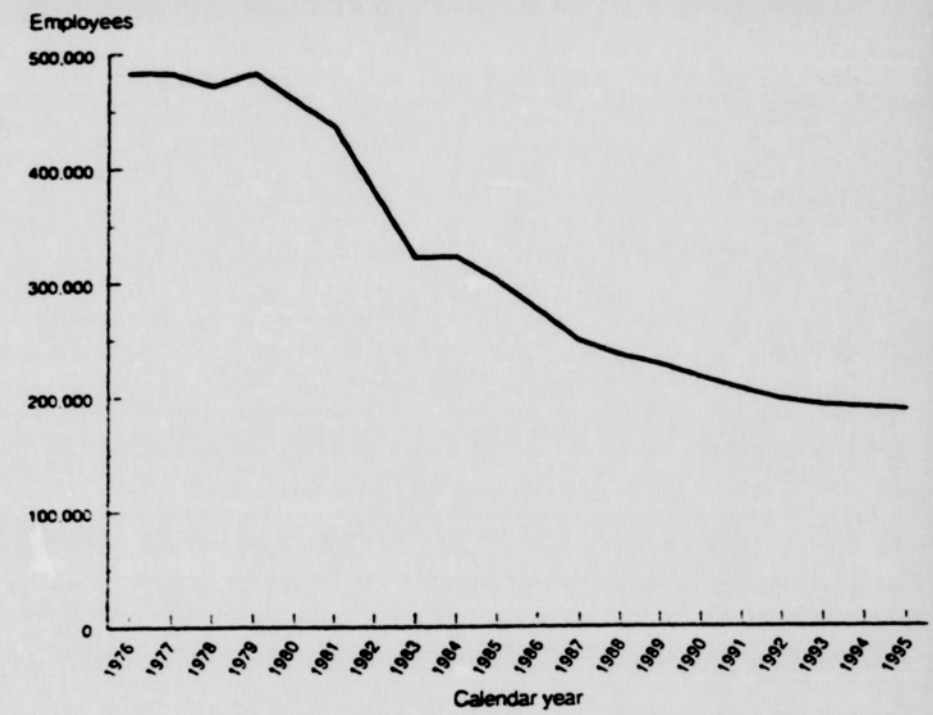


Figure 1.3: Class I Freight Railroad Employment, Calendar Years 1976 Through 1995



Appendix LECG-A

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EDUCATION

Postdoctoral Fellowship, UNIVERSITY OF CHICAGO, Chicago, IL, 1972 - 1973.

Ph.D., UNIVERSITY OF CALIFORNIA, Davis, CA, *Highest Honors*, 1971.

M.S., UNIVERSITY OF CALIFORNIA, Davis, CA, *Highest Honors*., 1968..

B.S., CALIFORNIA STATE UNIVERSITY, Fresno, CA, *Summa Cum Laude*, 1965.

PRESENT POSITION

UNIVERSITY OF CALIFORNIA, Berkeley, CA, 1994 - present.
Dean, College of Natural Resources.

UNIVERSITY OF CALIFORNIA, Berkeley, CA, 1985 - present.
Robert Gordon Sproul Distinguished Professor.

INSTITUTE FOR POLICY REFORM, Washington, DC, 1990 - present.
President.

LECG, INC., 1989 - present.
Principal.

AWARDS AND HONORS

WAEA Outstanding Published Research Award of 1994 for "Price Distorting Compensation Serving the Consumer and Taxpayer Interest," published in *Public Choice*, Vol. 77, No. 2, October, 1994.

AAEA Publication of Enduring Quality Award for contributions to environmental economics, statistical economics, statistical decision theory, and natural resource analysis, 1993.

AAEA Outstanding Journal Article Award Finalist ("Productive and Predatory Public Policies: Research Expenditures and Producer Subsidies in Agriculture"), 1992.

AAEA Distinguished Policy Contribution Award for econometric analysis of public policies, 1993.

Member, Board for International Development Studies, Fletcher School of Law and Diplomacy, Tufts University, 1992 - 1994.

Member, Board for International Development Studies, Fletcher School of Law and Diplomacy, Tufts University, 1992 - 1994.

Fellow of the American Association for the Advancement of Science, 1993.

Fellow of the American Statistical Association, 1991.

Agency for International Development, Superior Unit Citation Award, 1990.

Fellow of the American Agri ural Economics Association, 1990.

Special Recognition, "Outstanding Professional Research Contributions," *Agricultural Economics and Agribusiness*, 3rd edition, Gail L. Cramer and Clarence W. Jones, John Wiley and Sons, 1990.

AAEA Outstanding Journal Article Award Finalist ("Incomplete Markets and Government Policy"), 1989.

Member, Economic Discipline Board, Fulbright Scholarship Awards, 1989 - present.

Chairman, Intergovernmental Consultative Group on Indonesia, The Hague, June, 1989.

Cofounder of the Institute for Policy Reform, Wa hington, DC, 1989.

Founder of the Agency for International Development Research Fellow Program, 1989.

Chief Economist, Agency for International Development, 1988 - 1990.

Editor, *Agricultural Management and Economics*, Springer-Verlag, 1988 - 1992.

Chairman, Berkeley Department of Economics and All Economic Programs Evaluation Committee, 1987 - 1988.

Teaching and course materials in agriculture policy selected for publication in *Economics Reading Lists, Courses, Outlines, Exams, Puzzles, and Problems*, compiled by Edward Tower, Duke University, *Agricultural Economics*, Vol. 22, July, 1988.

Robert Gordon Sproul Distinguished Professor, University of California, Berkeley, CA, 1986 - present.

Senior Economist, Council of Economic Advisors, 1986 - 1987.

AAEA Award for Best Published Research ("Macroeconomic Linkages, Taxes, and Subsidies in the U.S. Agricultural Sector"), 1986.

Resident Fellow, Resources for the Future, National Center for Food and Agricultural Policy, 1984 - 1985.

Editor, *American Journal of Agricultural Economics*, 1983 - 1986.

AAEA Award for Best Journal Article ("Commodity Price Forecasting With Large-Scale Econometric Models and the Futures Markets"), 1982.

AAEA Honorable Mention Award for Best Published Research ("Dynamics of Agricultural Systems: Economic Prediction and Control"), 1980.

Director: AAEA, university, and departmental Outstanding Dissertations Awards (9), 1979 - present.

AAEA Outstanding Journal Article Award Finalist ("Active Learning, Control Theory, and Policy"), 1978.

WAEA Award for Best Published Research ("Firm Growth Policies Under Different Pollution Abatement, Production, and Financial Structures"), 1978.

Faculty Excellence in Teaching Award, Harvard University, 1978.

Associate Editor, *Journal of Economic Dynamics and Control*, 1978 - 1982.

Editorial Board, *American Journal of Agricultural Economics*, 1977 - 1980.

AAEA Award for Best Published Research ("Stochastic Control of Environmental Externalities"), 1976.

Associate Book Review Editor, *Journal of the American Statistical Association*, 1974 - 1982.

Associate Editor, *Journal of the American Statistical Association*, 1973 - 1977.

Commissioned by the American Agricultural Economics Association to prepare a monograph, "Systems Analysis and Simulation Techniques," 1973.

Ford Foundation Visiting Scholar, Argentina, 1972.

Highest Honors, Ph.D. Degree, University of California, Davis, 1971.

Doctoral Dissertation Award for Best Thesis, University of California, Davis, 1971.

Other Awards:

Member of Alpha Zeta; Phi Beta Kappa; Blue Key; National Defense and Education Act Fellowship Grant; Blue Key Award for Outstanding Graduate; Greek Man of the Year Award; Alpha Zeta Alumni Award to the Outstanding Graduating Senior; College Outstanding Leadership Award; Alpha Zeta President; Alpha Gamma Rho President; Agricultural Executive Council President; Senior Class President; Summa Cum Laude.

Listed in:

Who's Who in America
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Who's Who in the West
Who's Who in California
Who's Who in Technology
Who's Who in Finance and Industry
Who's Who in American Colleges and Universities
Who's Who in American Education
American Men and Women of Science
The Directory of Distinguished Americans

Men of Achievement
Personalities of America
Dictionary of International Biography
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ACADEMIC AND GOVERNMENT POSITIONS

UNIVERSITY OF CALIFORNIA, Berkeley, CA.

Dean, College of Natural Resources, 1994 - present.

Chairman, Department of Agricultural and Resource Economics, 1993 - 1994.

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Chairman, Department of Agricultural and Resource Economics, 1979 - 1985.

Chairman, Executive Committee, Giannini Foundation, 1982 - 1984.

AGENCY FOR INTERNATIONAL DEVELOPMENT, Washington, DC.

Chief Economist, 1988 - 1990.

COUNCIL OF ECONOMIC ADVISORS, Executive Office of the President, Washington, DC.

Special Consultant and Senior Staff Economist, 1986 - 1987.

RESOURCES FOR THE FUTURE, Washington, DC.

Senior Resident Fellow, 1984 - 1985.

VISITING FACULTY APPOINTMENTS

University of Chicago, Chicago, IL, 1972

University of Illinois, 1974.

Hebrew University, 1978 and 1993.

Ben Gurion University, 1980.

Australian National University, 1987.

Monash University, Australia, 1987.

HARVARD UNIVERSITY, Cambridge, MA.

Professor of Managerial Economics and Statistics, 1975 - 1978.

IOWA STATE UNIVERSITY.

Professor of Economics and Statistics, 1974 - 1975.

UNIVERSITY OF CALIFORNIA, Davis, CA.

Full Professor (offered), 1974.

Associate Professor, 1972.

Assistant Professor of Agricultural Economics, 1971.

FIELDS OF INTEREST

Agricultural economics
Applied econometrics
Public policy and economic regulation
Development economics
Industrial organization and antitrust analysis
Natural resource and environmental economics
Futures markets
Statistical decision theory

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Academy of Arts and Sciences
American Academy of Political and Social Science
American Agricultural Economics Association
American Association for the Advancement of Science
American Economic Association
American Statistical Association
Econometric Society
Institute of Management Science
International Agribusiness Management Association
International Agricultural Economics Association
Mathematical Association of America
Operations Research Society
Western Agricultural Economics Association

PUBLICATIONS

Journal Articles (Refereed)

"The Existence of Broiler Cycles: An Application of Spectral Analysis," with Thomas F. Cargill, *American Journal of Agricultural Economics*, Vol. 52, No. 1, February, 1970, pp. 109-121.

"The Demand for Fertilizer, 1949-1969: An Analysis of Coefficients from Periodic Cross Sections," with T. F. Moriak, *Agricultural Economics Research*, Vol. 22, No. 2, April, 1970, pp. 45-56.

"Effects of Misspecifications of Log-Linear Functions When Sample Values Are Zero or Negative," with S. R. Johnson, *American Journal of Agricultural Economics*, Vol. 53, No. 1, February, 1971, pp. 120-124.

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"Effects of Misspecification of Linear Functions When Sample Values Are Zero or Negative – A Reply," with S. R. Johnson, *American Journal of Agricultural Economics*, Vol. 53, No. 4, November, 1971, pp. 673-674.

"Time and Frequency Domain Representations of Future Prices as a Stochastic Process," with Thomas F. Cargill, *Journal of the American Statistical Association*, Vol. 67, No. 337, March, 1972, pp. 23-30.

"Approximate Distribution of Parameters in Distributed Lag Models," with Theodore P. Lianos, *Journal of the American Statistical Association*, Vol. 67, No. 337, March, 1972, pp. 64-67.

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"Approximate Adaptive Control Solutions to U.S. Beef Trade Policy," with J. W. Freebairn, *Annals of Economic and Social Measurement*, Vol. 3, No. 1, January, 1974, pp. 177-203.

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"Estimation of Policy Preference Functions: An Application to U.S. Beef Import Policy," with J. W. Freebairn, *Review of Economics and Statistics*, Vol. 56, No. 4, November, 1974, pp. 437-449.

"An Adaptive Control Approach to Agricultural Policy," with J. W. Freebairn, *Australian Journal of Agricultural Economics*, Vol. 18, No. 3, December, 1974, pp. 208-220.

"Technological Change, Production, and Investment in Natural Resource Industries," *American Economic Review*, Vol. 64, No. 6, December, 1974, pp. 1049-1059.

"Discrete Variations Across Subsets of Parameters in Simultaneous Equation Models," with S. R. Johnson, *Metroeconomica*, Vol. 26, January-December, 1974, pp. 226-244.

"Stochastic Control of Environmental Externalities," with R. Howitt, *Annals of Economic and Social Measurement*, Vol. 4, No. 2, Spring, 1975, pp. 271-292.

"The Limitations of Simulation in Model Evaluation and Decision Analysis," with S. R. Johnson, *Simulation and Games*, Vol. 6, No. 2, June, 1975, pp. 115-150.

"Temporal Price Behavior in Commodity Futures Markets," with T. F. Cargill, *Journal of Finance*, Vol. 30, No. 4, September, 1975, pp. 1043-1053.

"Technical Progress and Environmental Tradeoffs in Natural Resource Industries," *Journal of Economics and Business*, Vol. 28, October, 1975, pp. 1-14.

"Effects and Changes in the Level of U. S. Beef Imports," with J. W. Freebairn, *American Journal of Agricultural Economics*, Vol. 57, No. 4, November, 1975, pp. 676-688.

"Stochastic Control Theory and Economic Policy: An Application," with J. W. Freebairn, *Australian Economic Papers*, Vol. 14, No. 25, December, 1975, pp. 216-230.

"Econometric Policy Model Construction: The Post-Bayesian Approach," with A. Faden, *Annals of Economic and Social Measurement*, Vol. 5, Spring, 1976, pp. 349-362.

"The Stability of the Demand for Money in Canada," with P. Laumas, *Journal of Monetary Economics*, Vol. 2, Summer, 1976, pp. 367-380.

"An Economic Analysis of Wilderness Area Use," with Ronald A. Oliveira, *Journal of the American Statistical Association*, Vol. 71, No. 354, June, 1976, pp. 276-285.

"Investment Sequencing, Allocation, and Learning in the Design of Water Resource Systems: An Empirical Application," with C. Willis, *Water Resources Research*, Vol. 12, June, 1976, pp. 317-330.

"The Economic Impact of EPA Sulfur Standards on the U.S. Coal Industry," with R. A. Levins, M. D. Boehlje, and J. A. Otte, *SME Transactions*, Vol. 262, March, 1977, pp. 65-74.

"Daily Fluctuations in Campground Use: An Economic Analysis," with Ronald A. Oliveira, *American Journal of Agricultural Economics*, Vol. 59, No. 2, May, 1977, pp. 283-293.

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New Frameworks for Designing Compatible Incentives for Policy Reform, Invited address to the U.S. Agency for International Development, September, 1992.

Internal Versus External Agricultural Policy Reform: GATT Negotiations in the Uruguay Round, Invited Paper for the American Political Science Association, Chicago, IL, September, 1992.

A Noncooperative Model of Collective Decisionmaking: A Multilateral Bargaining Approach, presented at the American Political Science Association meetings, Chicago, IL, September, 1992.

A Collective Choice Model for Conflict Resolution in Water Resource Systems, presented at the conference, "Water Quantity/Quality Disputes and the Resolution," Washington, DC, May 2-3, 1992.

State-Market-Civil Institutions: The Case of Eastern Europe, Major invited address at the conference, "State, Market and Civil Institutions: New Theories, New Practices, and Their Implications for Rural Development," Cornell University, New York, December 13-14, 1991.

Liberties and Economic Growth, Keynote address presented at the World Conference on Economic Development, Raleigh-Durham, NC, November 19-21, 1991.

Multidisciplinary Problem-Solving and Issue-Oriented Work with the PC/TC Approach, Keynote address at the multidisciplinary workshop on "Strategies and Agendas for the Rural Social Sciences" under the auspices of the Social Science Agricultural Agenda Project sponsored by The American Agricultural Economics Association, the Rural Sociological Society, the Agricultural History Society, and others, Kansas City, MO, August 1-4, 1991.

International Policy Reform: Opportunities and Obstacles, Plenary presentation at the Summer 1991 Meeting of the Business-Higher Education Forum, University of California, Santa Barbara, June 27-29, 1991.

The Political Economy of Transition in Eastern Europe: Packaging Enterprises for Privatization, Paper presented at the Institute of International Studies, University of California, Berkeley, CA, May, 1991.

Futures Market Performance and Behavior, Keynote address at the Managed Futures Symposium, New York, NY, May 1-3, 1991.

The Political Economy of Transition in Eastern Europe: Packaging Enterprises for Privatization, Paper presented at Simon Fraser University, British Columbia, Canada, April, 1991.

The Political Economy of Transition in Eastern Europe: Packaging Enterprises for Privatization, Paper presented at the Institute of Policy Reform Conference on Institutions and the Transition to a Market Economy, Prague, Czechoslovakia, March, 1991.

Agricultural Reforms in the USSR: A Scientist's Attitude, Paper presented at the Soviet-American Symposium, Moscow, October, 1990.

The Political Economy of the European Community's Agricultural Policy, Keynote address to the European Agricultural Economics Association, The Hague, September, 1990.

Market Politics and Alternative Transition Paths, Paper presented at the conference on Rural Reform in Socialist Countries: Dilemmas and Strategies, sponsored by the World Bank and the National Bank of Hungary, Budapest, August/September, 1990.

The Agency for International Development Paradigm on Policy Reform and Economic Development, Major invited address to the Allied Social Science meetings, Atlanta, GA, December, 1989.

Agricultural Policy Alternatives for the 1990s, Keynote address to the American Agricultural Law Association, San Francisco, CA, November, 1989.

A New Paradigm for Economic Development, Keynote address at the Economic Development Consortium, November, 1989.

An Assessment of the Agricultural Economics Profession, Major invited address to the American Agricultural Economics Association meetings, Baton Rouge, LA, August, 1989.

New Institutional Economics and Public Policy, Major invited address to the Development Studies Program, Institute for International Research, The American University, July, 1989.

The Evolution and Coordination of U.S. Commodity and Resource Policies, Keynote address at the CARP Symposium, University of Maryland, College Park, MD, May, 1989.

Supporting Coalitions for Policy Reform and Institutional Change, Invited Plenary presentation to the Indonesian Economic Association, Thailand Economic Association, Pakistan Economic Association, Bangladesh Economic Association, Egyptian Economic Association, February, 1989.

The Market for Public Policy Reform, Invited Plenary address to the 33rd Annual Conference of the Australian Agricultural Economics Society, New Zealand, February, 1989.

Dynamic Welfare Analysis in Commodity Futures Markets, Major invited address to the International Conference of the Applied Econometrics Association, Washington, DC, October, 1988.

Endogenizing Policy in Models of Agricultural Markets, Major invited address presented at the Plenary Session of the International Association of Agricultural Economists, Buenos Aires, Argentina, August, 1988.

Trade Negotiations, Institutional Changes, and Policy Reform, Major invited address to the International Agricultural Trade Consortium, Washington, DC, August, 1988.

The Macroeconomic Dimension of Agricultural Policy Reform, Major invited address at the World Food Conference, Ames, IA, June, 1988.

The Design and Implementation of Public Policy Reform, Keynote address at the Conference on *Agricultural Economic Policy Reform in Egypt*, Cairo, Egypt, July, 1987.

Stability Issues in Policy Analysis, Major invited address at the Conference on *Agricultural Stability in Farm Programs: Concepts, Evidence, and Implications*, North Carolina State University, Raleigh, NC, May, 1987.

Alternative U.S. Agricultural Trade Policy, Major address to the Benjamin E. Lippincott Symposium on *Policy Coordination in World Agriculture*, University of Minnesota, St. Paul, MN, April, 1987.

Macroeconomic Linkages in U.S. Agriculture, Keynote address at the First Rod F. Ziemer Symposium, University of Georgia, Athens, GA, March, 1987.

Political Failure and the Reform of Agricultural Policy, Keynote address to the Australian Agricultural Economics Society, Adelaide, February, 1987.

Public Policy in U.S. Agriculture, Major invited address to the School of Agriculture, the University of Western Australia, Perth, February, 1987.

The Formulation of Agricultural Policy in the United States: Circa, 1987, Invited Plenary address to the Australian Agricultural Economics Society and Bureau of Agricultural Economics, Canberra, Australia, February, 1987.

A Coherent Policy for U.S. Agriculture, Major address at the Conference on *Food Policy and Politics: A Perspective on Agriculture and Development*, Purdue University, West Lafayette, IN, May, 1986.

Macroeconomics, Overshooting, and the Design of Public Policy, Major invited address to the Midwest Economic Association, Chicago, IL, 1986.

The Food Marketing System: Relevance of Economic Efficiency Measures, Major invited address at the *Conference on Economic Efficiency and Agriculture and Food Marketing*; sponsored by the University of Florida, Farm Foundation and the Agricultural Marketing Service, U.S. Department of Agriculture; Arlington, VA, October, 1985.

Instability in Agricultural Markets: The U. S. Experience, Major invited address to the International Association of Agricultural Economists, Malaga, Spain, August, 1985.

The Design of U.S. Food and Agricultural Policy, Major invited address to the U.S. Congressional Conference, *Urban-American Stake in the National Farm Crisis*, Washington, DC, April, 1985.

Macroeconomics and Farm Policy, Major address to the American Enterprise Institute, Washington, DC, January, 1985.

A Synthesis of Major Evaluations of Alternative Proposals for the 1985 Food Security Act, Major invited address presented at the National Center for Food and Agricultural Policy and National Agricultural Forum Conference, *Policy Choices, 1985*, Washington, DC, December, 1984.

Regulation in Commodity Futures Markets, Major invited address to the American Enterprise Institute, Washington, DC, January, 1984.

Equity and Efficiency in Agricultural Production Systems, Major invited address to the Plenary Session of the International Association of Agricultural Economists, Jakarta, Indonesia, 1982.

Political Economic Markets: PERTs and PESTs in Food and Agriculture, Keynote address to the American Agricultural Economics Association Annual Meetings, Logan, UT, 1982.

Modeling Agriculture for Policy Analysis in the 1980s, Invited major address at a special symposium sponsored by the Federal Reserve Bank of Kansas City, September, 1981.

Agriculture, Food, and the Government, Invited address to the American Economics Association Annual Meeting, New York, NY, 1981.

Prospects and Limitations of Operations Research in Agricultural Policy Investigations, Major invited address at the Plenary Session of the International Operations Research Conference, Jerusalem, Israel, 1979.

Natural Resource Economics and Policy, Keynote address to the Farm Foundation Research Workshop, *Natural Resource Economics and Policy*, University of Massachusetts, Amherst, MA, 1976.

OTHER INVITED SEMINAR PRESENTATIONS

Agency for International Development (27)[1]; Agricultural Development Council (4); American Agricultural Economics Association (34); American Agricultural Law Association (1); American Economics Association (11); American Enterprise Institute (2); American Finance Association (5); American Sheep Industry (2); American Statistical Association (9); American Water Resource Association (3); Applied Econometric Association Conference (2); Argentine Universities (9); Australian Agricultural Economics Society (5); Australian National University (3); Brown University (1); California Agricultural Trade Seminars (1); California Women for Agriculture, Los Angeles (2); Chicago Board of Trade (6); Citizens for a Sound Economy Foundation (2); Columbia University (2); Commodity Futures Trading Division of Economic Analysis (1); Commonwealth Club (2); Conference on Agricultural Economic Policy Reform in Egypt (1); Conference of Economywide Effects of Developed Country Agricultural Trade Policies (1); Econometric Society (North American, European, World) (11); Economics Branch, Agriculture Canada (15); European Agricultural Economics Association (1); Farm Credit Council (2); The Ford Foundation (6); Harvard Institute of Development (2); Harvard University (12); Heritage Foundation, Washington, DC (2); Illinois Agricultural Leadership Foundation (1); Institute of Electronics and Electronics Engineers Decision and Control Conferences (2); International Association of Agricultural Economists (6); International Monetary Fund (4); Iowa State University (9); League of Women Voters (Berkeley and Washington, DC) (5); London School of Economics (3); Massachusetts Institute of Technology (4); Melbourne University (3); Michigan State University (2); Midwest Economic Association (2); Monash University (1); National Bureau of Economic Research (7); National Cotton Council of America (2); New York Pension Fund Association (2); North Carolina State University (6); Northern Illinois University (3); Oklahoma State University (1); Operations Research Society (5); Organization of Professional Employees (3); Princeton University (2); Purdue University (6); Regional Research Strategy Committees (9); Rotary Club of Berkeley (1); Soviet-American Symposium (1); Stanford University (4); State University of New York (2); Texas A&M University (2); The Institute of Management Sciences (4); Town Hall of California, Los Angeles (1); Trade Policy Research Center, United Kingdom (3); University of Adelaide (1); University of California at Berkeley (28); University of California, Davis (9); University of California, Los Angeles (4); University of California, Santa Barbara (2); University of Chicago (9); University of Florida (2); University of Georgia (1); University of Heidelberg (1); University of Illinois (3); University of Maryland (1); University of Massachusetts, Amherst (2); University of Minnesota (5); University of Missouri (3); University of Nebraska (1); University of New England (3); University of North Carolina (1); University of Pennsylvania (3); University of Prague (1); University of Rhode Island (1); University of Salsberg (1); University of Saskatchewan (1); University of Sydney (2); University of Western Australia (2); U.S. Department of Agriculture (15); Washington, DC, Economists Club (3); Western Economics Association (7); World Affairs Council (2); World Perspective Seminar (1); The World Bank (9); Yale University (3); Institute for Policy Reform (12).

PROFESSIONAL, UNIVERSITY, AND PUBLIC SERVICE

Graduate Group in Energy and Resources, University of California at Berkeley, 1996 - present .

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[1] Number of presentations

Board of Advisors, Lawrence Hall of Science, University of California at Berkeley, 1996 - present.

Chair, Advisory Committee, Kearney Foundation, University of California at Berkeley, 1995.

Executive Committee, International and Area Studies Executive Committee, University of California at Berkeley, 1994 - present.

Council of Deans, University of California at Berkeley, 1994 - present.

Chancellor's Advisory Committee on Biology, University of California at Berkeley, 1994 - present.

Ex officio member, College of Natural Resources Advisory Board, University of California at Berkeley, 1994 - present.

Executive Committee of Environmental Council, University of California at Berkeley, 1994 - present.

Council of Deans and Directors, University of California, Systemwide, 1994 - present.

College of Natural Resources Advisory Board, University of California at Berkeley, 1994 - present.

College of Natural Resources Development Committee, University of California at Berkeley, 1994 - present.

University Extension Committee, Berkeley Division, Academic Senate, University of California at Berkeley, 1993-94.

Cooperator, "Higher Education Collaboration Between the United States and the European Community," the Fund for the Improvement of Postsecondary Education (FIPSE), 1993- present .

Agricultural and Food Marketing Consortium Planning Committee, 1993-94.

Chair, Search Committee for Chair of Slavic Center, University of California at Berkeley, 1993-94.

Member Capital Campaign 2001, Knowledge for the Future, Subgroup: Environment, Resources, and Ecology, 1993.

Member, Board for International Development Studies, Fletcher School of Law and Diplomacy, Tufts University, 1992 - present .

Berkeley Division, Academic Senate, Committee on University Extension, 1992 - present .

Member of Advisory Board, International Center for Self-Governance, 1991-94.

College of Natural Resources Committee to Form International Institute for Natural Resource Systems, University of California, Berkeley, CA, 1991-92.

Chairman, Search Committee for Director of Soviet Studies, 1991.

College of Natural Resources Internal Review Committee, University of California, Berkeley, CA, 1990-92.

Agricultural Academy of Science-Soviet Union Delegation, 1990.

Cofounder of the Institute for Policy Reform, Washington, DC, 1989.

Founder of the Agency for International Development Research Fellow Program, 1989.

Dean's Selection Committee for College of Natural Resources Technical Advisory Committee, 1989.

Member, Economic Discipline Board, Fulbright Scholarship Awards, 1989 - present.

University of California Systemwide Energy Research Advisory Committee, 1988 - present.

Editor, *Agricultural Management and Economics*, Springer-Verlag, 1988-92.

Chairman and Member, Berkeley Campuswide Committee to Evaluate the Department of Economics and Related Economics Programs, 1988-89.

Board of Directors, Universitywide Energy Research Center, 1988-92.

Resources for the Future, National Center for Food and Agricultural Policy Task Force on Multilateral Trade Negotiations, 1988.

U.S. Department of Agriculture, Task Force on Analytical Research Supporting the Trade Representatives Office, 1988.

Advisory Committee, Environmental Protection Agency, Evaluation of Environmental Regulations on Agriculture, 1987-89.

Member, Advisory Committee, Government Accounting Office on U.S. Agricultural Export Strategies, 1987-88.

Departmental Faculty/Extension Coordination Committee, University of California, Berkeley, CA, 1987-88.

Chairman, Political Economy of Natural Resources Panel, 1987-88.

United States Negotiating Team for the OECD Communique on Agricultural Reform, May, 1987.

United States Senate Panel on "1985 Farm Bill Revisited: Competitive Views," March, 1987

Council for Foreign Relations Task Force on Trade Policy Options for the United States, 1987.

General Accounting Office Task Force on Alternative Public/Private Marketing Mechanisms for U. S. Food and Agriculture, 1987.

U.S. Government Task Force on U.S. Agricultural Policy and Position in GATT Negotiations, 1987-88.

U. S. Government Task Force on the Farm Credit System, 1987.

Member, Evaluation of EPA Regulation on U.S. Agricultural Sector Committee, 1987-88.

Chairman and Member, School of Business Administration Planning Committee, University of California, Berkeley, CA, 1986-87.

Editor, *American Journal of Agricultural Economics*, 1983-86.

Organizational Committee for Farm Policy-Technology Conference, Agricultural Issues Center, University of California at Davis, CA, 1986.

American Agricultural Economics Association Committee on Journal Publishing, 1986.

Member, Search and Selection Committee for Vice President of Agriculture and Natural Resources, University of California Systemwide, 1985-86.

Chairman, Strategic Review of Giannini Foundation, 1985-86.

Member, Agricultural Policy Planning Committee, American Agricultural Economics Association, 1984-86.

Member, Planning Committee for Agriculture and Food Policy Evaluation, Resources for the Future, 1984-85.

Departmental Food and Agricultural Act Symposium Committee, University of California at Berkeley, 1984-86.

The American Agricultural Economics Association Board of Directors, ex officio, 1984-86.

Member, Advisory Committee for the design of the Agricultural Issues Center, University of California Systemwide, 1984-85.

Chairman, American Agricultural Economics Association, Outstanding Journal Article Committee, 1983-86.

Member and Director, Agriculture Study Group, Commonwealth Club, 1983-85.

Chairman, Western Agricultural Economics Research Council, 1982-83.

Vice Chairman, Western Agricultural Economics Research Council, 1981-82.

American Agricultural Economics Association Publication of Enduring Quality Award Committee, 1981-82.

Western Nutrition Center Planning Committee, 1980-82.

Western Nutrition Center Coordinating Committee, 1980-81.

Secretary, Western Agricultural Economics Research Council, 1980-81.

Member, Planning Committee, Berkeley Food Cooperative, 1980-83.

Evaluation of World Bank Research Proposals (14 evaluations), 1979-92.

Member, Board of Directors, Giannini Foundation of Agricultural Economics, 1979-86.

Executive Committee, Giannini Foundation, 1979-86.

Chairman, Departmental Endowment Committee, University of California, Berkeley, CA, 1979-84.

Joint Land Grant University/U.S. Department of Agriculture Committee on New Research Directions, 1979-82.

Coordination Board, Giannini Foundation, 1979-82.

Chairman, Joint University Governmental Symposium on Agricultural Sector Forecasting and Policy Evaluations, Washington, DC, 1979.

Arab-American Council for Cultural and Economic Exchange, Egyptian Agricultural Development Committee, 1979-80.

Associate Editor, *Journal of Dynamics and Control*, 1978-82.

Chairman, Research Evaluation Committee for Desert Research Institute, Israel, 1978.

Academic Representative to U.S.-U.S.S.R. Agreement on Cooperation in Agricultural Economic Research and Information, 1977.

Editorial Board, *American Journal of Agricultural Economics*, 1977-80.

Member, World Bank Committee on Research Quality Control, 1976-77.

Harvard University Executive Education Program Instructor, 1975-77.

Agricultural Development Council Workshop Participant, 1974-77.

Associate Book Review Editor, *Journal of the American Statistical Association*, 1974-82.

Member, Outstanding Ph.D. Dissertation Committee, American Agricultural Economics Association, 1974-76.

National Bureau of Economic Research Workshop Participant, 1974-79.

Associate Editor, *Journal of the American Statistical Association*, 1973-77.

Agricultural Econometric Modeling and Forecasting Symposium Participant, 1973-80.

Ford Foundation Visiting Professor, Argentina, 1972.

Numerous Departmental and College-Level Committees, 1970 - present .

College Union Board of Directors, 1966-72.

Interfraternity Council Board, 1965-67.

University of California at Berkeley, Ad Hoc Review Committee for Tenure Appointments (17 appointments, 8 as Chairman).

EDITORIAL COLLABORATIONS

American Economic Review, 1976 - present.

American Journal of Agricultural Economics, 1970 - present.

Annals of Economic and Social Measurement, 1974 - 1977.

Australian Journal of Agricultural Economics, 1977 - present.

Decision Sciences, 1977 - present.

Econometrica, 1974 - present.

Economic Development and Cultural Change, 1985 - present.

Economic Journal, 1986 - present.

IEEE Transactions on Automatic Control, 1977 - present.

Journal of the American Statistical Association, 1971 - present.

Journal of Development Economics, 1982 - present.

Journal of Econometrics, 1973 - present.

Journal of Economic Dynamics and Control, 1978 - present.

Journal of Economic Theory, 1985 - present.

Journal of Economics and Business, 1977 - present.

Journal of Environmental Economics and Management, 1981 - present.

Journal of Finance, 1975 - present.

Journal of Futures Markets, 1986 - present.

Journal of Monetary Economics, 1984 - present.

Journal of Political Economy, 1973 - present.

Management Science, 1977 - present.

Quarterly Journal of Economics, 1976 - present.

Resources and Energy, 1978 - present.

Review of Agricultural Economics, 1990 - present.

Review of Economic Studies, 1987 - present.

Review of Economics and Statistics, 1974 - present.

Review of Futures Markets, 1986 - present.

Springer-Verlag, 1988 - present.

Western Journal of Agricultural Economics, 1977 - present.

AD HOC REVIEWING

Giannini Foundation Monograph Series, 1971 - present.

National Science Foundation, 1976 - present.

World Bank, 1979 - present.

American Enterprise Institute, 1981 - present.

U.S. General Accounting Office, 1983 - present.

Agriculture Canada, 1978 - 1982, 1991 - present.

U.S. Congressional Budget Office, 1982 - present.

United States-Israeli Binational Agricultural Research and Development Fund (BARD), 1980 - present.

U.S. Council of Economic Advisors, 1986 - present.

Club of Paris, various governmental consulting groups, 1988 - present.

Intergovernmental Consulting Group on Indonesia, The Hague, 1989 - 1990.

Ph.D. DIRECTORSHIPS

Fifty-one Ph.D. theses in the areas of Natural Resource Damages; Agricultural Economics and Policy; Industrial Organization and Antitrust Analysis; Water Resources; Human Capital; Recreational Economics; Environmental Economics; Energy Policy; Public Policy; Managerial Economics; Adaptive Control; Econometrics; International Trade; Commodity Markets and Models; Governmental Food and Nutrition Policies; Operational Designs of Decision Support Systems; U.S. Livestock Feed Grain Sector; Agricultural Cycles; Futures Markets; Terms of Trade; Agricultural Land Prices and Agrarian Structure; Land Quality and Soil Conservation; Agricultural Credit Markets; New Institutional Economics and Transaction Costs; Political Economy; Multilateral Negotiations; Design of Governance Structures; Industrial Organization of Food Industry; and Transitional Economics.

RESEARCH GRANTS

Agency for International Development, U.S. State Department (numerous)
Agriculture Cooperative Service, U.S. Department of Agriculture
Agriculture Research Service, U.S. Department of Agriculture (numerous)
Center for Agricultural and Rural Development (numerous)
Chicago Board of Trade
Chicago Mercantile Exchange
Consortium of U.S. Commodity Futures Exchanges
Economic Research Service, U.S. Department of Agriculture (numerous)
Economics Branch, Agriculture Canada (numerous)
Ford Foundation
Giannini Foundation (numerous)
Harvard University Research Institute

International Monetary Fund
National Center for Food and Agricultural Policy (numerous)
National Science Foundation
OECD, France
Resources for the Future
State of Iowa Coal Project
U.S. Trade Representatives Office (numerous)
U.S. Environmental Protection Agency
University of California Systemwide Bio-Technology Research and Education Program
University of California Water Resource Center
Western Human Nutrition Center, U.S. Department of Agriculture
World Bank

GOVERNMENT CONSULTING AND NONACADEMIC POSITIONS

Board of Directors, US Diagnostic Labs, 1994 - present.

President and Board of Directors, Institute for Policy Reform, Washington, DC, 1990 - present.

Nathan Associates, Inc., Washington, DC, 1990 - 1991.

Chief Economist, Agency for International Development, Washington, DC, 1988 - 1990.

Chairman and Board of Directors, TriColor Line, Ltd., 1990 - present.

Principal, Corporate Secretary and Board of Directors, LECG, INC., 1990 - present.

Board of Directors, Source for Automation, Inc., 1988 - present.

Ministry of Agriculture, England, 1987 - 1988.

Senior Staff Economist and Special Consultant to the Council of Economic Advisors, 1986 - 1987.

Bureau of Agricultural Economics, Australia, 1986 - 1987.

Farm Credit Administration, 1986 - 1987.

U.S. Department of State, 1986 - 1990.

U.S. Office of Management and Budget, 1986 - 1987.

Ministry of Agriculture, Spain, 1985.

Chicago Board of Trade, 1982 - 1986.

Chicago Mercantile Exchange, 1980 - 1981.

Oakridge National Laboratories, Energy Division, Oakridge, Tennessee, 1978 - 1981.

Economics Branch, Agriculture Canada, 1977 - 1980.

U.S. Department of Agriculture, 1975 - present.

World Bank, 1975 - 1976 and 1983 - 1988.

U.S. Bureau of Mines, 1974 - 1976.

U.S. Office of Saline Water, 1973 - 1976.

National Science Foundation Environmental Project, University of Chicago, 1973 - 1975.

Manager, California Dairy and Truck Crop Farm, 1967 - 1973.

INDUSTRY CONSULTING AND LITIGATION EXPERIENCE

Extensive consulting experience in complex litigation, statistical decision analysis, experimental economics, class certification analysis, antitrust, regulated industries, measurement of economic damages, economic feasibility studies, market analysis, econometric modeling, hedonic modeling, environmental damages, natural resource valuation, development of portfolio investment models, securities, and the assessment of risk management frameworks.

April 1997

Gordon C. Rausser, Ph.D.

Expert Testimony Given in the Last Four Years

CFTC v. Mark Fisher and other Individuals
Stroock and Stroock and Lavan (1996-1997)
Client: Mark Fisher
- Trial Testimony
- Declaration

Francis T. Lagrimas, et. al v. Southampton Co., et al.
Folger Levin & Kahn (1997)
Client: Plaintiff Class
- Deposition

Union Pacific Railroad, et. al. v. California Public Utilities Commission, et. al.
Union Pacific Railroad Company (1997)
Client: Union Pacfic Railroad Company
- Expert Report

Sugai Products, Inc, et al. v. Kona Kai Farms, Inc.
Milberg Weiss Bershad Hynes & Lerach (1997)
Client: Plaintiff Class
- Trial Testimony
- Deposition
- Expert Report

Meltzer, Lippe, Goldstein, et al. v. Advanced Fibre Communication, Inc.
Client: Advanced Fibre Communications, Inc.
- Expert Report

Kendall-Jackson Winery, Ltd. v. E. &. J. Gallo Winery
Sullwold & Hughes and Cotchett & Pitre (1997)
Client: E. & J. Gallo Winery (Turning Leaf Vineyards)
- Trial Testimony
- Deposition
- Expert Report

Platte Chemical Co. v. Kenner Agricultural Manufacturing Co., et. al
Severson & Werson and Holland & Hart (1996)
Client: Platte Chemical Company
- Deposition

New City Corp., et. al v. Consolidated Land Co., et al.
Alden Aronovsky & Sax and Kimble MacMichael & Upton (1996)
Client: Community First Bank
- Deposition

Beazer East, Inc. v. CSX Transportation, Inc.
Babst Calland Clements & Zomnir (1996)
Client: Beazer East, Inc.
- Expert Report

Sprague v. Mikasaka, et al.
Townsend Townsend & Crew (1996)
Client: Well-Pict
- Trial Testimony
- Deposition

City of Fresno v. Quist Dairy
City of Fresno City Attorney's Office (1996)
Client: City of Fresno
- Deposition

Sanofi v. Cygnus Therapeutic Systems, Inc.
Brobeck Phleger & Harrison (1995, 1996)
Client: Cygnus Therapeutic Systems, Inc.
- Expert Report

Burns Philip v. Rykoff-Sexton
Pilsbury Madison & Sutro (1995, 1996)
Client: Burns Philip
- Binding Arbitration Testimony
- Deposition

In re: Brand Name Prescription Drugs Antitrust Litigation
Covington & Burling and Patterson Belknap Webb & Tyler (1995, 1996)
- Deposition
- Expert Report

Transamerica v. W.R. Grace
Ness Motley Loadholt Richardson & Poole (1995)
Client: Transamerica
- Deposition
- Preliminary Expert Report

W. D. Farming and Suma Fruit Co. v. Kemper Insurance (American Motorist)
McCormick Barstow Sheppard Wayte & Carruth (1995)
Client: Kemper Insurance (American Motorist)
- Arbitration Testimony

City and County of Denver, et al. v, Alumet Partnership, et al. v. City of Aurora
Inman Flynn & Biesterfeld (1995)
Client: Metro Wasterwater Reclamation District
- Deposition
- Expert Report

Nickel v. Bank of America National Trust and Savings Association, et al.
Mills Firm (1994-1996)
Client: Carol F. Nickel (Plaintiff Class)
- Deposition
- Expert Report
- Affidavit

Consolidated Industries, Inc. (dba Frutec) v. Clovis Preserving Co. (dba Lyon Magnus), et al.
Kimble MacMichael & Upton (1994, 1995)
- Deposition

Potash Antitrust Litigation
Keller Rohrback and Meredith Cohen & Greenfogel (1994, 1995)
Client: Class of Direct Purchasers of Potash
- Deposition
- Supplemental Expert Report
- Expert Report
- Supplemental Affidavit
- Affidavit

Circo Craft Co., Inc. v. AMP-AKZO
Brobeck Phleger & Harrison (1994)
Client: Circo Craft Co., Inc.
- Deposition

Carbon Dioxide Antitrust Litigation
Burke Weaver & Prell and Bell Boyd & Lloyd (1994, 1995)
Client: BOC Group, Inc., Liquid Air Corp., Liquid Carbonic and Archer Damield Midland Co.
- Deposition
- Supplemental Expert Report
- Expert Report

City of Fresno v. Dow Chemical, Shell, Occidetal, et al.
Consolidated DBCP Cases
Hardin Cook Loper Engel & Bergez and Sedgwick Detert Moran & Arnold (1994, 1995)
Client: Dow Chemical, Shell and Occidental
- Deposition

Proposed Customs Regulation Amendments Hearing
Pilsbury Madison & Sutro (1995)
Client: Pillsbury Co.
- Affidavit

In re: Belozer Farms, Inc. (dba Lynden Farms)
Irell & Manella (1994)
Client: Foster Farms
- Affidavit

Kawamata Farms, Inc. v. DuPont, et al.
Tomono, et al. v. DuPont, et al.
Goodsill Anderson Quinn & Stifel (1994)
Client: DuPont
- Trial Testimony
- Deposition

Carlough, et al. v. Amchem Products, Inc., et al. v. Admiral Insurance Co., et al.
Cozen & O'Conner (1994)
Client: Commercial Union Insurance Co., Safeco Insurance Co. of America and C.E. Health Compensation & Liability Insurance Co.
- Affidavit

Hillview Porter Arbitration
Munger Tolles & Olson (1994)
Client: Consortium of responsible parties including: Teledyne, Spectra Physics, Xerox Lockheed and Smith Kline
- Binding Arbitration Testimony

Helm Tomatoes, Inc. et al. v. Borden, Inc. et al.
Britz, Inc. v. Borden, Inc.
McCormick Barstow Sheppard Wayte & Carruth (1994, 1995)
- Deposition

Catfish Antitrust Litigation
McGrath North Mullin & Kratz (1993)
Client: Delta Pride, Country Skillet and Farm Fresh
- Class Certification Hearing Testimony
- Deposition
- Affidavit

Monsanto Co. v. Aetna Casualty & Surety Co., et al.
Orrick Herrington & Sutcliffe (1993)
Client: International Insurance Company
- Deposition

Clay White Associates v. Pet, Inc.
Ericksen Arbuthnut Brown Kilduff & Day (1993)
Client: Clau White Associates
- Deposition

David Cox v. GenCorp and Areojet General
Stamell Tabacco & Schager (1993)
Client: David Cox
- Expert Report

Mann v. Kemper Financial Companies, Inc. et al.
Cunniff v. Kemper Financial Companies, Inc. et al.
Jenner & Block
Barger & Wolen
Cotsirilos Stephenson Tighe & Streicker (1993)
Client: Kemper Financial Companies, Inc.
- Settlement Proceedings Testimony

Glen Ellen Winery v. Bronco Wine Co.
Damrell Nelson Shcrimp Pallios & Ladine (1993)
Client: Bronco Wine Company
- Trial Testimony
- Deposition

Class v. ConAgra, Inc., et al.
McGrath North Mullin & Kratz (1993)
Client: ConAgra, Inc.
- Deposition

Davilla v. Arrow Development Co., et al.
Munger Tolles & Olson
Client: Spectra-Physics and Teledyne
- Deposition

Mangini v. Areojet-General Corp., et al.
McCutchen Doyle Brown & Enesen (1992)
Client: Mngini Family
- Trial Testimony
- Deposition

City of Kingsburg, et al. v. Interlink Agricultural Chemical Co., et al
Hardin Cook Loper Engel & Bergez (1992)
Client: City of Sanger
- Trial Testimony
- Deposition

Mexican Citrus v. Bankers Trust
Dorsey & Whitney (1992)
Client: Bankers Trust
- Expert Report

Blue Bell v. Western Glove
Arnold & Porter (1992)
Client: Western Glove
- Trial Testimony

Burkhalter Travel Agency v. MacFarms Int'l., Inc.. et. al
Specialty Food Distributiors, Inc. v. MacFarms Int'l., Inc., et al.
Client: Mauna Loa Macadamia Nut Corp.
McCutchen Doyle Brown & Enersen (1991)
- Sur-Reply Declaration
- Declaration

Class v. Safeway Stores
Morrison & Foerster and King & Green (1990)
Client: Plaintiff Class
- Trial Testimony

Appendix LECG-B

ROBIN ANN CANTOR

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EDUCATION

Ph.D., Economics, DUKE UNIVERSITY, 1985.
Dissertation: An Analysis of Public Costs and Risks in the Canadian Nuclear Industry
Fields: Public Finance, International Economics, Econometrics

B.S., Mathematics, INDIANA UNIVERSITY OF PENNSYLVANIA, 1978.

PRESENT EMPLOYMENT

LAW & ECONOMICS CONSULTING GROUP, INC., September 1996 - present.
Managing Economist

PROFESSIONAL EXPERIENCE

NATIONAL SCIENCE FOUNDATION, Washington, D.C., 1992 - 1996.
Program Director, Decision, Risk, and Management Science
Responsible for complete coordination of mail review for approximately 200 grant proposals annually, panel review and functions, and allocation of $4M program budget. Responsible for synthesis and communication of research areas for use within and outside of the research community. Developed several interdisciplinary research initiatives in organizational behavior and quality management, policy sciences, integrated assessment, and valuation which received separate funding through NSF, other agencies, and the private sector, totaling about $23M in new resources in these areas.

NSF HUMAN DIMENSIONS OF GLOBAL CHANGE, 1992 - 1996.
Coordinator
Coordinator for the Methods and Models for Integrated Assessment, and Team Leader for the Decision Making and Valuation for Environmental Policy funding competitions.
Responsible for NSF and interagency coordination of approximately 180 proposals in environmental social science and allocation of $6M budget. Lead author of a report on the federal programs in HDGC which became the basis for initiatives in the policy sciences and integrated assessment. Served as lead technical representative in environmental social

science for federal review activities and Office of Science and Technology Policy subcommittee functions.

JOHNS HOPKINS UNIVERSITY, 1996
Lecturer, Graduate Part-Time Program in Environmental Engineering and Science

OAK RIDGE NATIONAL LABORATORY
Research included several areas of environmental economics, risk management, public policy and societal decision making. Specific research also included Canadian and US nuclear policies and risk management, possibilities for cost-sharing arrangements between local jurisdictions and other government agencies to clean up hazardous waste sites, social and individual valuations of non-marketed goods, environmental externalities and energy technologies, private sector responses to global warming, and electric power plant cost estimation and planning. Primary funding sources included DOE, EPA, and FEMA.

Project Manager, November 1990 - December 1991.
External Costs of Fuel Cycles Project, an international study of externalities. Responsibilities included coordinating a project team of 25 people located at ORNL and Resources for the Future and managing a $1M annual budget.

Technical Assistant, September 1989 - November 1990.
Assistant to the Associate Director for Advanced Energy Systems
Responsibilities included annual review of $' 42M budget spanning four divisions (energy, fossil, chemical technology, and fusion) and hundreds of research projects.

Group Leader, June 1987 - July 1989.
Social Choice and Risk Analysis Group, Energy and Economic Analysis Section

Research Staff, October 1982 - June 1987.
Energy and Economic Analysis Section, Oak Ridge National Laboratory

HARVARD INSTITUTE FOR INTERNATIONAL DEVELOPMENT, July 1987.
Consultant
Indonesian Energy Project

NORTH CAROLINA CENTRAL UNIVERSITY, Durham, N. C., Spring 1982.
Visiting Instructor

JOURNALS AND BOOKS

"Risk, Stigma, and Property Values: What are people afraid of?" with Gregory D. Adams in *Risk and Stigma*, J. Flynn, H. Kunreuther, and P. Slovic, eds., forthcoming.

"Comments on the NEBA approach: Some reflections on the decision process," in *Restoration of Lost Human Uses of the Environment*, Grayson Cecil and Randall Luthi, eds., forthcoming.

"Economic Activity" chapter editor with Gary Yohe in *Human Choice and Climate Change: A International Social Science Assessment State of the Art Report*, S. Rayner and E.L. Malone, eds., Battelle Press, forthcoming.

"Rethinking Risk Management in the Federal Government," *The Annals of the American Academy of Political and Social Science*, 545, special editors H. Kunreuther and P. Slovic, 135-143, May 1996.

Estimating Externalities of Coal Fuel Cycles, Russell Lee, ed., Report 3, Utility Data Institute, McGraw-Hill, Washington, DC, 1994.

"Changing Perceptions of Vulnerability," with Steve Rayner in *Industrial Ecology and Global Change*, R. Socolow, C. Andrews, F. Berkhout, and V. Thomas, eds., Cambridge University Press, 1994.

"Risk and Rationality in Hazardous Waste Disposal: Ethnography and Contingent Valuation," with Mark Schoepfle, *The Environmental Professional*, 15, special issue on *Communities at Risk: Communication and Choice of Environmental Hazards*, A. K. Wolfe and E. B. Liebow, eds., 293-303, 1993.

Making Markets: An Interdisciplinary Perspective on Economic Exchange, with Stuart Henry and Steve Rayner, Greenwood Press, Delaware, 1992.

"The Potential Role of Nuclear Power in Controlling CO_2 Emissions," with W. Fulkerson, John Jones, Jerry Delene, and Alfred M. Perry, in *Limiting the Greenhouse Effect: Options for Controlling Atmospheric CO_2 Accumulation*, G. I. Pearman, ed., John Wiley and Sons, 1992.

"Sources and Consequences of Hypothetical Bias in Economic Analysis of Risk Behavior," with Mark Schoepfle and Ellen Szarleta, in B. John Garrick and Willard C. Gekler, eds., *The Analysis, Communication, and Perception of Risk*, Plenum Press, New York, 1991.

"Applying Construction Lessons to Decommissioning Estimates," *The Energy Journal*, 12, special issue edited by M. J. Pasqualetti, 105-117, 1991.

"Biomass Energy: Exploring the Risks of Commercialization," with Colleen Rizy, *Bioresource Technology*, 35(1), 1-13, 1991.

"Beyond the Market: Recent Regulatory Responses to the Externalities of Energy Production," with Alan Krupnick and Colleen Rizy, in *Proceedings of the 1991 Conference of the National Association of Environmental Professionals*, pp. 51-61, 1991.

"Thinking the Unthinkable: Preparing for Global Disaster," with S. Rayner, in P. Ricci (ed.), *New Risk: Issues in Management*, Plenum Press, New York, 1990.

"Policies to Encourage Private Sector Responses to Potential Climate Change," with Don Jones, Paul Lieby, and Steve Rayner, in A. Finizza and J.P. Weyant, eds., *Energy Markets in the 1990s and Beyond*, IAEE, Washington, D.C., 1989.

"The Economics of Nuclear Power: Some New Evidence on Learning, Economies of Scale, and Cost Estimation," with Jim Hewlett, in *Resources and Energy*, 10, 315-335, 1988.

"L'Approche Culturelle aux Choix Technologiques de la Societé," with S. Rayner, in D. Duclos, ed., *La Societé Vulnerable*, Ecole Normale Superieure, Paris, 1987.

"The Role of Liability Preferences in Societal Technology Choices: Results of a Pilot Study," with S. Rayner and R. B. Braid, in L. Lave, ed., *Risk Assessment and Management*, Plenum Press, New York, 1987.

"How Fair is Safe Enough? The Cultural Approach to Societal Technology Choice," with S. Rayner, *Risk Analysis: An International Journal*, 7(1), 3-9, 1987.

"Evaluation of a Large-Scale Charcoal Project in Madagascar: Attacking the Deforestation Problem from the Supply-Side," with C. Petrich and J. R. Mercier, in David O. Wood, ed., *The Changing World Energy Economy*, IAEE, Washington, D.C., 1987.

"The Fairness Hypothesis and Managing the Risks of Societal Technology Choices," with S. Rayner, *ASME*, paper 86-WA/TS-5, December 1986.

"Regulatory Trends and Practices Related to Nuclear Reactor Decommissioning," in John P. Weyant and Dorothy B. Sheffield, eds., *The Energy Industries in Transition 1985 - 2000*, IAEE, Washington, D.C., 1984.

REPORTS

"Community Preferences and Superfund Responsibilities," prepared for the USEPA under Interagency Agreement 1824-B067-A1 with Oak Ridge National Laboratory, August 1993.

The U.S.-EC Fuel Cycle Study: Background Document to the Approach and Issues, with L. W. Barnthouse, D. Burtraw (Resources for the Future), G. F. Cada, C. E. Easterly, A. M. Freeman (Bowdoin College), W. Harrington (Resources for the Future), T.D. Jones, R. L. Kroodsma, A. J. Krupnick (Resources for the Future), R. Lee, H. Smith (DOE), A. Schaffhauser, and R. S. Turner, Oak Ridge National Laboratory, ORNL/M-2500, November, 1992.

"What are the Problems of Equity and Legitimacy Facing a Management Strategy for the Global Commons?" with Roger Kasperson in Steve Rayner, Wolfgang Naegeli, and Patricia Lund, Managing the Global Commons: Decision Making and Conflict Resolution in Response to Climate Change, Oak Ridge National Laboratory, ORNL/TM-11619, July, 1990.

Markets, Distribution, and Exchange After Societal Cataclysm, with S. Rayner and S. Henry, Oak Ridge National Laboratory, ORNL-6384, November, 1989.

"Information," with G. G. Stevenson and P. J. Sullivan, Chapter 5 of A Compendium of Options for Government Policy to Encourage Private Sector Responses to Potential Climate Change, DOE/EH-0102, Report to Congress, October, 1989.

"Agriculture and Forestry," with W. Naegeli and A. F. Turhollow, Jr., Chapter 10 of A Compendium of Options for Government Policy to Encourage Private Sector Responses to Potential Climate Change, DOE/EH-0102, Report to Congress, October, 1989.

Evaluation of Implementation, Enforcement and Compliance Issues of the Bonneville Model Conservation Standards Program, Vol. I and II, with Steve Cohn, ORNL/CON-263, July, 1989.

Gas Furnace Purchases: A Study of Consumer Decision Making and Conservation Investments, with David Trumble, ORNL/TM-10727, October, 1988.

An Analysis of Nuclear Power Plant Construction Costs, with J. G. Hewlett and C. G. Rizy, DOE/EIA-0485, 1986.

Nuclear Reactor Decommissioning: A Review of the Regulatory Environments, ORNL/TM-9638, 1986.

Nuclear Power Options Viability Study, Vol. I, Executive Summary, with D. B. Trauger et al., ORNL/TM-9780/1, 1986.

Nuclear Power Options Viability Study, Vol III, Nuclear Discipline Topics, with D. B. Trauger et al., ORNL/TM-9780/3, 1986.

Clinch River Breeder Reactor: An Assessment of Need for Power and Regulatory Issues, with D. M. Hamblin et al., ORNL/TM-8892, September 1983.

OTHER PUBLICATIONS

"Decision Analysis," contributing author to edited chapter, C.C. Jaeger, O. Renn, E. A. Rosa, and T. Webler, G. McDonell, and G. Sergen, eds., in *Human Choice and Climate Change: A International Social Science Assessment State of the Art Report*, S. Rayner and E.L. Malone, eds., Battelle Press, forthcoming.

Book review of Public Reactions to Nuclear Waste by Riley E. Dunlap, Michael E. Kraft, and Eugene A. Rosa, *Science*, 266, p. 145, Oct. 1994.

"News from Washington," *Human Dimensions Quarterly*, 1(2), 20-21, Fall 1994.

Book review of The Risk Professionals by Thomas M. Dietz and Robert W. Rycroft, *The Environmental Professional*, 11(4), 458-9, 1989.

"Decommissioning: The Next Chapter in the Nuclear Saga," in *FORUM*, 3(3), 105-106, invited letter to the Editor, 1988.

SELECTED PRESENTATIONS

"Natural Resource Damage Rules: A Search for the Path of Least Resistance in Value Disputes?" George Washington University Seminar Series on Environmental Values and Strategies, September, 1997.

"Rethinking the Science of Risk Management: Changing paradigms of the process and function," Operations and Information Management Department Workshop, Wharton School of the University of Pennsylvania, November, 1995.

"Interdisciplinary Perspectives on Experimental Methods," presented with Hal Arkes at the 1995 Meetings of the American Economic Association, January 1995.

"Risk Management: Four different views," invited presentation to the Conservation of Great Plains Ecosystems Symposium, April, 1993.

"Human Dimensions of Global Change: A white paper on the USGCRP research programs," presented to the National Academy of Sciences Board on Global Change, November 1993.

"Changing Perceptions of Vulnerability," invited paper presented with Steve Rayner at the NCAR/UCAR Summer Institute on Industrial Ecology and Global Change, July 17-31, 1992.

"Should Economic Considerations Limit the Conservatism of Risk Assessment?" invited paper presented at the Workshop of the International Society of Regulatory Toxicology and Pharmacology on Risk Assessment and OMB's Report on its Application in Regulatory Agencies, Washington, D.C., June 11, 1991.

"Beyond the Market: Recent Regulatory Responses to the Externalities of Energy Production," presented at the Annual Meetings of the National Association of Environmental Professionals, Baltimore, MD, April 30, 1991.

"Understanding Community Preferences at Superfund Sites," presented at the National Meeting of EPA Community Relations Coordinators, Chicago, Illinois, April 4-6, 1990.

"Methodological Myths and Modeling Markets: A Common Framework for Analyzing Exchange," presented at the Second Annual International Conference on Socio-Economics, Washington, D.C., March, 1990.

"Sources and Consequences of Hypothetical Bias in Economic Analyses of Risk Behavior," with G. M. Schoepfle and E. J. Szarleta, presented at the 1989 Meetings of Society for Risk Analysis, October 1989.

"Policies to Encourage Private Sector Responses to Potential Climate Change," with Don Jones, Paul Lieby, and Steve Rayner, presented at the 1989 Meetings of International Association of Energy Economists, October 1989.

"The Experimental Approach in Public Policy Analysis: Precepts and Possibilities," with Ellen J. Szarleta, presented at the Public Choice Society and Economic Science Association Annual Meetings, Orlando, Florida, March 17-19, 1989.

"Global Disaster Management: Developing Principles for Research," with Steve Rayner, presented at the 1988 Meetings of the Association for Public Policy Analysis and Management, October 1988.

"Implementation and Enforcement Issues from Early Adopter Experience," meeting of the Regional Evaluation Network, Northwest Power Planning Council, Portland, Oregon, June, 1988.

"Using Information from Toxic-Tort Litigation to Value the Health and Safety Consequences of Regulatory Decisions," Public Policy Workshop, the Department of Economics and Waste Management Research and Education Institute, University of Tennessee, Knoxville, February, 1988.

"Valuing Safety and Health Effects in Regulatory Decisions: A Revealed-Preference Approach," with R. Bishop Jr., presented at the 1987 Annual Meeting of the Society for Risk Analysis, November 3, 1987.

"Government Intervention and Technology Prices: The CANDU Example," invited paper presented at the WATTEC Conference, February 19, 1987, Knoxville, Tennessee.

"Fairness Hypothesis and Managing the Risks of Societal Technology Choices," with S. Rayner, presented at the 1986 Winter Annual Meeting of the American Society of Mechanical Engineers, Anaheim, California, December 10-12, 1986.

"A Retrospective Analysis of Technological Risk: The Case of Nuclear Power," invited paper presented in the Center of Resource and Environmental Policy Workshop Series, Vanderbilt University, Nashville, Tennessee, December 4, 1986.

"Evaluation of a Large-Scale Charcoal Project in Madagascar: Attacking the Deforestation Problem from the Supply Side," with Carl Petrich and Jean-Roger Mercier, presented at the 1986 IAEE North American Conference, Cambridge, Massachusetts, November 19-21, 1986.

"Tools for the Job: Choosing Appropriate Strategies for Risk Management," with S. Rayner, presented at the 1986 Annual Meeting of the Society for Risk Analysis, Boston, Massachusetts, November 9-12, 1986.

"Thinking the Unthinkable: Preparing for Global Disaster," with S. Rayner, presented at the 1986 Annual Meeting of the Society for Risk Analysis, Boston, Massachusetts, November 9-12, 1986.

"The Role of Liability Preferences in Societal Technology Choices: Results of a Pilot Study, with S. Rayner and B. Braid, presented at the 1985 Annual Meetings of Society for Risk Analysis, Washington, D.C., October 8, 1985.

CONFERENCE PARTICIPATION

Organizing Committee Member for the 1997 Annual Meetings of the Society for Risk Analysis.

Panelist for Net Environmental Benefits Assessment for Restoration Projects After Oil Spills, Conference on Restoration of Lost Human Uses of the Environment, Washington DC, May 1997.

Session Organizer and Chair for Cost Benefit Analysis and Risk Assessment at the 1996 Annual Meeting of the Society for Risk Analysis.

Organizing Committee Member for the 1996 Annual Meetings of the Society for Risk Analysis.

Panelist for Challenges in Risk Assessment and Risk Management, sponsored by The Annenberg Public Policy Center of the University of Pennsylvania at the National Press Club, Washington, DC, May 16, 1996.

Panelist for Media and Risk in a Democracy: Who Decides What Hazards Are Acceptable? at the 1995 Annual convention of the Association for Education in Journalism and Mass Communication.

Session Organizer and Co-Chair for Experimental Methods: Insights from Economics and Psychology at the 1995 Meetings of the American Economic Association.

US Organizer for the Third Japan-US Workshop on Global Change Modeling and Assessment: Improving Methodologies and Strategies. Hawaii, October, 1994.

Cluster Organizer for three sessions on Competitiveness at the Fall Meeting of the Operations Research Society of America/ The Institute of Management Sciences, 1994.

Roundtable Panelist for Risk Communication Research: Defining Practitioner Needs at the 1994 Meetings of the Society for Risk Analysis.

Workshop Organizer for Organizational Transformation and Quality Systems, National Science Foundation, 1993.

Session Chair and Organizer for the NSF/Private Sector Research Initiative Projects at the 1992 Meetings of the Society for Risk Analysis.

Roundtable Panelist for the EPA Session on Risk Communication at the 1990 Meetings of the Society for Risk Analysis.

Session Chair and Organizer for the Computer Assisted Market Institutions Session at the Advanced Computing for the Social Sciences Conference, April 1990.

Discussant for the Issues in LDC Public Finance Session at the 1988 Meetings of the American Economic Association.

Session Chair and Organizer for Social Science Innovations in Risk-Analysis Methods, Special Session at the 1988 Meetings of the Society for Risk Analysis.

PROFESSIONAL ACTIVITIES

Advisory Board Member, Johns Hopkins University Graduate Part-Time Program in Environmental Engineering and Science, three year term beginning 1997.

Editorial Board, *Journal of Risk Analysis*, three year term beginning 1997.

Advisory Committee Member, Harvard Center for Risk Analysis, 1997.

Editorial Board, *Journal of Risk Research*, 1997.

Planning Committee Member, Carnegie Council on Ethics and International Affairs Long Term Study of Culture, Social Welfare, and Environmental Values in the US, China, India, and Japan, initiated January 1997.

Councilor, Society for Risk Analysis, three-year term beginning in 1996.

Vice-Chair, US Global Change Research Program working group on Assessment Tools and Policy Sciences, 1994-1996.

US Federal Reviewer for the Intergovernmental Panel on Climate Change working group III 1995 Report on Socioeconomics.

NSF Principal for the Committee on the Environment and Natural Resources' Subcommittee on Risk Assessment, 1993-1996. I also served as the liaison between the Subcommittee on Risk Assessment and the Subcommittee on Social and Economic Sciences.

Advisory panel member for Environmental Ethics and Risk Management, National Academy of Public Administration and George Washington University, 1993-4.

Science Advisory Board member for Consortium for International Earth Science Information Network, 1993.

Review Panel member for Economics and the Value of Information, NOAA, 1993.

NSF technical representative to the FCCSET Ad Hoc Working Group on Risk Assessment and member of its Subcommittee on Risk Assessment, 1992-3.

NSF representative to Working Party of the FCCSET Subcommittee for Global Change Research on Assessment, 1992-3.

Membership in professional societies: Society for Risk Analysis.

Affirmative Action Representative for the Energy Division, Oak Ridge National Laboratory 1984-89, AA Rep for the Central Management Organization of ORNL, October 1989 to November 1990.

Board of Directors, Vice President (1987-88), President (1988-89), Matrix Organization, The Business Center for Women and Minorities, Knoxville, Tennessee.

Referee for: *Climate Change*, *Contemporary Economic Policy*, *Growth and Change*, *Ecological Applications*, *Risk Analysis*, Duke University Press, Princeton University Press, *J. of Environmental Economics and Management*, *Resources and Energy*, *The Environmental Professional*, National Science Foundation, National Oceanic and Atmospheric Administration, *FORUM*, U.S. Environmental Protection Agency.

AWARDS

NSF Director's Award for Superior Accomplishment, 1996
NSF Special Act Award, 1995
NSF Director's Award for Program Officer Excellence, 1994
Oak Ridge National Laboratory Significant R&D Accomplishment Award, 1993
YWCA Tribute to Women Award for Business and Industry, 1990
Martin Marietta Special Achievement Award, 1990
Martin Marietta Special Achievement Award, 1989
Martin Marietta Energy Systems Significant Event Award, 1988

SCHOLARSHIPS

C. B. Hoover Scholar, 1980 - 1981
Mellon Fellowship, 1978 - 1981

November 1997

Appendix LECG-C

Materials Relied Upon

Harvey, Aviva E. et al. *Statistical Trends in Railroad Hazardous Materials Transportation Safety 1978 to 1986*. Association of American Railroads Pub. No. R-640, 1987.

Barkan, Christopher P. L. *Data Requirements for the Development of a Quantitative Risk Assessment Model for Rail Transportation of Hazardous Materials*. Conference on the Transportation of Hazardous Materials and Wastes, 1991.

CSX Transportation, Inc. *Safety Assurance and Compliance Program Report/Executive Summary*, N.p., n.d.

Electronic Data Files received from Zeta Tech:

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crtraffic96.xls
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Zeta Tech.xls
ZT FRA Detail Segment Grade.xls
ZT FRA Shop Facilities.doc
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ZT FRA Traffic GTMs.xls
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FRA_Zeta-Tech study9_30.xls
Hazmat 95.xls
Zeta_per.txt
CRACD89.xls - 96.xls
CSXACD89.xls - 96.xls
NSACD89.xls - 96.xls

English, Edward R. Verified Statement Finance Docket No. 33388, Oct. 17, 1997.

FRA Depository Index, STB Finance Docket No. 33388:

Accidents - CR, CSX, NS
Background Material (Hazardous Materials, Dispatch Centers, Highway Grade Crossing, Operating Practices, Track and Structures, Signal and Train Control, Analytical Modeling, Bridges and Tunnels)
UP/SP Safety Assessment/Survey (July/Aug. 1997)
UP/SP Safety Assessment Interim Report/Executive Overview
VRE Various Public Items

GAO. *Rail Transportation: Federal Railroad Administration's New Approach to Railroad Safety*. Pub. No. GAO-RCED-97-142, July 1997.

Green, William H. *Econometric Analysis*, 2d ed. 1993.

Appendix LECG-C

Hard Copy Data Files received from Zeta Tech:

CR Line Segments - Base Case and Post Acquisition Case
NS Line Segments - Base Case and Post Acquisition Case
CSX Line Segments - Base Case and Post Acquisition Case

Hofstede, Geert et al. *Measuring organizational cultures: a qualitative and quantitative study across twenty cases.* Admin. Sci. Q. 286, 1990.

Maurino, Daniel E. et al. *Beyond Aviation Human Factors: Safety in High Technology Systems*, 1995.

Moore, Thomas G. "The Myth of Deregulation's Negative Effect on Safety," *in Transportation Safety in An Age of Deregulation*, eds. Leon N. Moses and Ian Savage, 1989.

Oster, Clinton V. et al. *Why Airplanes Crash: Aviation Safety in A Changing World*, 1992.

Railroad Control Application. Finance Docket No. 33388, June 1997.

Reason, James. *Corporate Culture and Safety. NTSB Symposium on Corporate Culture and Transportation Safety*, 1997.

Rose, Nancy L. "Financial Influences on Airline Safety," *in Transportation Safety in An Age of Deregulation*, eds. Leon N. Moses and Ian Savage, 1989.

Thompson, R.E. et al. *Hazardous Materials Car Placement In A Train Consist - Vol. 1 (Review and Analysis)*. U.S. Dep't of Transportation Report No. DOT/FRA/ORD-92/18.1, 1992.

U.S. Dep't of Transportation. *Accident Incident Bulletin*. Federal Railroad Administration Office of Safety, 1992-97.

U.S. Dep't of Transportation. *Enhancing Rail Safety Now and into the 21st Century: the Federal Railroad Administration's Safety Programs and Initiatives*. Federal Railroad Administration, 1996.

U.S. Dep't of Transportation. *Preliminary Comments*. Finance Docket No. 33388, Oct. 21, 1997.

Viscusi, Kip. "The Effect of Transportation Deregulation on Worker Safety," *in Transportation Safety in An Age of Deregulation*, eds. Leon N. Moses and Ian Savage, 1989.

REBUTTAL VERIFIED STATEMENT

OF

DONALD K. REARDON

President
The Baltimore and Ohio Chicago Terminal Railroad Company

My name is Donald K. Reardon. I am President of The Baltimore and Ohio Chicago Terminal Railroad Company (B&OCT), a wholly-owned subsidiary of CSX Transportation, Inc. (CSXT). I have held that position since March 1996. My offices are at the B&OCT Barr Yard in Riverdale, Illinois. I am responsible for all operations on the B&OCT as well as CSXT operations in and out of the Chicago Terminal over the B&OCT. I have been in the railroad industry for 33 years, having held various marketing, operations, and general management positions at CSXT and/or its subsidiaries and at predecessor companies.

B&OCT operates in the Chicago Terminal Area. One of the difficulties in making the Chicago Terminal flow smoothly is difficulty in communication. A single train must often traverse several carriers' lines to get to the destination yard or to pass through Chicago. Each line is generally dispatched by its owner. Dispatchers for different roads typically have not coordinated their efforts with one another. We are concentrating on communication at B&OCT. To help reduce the inefficiencies that follow from lack of communications, in January 1997, B&OCT relocated its dispatchers to the Belt Railway of Chicago's (BRC) Clearing Yard where they are now co-located with BRC dispatchers. Merely being in the

same dispatching complex has improved coordination between these two teams. This is the sort of cooperation between railroads that I believe it is useful to have.

However, the main purpose of this verified statement is to address two subjects raised in the responsive application of the Wisconsin Central (WC) seeking to force the sale of B&OCT's Altenheim Subdivision to WC. I will first address the implications of the proposed forced sale of the Altenheim Subdivision on the existing industrial customers served by B&OCT on that line. I will then address the complaints about B&OCT dispatching which WC has raised as its justification for the proposed forced sale. I understand that Mr. John Orrison has addressed the operating implications of the WC proposal in his verified statement.

The B&OCT serves thirty-five local industries. These industries rely on B&OCT to pick up and deliver freight from their door and to deliver their traffic to line-haul railroads serving the Chicago area. Eleven of these thirty-five customers are located on the Altenheim Subdivision. From B&OCT's viewpoint, these customers represent approximately one-third of our industrial customer base. From the perspective of our customers on the Altenheim subdivision, B&OCT is their link to the national rail network. (Other railroads who use our switching services and facilities are the other category of B&OCT customers.)

B&OCT provides five day a week local switching service to the industries on the Altenheim Subdivision. One train is dedicated to that job each day. That train also interchanges with the St. Charles Air Line Railroad and Manufacturers Junction Railroad.

Wisconsin Central's Application makes it clear that its attempt to take over this line is designed solely for overhead service. It has given no indications of its intentions with respect to local service except to indicate that B&OCT would be granted local trackage rights to serve the existing customers. Since very little of these customers' shipments are destined to points on the WC, one would not expect Wisconsin Central to place a high priority on local service to these customers. Under WC ownership, the train operated daily by B&OCT to pick up and deliver freight for these customers would be subordinated in importance to the overhead movements that WC makes over the line. Since local switching operations take longer than overhead movements, I am concerned that service to these customers would suffer badly. Today, except when B&OCT is working those local industries, there is essentially no traffic on the Altenheim subdivision to interfere with the WC's operations. If a sale were forced, I am certain that WC's traffic will take priority. It will be harder to fit in a local switch job between WC's through trains than it is to fit WC's trains around the single B&OCT local.

The area served by the Altenheim Subdivision is an economically depressed region and over the past two decades has declined somewhat. In the long run, there is considerable potential for industrial development along the corridor and it would certainly discourage industry from locating on the line if the owner had no interest in local service.

I would like next to address the complaints about B&OCT dispatching raised by WC. The overall tenor of the WC's submission on the subject of dispatching is that B&OCT selectively mistreats WC out of a combination of neglect and vindictiveness. This is both

false and insulting. It is true that WC is denied access to the Altenheim Subdivision while the B&OCT local switch crew is delivering and picking up freight from the customers on that line. Safe operations require nothing less. When B&OCT trains are not on the line, WC has full use of it and the only interfering train traffic is WC's own trains. Stripped of the rhetoric, WC's complaint is one that could be repeated throughout the Chicago Terminal by many carriers including B&OCT and CSXT: It can be difficult to maintain continuous train movement over various routes in and through Chicago. CSXT recognizes this and is investing tens of millions of dollars to improve traffic flow and velocity through the terminal by providing more route options on B&OCT and other carriers in and through Chicago.

The lengthy complaint of WC about dispatching problems on a particular day in October 1997 mostly boi : down to two problems: the difficulty of coordinating right of way maintenance and train operations, and difficulties in communication. In fact, WC is often to blame for its own operating difficulties. The B&OCT local service on the Altenheim Subdivision is scheduled and operates Monday through Friday from 0800 to 1800 CST. This schedule is known to WC. WC could, and should, schedule its traffic to avoid potential conflict between this local switching operation and its trackage rights trains. The majority of WC's trains over the Altenheim Subdivision are nonscheduled unit trains of bulk commodities. WC often attempts to squeeze a train through during this local's work -- which B&OCT can sometimes accommodate while the local is working on the 48th St. branch. However, the timing of that part of the local's work is never certain and WC is

essentially taking a chance that an opportunity to move across the Altenheim Subdivision may present itself.

The fact of the matter is that Chicago is a complex and congested terminal. There are hundreds of opportunities every day for delay throughout the Chicago Terminal as one train waits on dispatching clearance from another carrier over a line on which it operates.[1] While WC may experience delays in getting clearance to enter and exit the Altenheim Subdivision, B&OCT frequently has problems securing clearance to enter and exit the IHB and BRC. Interlockings that must be crossed are a major source of operating headaches in Chicago, too. CSXT has similar problems navigating through the complex network we call Chicago. Communications failures and mistakes by individual dispatchers are certainly part of this problem, but fundamentally it is the inherent nature of the operations through the Chicago Terminal with multiple carriers dispatching their own and others' trains from one line to the next that is the primary problem. We are currently setting up a dedicated direct communications link among local B&OCT, BRC, IHB and UP dispatchers. This will enable these dispatchers to more efficiently coordinate train movements in and through Chicago. Federal realignment of ownership of lines (and therefore dispatching control) that may help one carrier, but to the detriment of another who happens to own the property, will not change this fundamental nature of terminal operations.

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1 A carrier can operate over another via trackage rights or, also by agreement, to effect interchange.

I am aware of nothing in the CSX Operating Plan for post-control implementation that will adversely affect Wisconsin Central's operations onto, off of, or over the Altenheim Subdivision in any way at all.

Finally, in response to WC's vague assertion that it has an interest in clearing the subdivision for double stack intermodal moves, I would like to note that no one from Wisconsin Central has ever approached me regarding the possibility of increasing clearances on the Altenheim Subdivision.

VERIFICATION

I, Donald K. Reardon, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement. Executed on December 9, 1997.

Donald K. Reardon

REBUTTAL VERIFIED STATEMENT
OF
PAUL H. REISTRUP

I. INTRODUCTION

My name is Paul H. Reistrup. I am currently Vice President-Passenger Integration of CSX Transportation, Inc., a position that I have held since July 1, 1997. After graduating from the United States Military Academy at West Point and service in the Army, I began my railroading career in 1957 when I joined the Baltimore and Ohio Railroad (the "B&O"). While at the B&O, I had extensive involvement with both freight operations and passenger rail operations in my positions as Assistant Division Engineer (which included responsibility for intercity passenger train infrastructure), General Yardmaster, Trainmaster (which included responsibility for commuter and intercity passenger train operations), Superintendent of Car Utilization and Distribution (including passenger cars), Director of Passenger Services, and Assistant to the Vice President-Executive Department. From 1967 through 1975, I worked for the Illinois Central Gulf Railroad, serving as Vice President-Passenger Services, Vice President-Intermodal, and Senior Vice President-Traffic. From 1975 through 1978, I served as the President and CEO of the National Railroad Passenger Corporation ("Amtrak"). Since 1978, I have held additional positions including Chief Traffic Officer and then President and CEO of the Monongahela Railway Company (1982-92), General Manager of Privatization (responsible for privatization of two Argentine railroads) for the Railroad Development Corporation (1992-94), and Vice President and Program Area Manager for Parsons Brinckerhoff (1994-97).

As Vice President-Passenger Integration at CSX, my responsibilities include overseeing CSX passenger operations, negotiating contracts with passenger agencies, ensuring the safe and efficient use of CSX lines by both freight and passenger trains, and educating CSX staff in issues arising from the joint use of CSX lines by both freight and passenger trains. In addition, A.R. Carpenter, CSXT's President and Chief Executive Officer, has asked me to ensure the smooth integration, from both a safety and operations standpoint, of passenger trains into the new CSX rail network that will be created if the Board approves the Transaction. We have addressed passenger operations in the Operating Plan (Volume 3A) and Environmental Report (Volume 6A) submitted with the Application and, again, in the Safety Integration Plan submitted to the Board on December 3, 1997.

CSX is no stranger to passenger operations. CSX has been operating passenger trains for Maryland Rail Commuter ("MARC") for years. Amtrak operates its own passenger trains and the passenger trains of Virginia Railway Express ("VRE") over CSX lines. CSX also shares a line with Tri-Rail in the Miami area and controls an interlocker in Chicago used by commuter trains of the Commuter Rail Division of the Regional Transportation Authority of Northeast Illinois ("Metra"). After the transaction, CSX will, in addition, share lines with the Massachusetts Bay Transit Authority ("MBTA"), the Metro North Commuter Railroad ("Metro North"), New Jersey Transit Rail Operations ("NJT"), and the Southeastern Pennsylvania Transportation Authority ("SEPTA").

After CSX, NS, and Conrail filed their Application seeking Board approval of the proposed Transaction, I arranged meetings with every passenger agency that currently shares or will share lines with CSX as a result of the transaction. The purpose of these meetings

was to explain the Application to the passenger agencies, answer questions about the Application, identify concerns of the passenger agencies about the Application, and express CSX's commitment to work in conjunction with the passenger agencies to ensure that the Transaction would benefit the users of both freight and passenger rail services. Our relations with passenger agencies, like those of Conrail and other freight railroads, is governed by agreements that are the product of commercial negotiations, rather than government dictate. This is the atmosphere in which we have worked with commuter agencies for many years, and intend to continue to do so. As a former President of Amtrak, I bring to the table a solid understanding of passenger operations and of the legitimate interests of commuter agencies. I am confident that all of the issues raised by Amtrak and the commuter agencies can be resolved through commercial negotiation.

In fact, I am happy to report that our meetings, and subsequent negotiations, have resulted in the execution of a new contract with the Maryland Mass Transit Administration to continue operating MARC and an agreement with the Commonwealth of Massachusetts which addresses the interests of MBTA. The new contract with MARC provides for new service to Frederick, Maryland on a line that, until this time, had been used exclusively for freight operations. The agreement regarding MBTA includes, among other things, CSX's willingness to discuss with MBTA certain extensions of commuter rail services. Discussions with Metro North resulted in the mutual understanding that CSX will be able to take over Conrail's operations on lines shared with Metro North without difficulty. No formal agreement was required to memorialize this understanding.

My meetings with Amtrak, Metra, NJT, Septa and VRE were also productive on many fronts, although they have not yet achieved a resolution of all issues. As explained in more detail below, the issues that prevented complete agreement do not arise out of legitimate operational concerns related to the Transaction. Rather, they appear to be an effort to use the STB approval process as leverage to obtain concessions unrelated to the Transaction that the passenger agencies know they could not obtain either under their existing contracts with Conrail and CSX or through the normal process of arm's-length negotiation with either railroad.

CSX is committed to the smooth and safe integration of freight and passenger operations on its lines and on the Conrail lines over which it will operate post-Transaction. CSX has always worked to ensure that all trains operating over its lines (whether freight or passenger trains) operate in the safest and most efficient manner possible. It is simply not in CSX's interest to set a lower standard.

Given this commitment on the part of CSX, I was surprised by the tone and substance of many of the filings submitted by passenger agencies. As I demonstrate below, the Transaction will not adversely affect any of the passenger agencies which have requested conditions from the Board. Rather, the Transaction will create operating efficiencies and the opportunity for infrastructure improvements which will benefit both CSX and the passenger agencies.

II. RESPONSE TO COMMENTS OF SPECIFIC PASSENGER AGENCIES

A. National Railroad Passenger Corporation (Amtrak)

Amtrak expresses concern about CSX's use of the Northeast Corridor (the "NEC"), but does not ask the Board to take any action in this regard. Amtrak also asks the Board to impose two conditions on CSX related to CSX's off-corridor operations. First, Amtrak requests that the Board impose a "five-year oversight condition to consider appropriate remedies for any degradation in the on-time performance of the CSX-operated Amtrak trains that is traceable to increased freight traffic resulting from the proposed transaction." NRPC-7 at 11-13. Second, Amtrak requests that the Board impose a condition on CSX "requiring it to cooperate with Amtrak and the State of New York in the development of high speed service at public expense between Albany and Buffalo." Id. at 13-14

As a former President of Amtrak, I understand the organization and its interests very well. I am confident that all outstanding issues between CSX and Amtrak can be worked out without any involvement by the Board.

1. Northeast Corridor

The NEC was owned by Conrail or its predecessors prior to 1976 when, during my tenure as President of Amtrak, Conrail conveyed the NEC to Amtrak in accordance with the Final System Plan under the Regional Rail Reorganization Act of 1973. Conrail retained a Freight Service Easement over the NEC. A separate Agreement between Conrail and Amtrak, the Second Amended and Restated Northeast Corridor Freight Operating Agreement, dated October 1, 1986, now governs Conrail's exercise of its freight easement over the NEC.

CSX and NS propose to take over Conrail's operations over the NEC when they obtain control following approval, and, as soon as feasible thereafter, to implement the Operating Plans set forth in the Application. Under the NEC Freight Operating Agreement, Conrail has the right to modify its scheduled and unscheduled freight service "subject to the physical limitations of the NEC, to Amtrak's speed, weight and similar operating restrictions and rules or safety standards, and to the needs of, and in particular to the adequacy, safety and efficiency of, Amtrak passenger train operations and commuter service." Sections 2.3(b) and (c). Because the Operating Plans of CSX and NS each propose to change the numbers and schedules of freight trains operating over the NEC, they are negotiating their proposals with Amtrak.

Based on my discussions, I concur with Amtrak's stated expectation that all issues relating to use of the NEC will be resolved through negotiation. I am hopeful that the parties will be able to find a solution that will ensure continued safe freight operations on the NEC, consistent with each parties' needs and goals.

2. Amtrak's On-Time Performance

Amtrak's primary complaint is about CSX's historical on-time performance record, a matter that is not transaction-related. Although it is not fairly expected that Amtrak's on-time performance over CSX will be as high as that of other carriers who may host Amtrak trains over shorter distances or less complex routes,[1] CSX acknowledged before I joined the

[1] As small delays accumulate throughout a trip, the cumulative delay more often becomes significant on a longer trip than on a shorter trip. Even if the contract performance formulae were the same among all the railroads measured (which has not been demonstrated) it is misleading and inappropriate for Amtrak to use cumulative overall national averages to compare railroads in this manner because of important differences in: distances traveled;

railroad that there was some room for improvement in its service to Amtrak. As discussed below, on-time performance figures began to improve before I became involved and have continued to improve through 1997.

The on-time performance statistics that Amtrak presented to the Board were not computed consistent with the provisions of Amtrak's contract with CSX governing incentive payments (Appendix V). The on-time performance statistics presented by Amtrak do not take into account the reasons for delays to Amtrak trains. While such a methodology may be useful to an Amtrak customer attempting to determine the likelihood that an Amtrak train will arrive at its destination on schedule, the methodology is not appropriate for determining whether CSX is providing good service to Amtrak. Pursuant to Amtrak's contract with CSX, Amtrak trains that are delayed due to factors beyond the control of CSX are not counted as late for purposes of calculating on-time performance. These factors include, among other things, delays due to: (1) Amtrak equipment failure; (2) Amtrak trains being operated at a power-to-weight ratio less than the ratio used to establish the scheduled running times; (3) switching Amtrak Express (freight) cars; (4) severe weather conditions; and (5) grade crossing accidents.

The actual on-time performance levels are substantially higher than Amtrak portrays them to be. During the past five years, Amtrak trains have had an 86% on-time performance rate over CSX's lines, a rate comparable to Amtrak's on-time performance rate over Conrail's lines for the same period. Despite CSX's efforts to improve its performance rate

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densities of passenger and freight traffic over the lines; and physical and operational complexities among various routes. That is, performance comparisons should only be made where like things are being measured -- in terms of both criteria and conditions.

in 1997, its on-time performance of 85% for fiscal year 1997 (October 1996-September 1997) did not improve over its five-year average because of delays during the summer on the busy Alexandria, VA to Richmond, VA line segment resulting from repair work required after a derailment in Rosslyn, VA and major maintenance work and the upgrade of signalling unrelated to the derailment (which will in the long term improve on-time performance on this line). Since September 1997, however, Amtrak trains operating over CSX lines have had very good on-time performance rates: 90% in September, 84% in October, and 90% in November. On many days since the beginning of September, CSX has attained 100% on-time performance of Amtrak trains.

Amtrak suggests that certain traffic increases contemplated in CSX's Operating Plan may cause interference with Amtrak trains over certain line segments. NRPC-7, Larson VS at 17-19. However, based on my operational experience, I do not believe that there is any meaningful risk of interference with Amtrak trains from the projected traffic increases.

Amtrak specifically identifies four line segments of concern: Alexandria to Richmond, Richmond to Rocky Mount, Pensacola to New Orleans, and Buffalo to Schenectady. Capacity on the Alexandria to Richmond line segment is addressed below in connection with my discussion of VRE's Comments and Request for Conditions. The Richmond-Rocky Mount line segment has more than sufficient capacity to handle the projected 5-6 train increase in freight traffic. The line is double track in certain segments and in others single track with sidings. It is equipped with a modern CTC signal system and is FRA Class 4 which permits passenger train speeds of up to 79 mph. One bottleneck on the line does exist at the Appomattox River Bridge, which is a single main track bridge with

a slow order of 10 mph. CSX is presently planning a project to rehabilitate this bridge and increase speed over it, which would improve performance over this line. Even without the benefit of this improvement, however, Amtrak on-time performance over this segment in the most recent month, November 1997, was 89%.

With regard to Amtrak's Sunset Limited on the Pensacola to New Orleans line segment, the westbound Sunset Limited has had a reasonable performance record over this line segment. It is the eastbound Sunset Limited that has had trouble. The eastbound Sunset Limited, which originates in Los Angeles, arrived at CSX in New Orleans, on average, 8.7 hours late in September 1997, 4.9 hours late in October 1997, and 4.3 hours late in November 1997. It is thus impossible for CSX to maintain a scheduled slot for the eastbound Sunset Limited. This line segment is single track and has stretches of "dark territory." Once a westbound train is cleared to proceed, an eastbound train must wait for it to clear the segment. If the Sunset Limited shows up after a westbound train (including the westbound Sunset Limited) is cleared, it must wait its turn, even though it has dispatching priority over the next freight train to show up. A significant number of the meets which have delayed the eastbound Sunset Limited have been with the westbound Sunset Limited. When Amtrak's on-time performance rate is adjusted for these non-CSX-caused delays, the total adjusted on-time performance for the Sunset Limited is 86% for September 1997, 97% for October 1997, and 89% for November 1997. Freight traffic is predicted to increase on this line segment by only 1-2 trains per day, an insignificant increase. Amtrak's complaint about the Sunset Limited, apart from being misleading, has nothing to do with the Transaction.

Amtrak does not complain about poor on-time performance on the Schenectady to Buffalo line segment (Amtrak's Empire Corridor service), but simply notes that traffic will increase on this line. CSX plans to upgrade this line where possible to 79 mph maximum for passenger trains which should benefit the on-time performance on this line.

In summary, CSX under my direction has and will continue to cooperate closely with Amtrak to enhance intercity passenger train timeliness.

3. Higher Speed Passenger Service on the Empire Corridor

I have had several meetings with New York state and county officials about their desire to improve average speeds and reliability of passenger service on the Empire Corridor. As noted above, CSX plans to upgrade this line to 79 mph for passenger trains. CSX is willing to discuss in good faith Amtrak's proposal to increase the speed of passenger service on the Empire Corridor above 79 mph if the project would not interfere with CSX's freight operations and if the project were truly at "public expense." There are many costs associated with increasing the speed of passenger trains on tracks also used for freight trains, such as installation of cab signalling systems on all locomotives operating over the line, that should fairly be treated as part of the "public expense" on the project. My efforts while Amtrak's President led to the Turbo Train Service on the Empire Corridor, followed by higher operating speeds. I will continue to assist in further improvement planning to the extent public funding becomes available. In this regard, we have agreed with the New York Department of Transportation ("NYDOT") to cooperate in a number of tests of new technology for signals, grade crossing protection, and higher train speeds.

B. Chicago Metra

Metra's Southwest Service trains operate through the Forest Hill interlocker which has been controlled by the B&OCT, a wholly owned subsidiary of CSX, since 1914. Metra's trains also operate through the Belt Junction interlocker (located directly to the east of Forest Hill), which is controlled by the Belt Railway Company of Chicago. Metra's operations are run by very experienced and capable personnel, which results in highly reliable service. Although Metra trains by any reasonable measure enjoy a good record of timely passage through both Forest Hill and Belt Junction, Metra has not been hesitant in bringing complaints about episodic delays to its trains to CSX's attention.

Metra greatly exaggerates the delay to its passengers at the Forest Hill interlocker. Vaughn L. Stoner, Metra's Chief Operations Officer, states that "[i]n the past twelve months, Metra passengers have incurred 9240 man hours of delay at the Forest Hill Interlocker." METR-7, Stoner VS at 3. A review of Metra's own records of delays at the Forest Hill interlocker, however, reveals that almost half of this delay (4,482 man-hours in a year) was caused by factors other than CSXT freight train interference or other factors outside CSX's control. Although the remaining 4,758 man-hours of delay in a year still sounds like a huge number, it is only 11 seconds per trip for each of Metra's 1,501,876 passengers[2] who passed through the interlocking during the year. Moreover, 2,763 of these man-hours of delay were related to a single incident on January 10, 1997 involving a switch failure and freight train interference. While I must acknowledge that that was a bad day for

[2] Metra provided this number for 1996. Interrogatory Response, METR-9 at 4.

Metra commuters, the delay experienced at the Forest Hill interlocker during the rest of the year averaged less than five seconds per trip. Looked at in another way, of the approximately 385 Metra trains that operated through the Forest Hill interlocker each month during the past year, an average of only 2.4 (0.6%) trains per month were delayed due to CSX freight train interference or other CSX-avoidable causes. It is difficult for me to believe Metra's claim that it is not getting dispatching priority through the interlocker when 99.4% of its trains pass through the interlocker without delay.

Nevertheless, CSX recognized that improvements could be made, and on November 28, 1997, completed a project to automate the interlocking. As part of this project, the interlocker operator has been relocated from the tower at the interlocker to an office shared by the B&OCT and BRC dispatchers, which will facilitate coordination and thus traffic flow through the interlocker. In addition, CSX has agreed to allow Metra to install snowblowers and/or melters on the switches, which will reduce mechanical problems during the winter months. Aside from enhancing safety, these improvements should more than offset any potential for delay from increased traffic through the interlocker as a result of the Transaction.

Metra trains are often delayed at Forest Hill when they meet other Metra trains at the end of the double track and because of signal problems on Metra's own line. The solution to a further reduction in Metra delays at Forest Hill thus lies in Metra's scheduling or the addition of double track, not in a change of control of the interlocker.

Nevertheless, CSX is willing to cooperate in good faith with Metra to ensure that we continue to subject Metra's passengers to the absolute minimum of delay. To this end, we

have discussed with Metra the establishment of a Joint Review Committee consisting of representatives from Metra, the Belt Railway of Chicago, and CSX which would meet regularly to review operations through the Forest Hill and Belt Junction interlockers.

C. New Jersey Department of Transportation and New Jersey Transit Corporation ("NJT")

The New Jersey Department of Transportation ("NJDOT") and the New Jersey Transit Corporation ("NJTC") (collectively referred to herein as "NJT") ask for four conditions which they say are needed to protect passenger transportation in New Jersey. CSX had not had any relationship with NJT prior to this Transaction. Like Metra, the operations of this commuter railroad are run by very experienced and capable personnel. Discussions regarding operations issues were productive from the outset. It was helpful to be able to assure NJT that there were not going to be significant traffic changes on the lines they share with Conrail and that CSX and NS would follow Conrail's operating practices for some time after approval.[3] Because the Shared Assets Areas were somewhat of a new concept, we discussed how they would work.

In discussions with NJT before it filed its Comments and Request for Conditions, I had informed NJT that CSX was willing to agree to NJT's terms with respect to three of the requested conditions, and CSX will stand behind those offers. The only unresolved issue between CSX and NJT involves NJT's South Jersey Light Rail Transit Project.

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[3] NJT originally asked for a condition requiring capital improvements on the NK to Aldene line segment, but since this line segment will experience a decrease in traffic, the request was dropped.

1. Coordination with NJT in North Jersey and Philadelphia/South Jersey Shared Assets Areas

NJT suggests that senior officials of CSX, NS and the Conrail Shared Assets Operator ("CSAO") should meet regularly with the Commissioner of Transportation of NJDOT or his designee to discuss the policy issues important to ensuring smooth operations of both freight and passenger services within the New Jersey Shared Assets Area. CSX does not disagree. Indeed, CSX and NS made the following offer to NJT prior to October 21, 1997 and are here willing to stipulate to the following procedure for coordination:

> The parties agree to meet regularly, in accordance with a schedule to be established by the parties, to discuss major issues necessary to ensure the smooth operation of both the passenger and freight service within the New Jersey Shared Assets Areas. Present at these meetings will be the Commissioner of Transportation (or designee(s)), the senior CSAO official (or designee) in charge of the New Jersey Shared Assets Areas, and the senior official of each of CSXT and NSR (or designees) having responsibility for freight rail operations in New Jersey, including such operations in the New Jersey Shared Assets Areas. In the event that New Jersey representatives disagree with a solution to an issue of concern to NJDOT/NJT, arrived at by NSR, CSXT, and CSAO, the Commissioner of Transportation may confer with the President or Chief Executive Officer of CSXT and/or NSR to resolve such issues.
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> In addition, the parties agree that close communications and cooperation at the operating level shall be maintained between NSR, CSXT, CSAO and NJT.

2. ATC/PTS

NJT seeks a condition requiring CSX, NS and the CSAO to install a new technology -- Automatic Train Control/Positive Train Stop ("ATC/PTS") -- on their locomotives operating on or over NJT-owned properties. NJT-8 at 10-12. NJT represents that this on-board apparatus will be "responsive to the roadway equipment installed on all or

any part of Amtrak's Northeast Corridor as required by the Federal Railroad Administration ("FRA") regulations." NJT-8 at 12. As I told NJT prior to October 21, 1997, CSX is willing to install the requested on-board apparatus on locomotives operating over NJT-owned lines, even though CSX has no plans at present to adopt it throughout its system.

3. NORAC Operating Rules

NJT seeks a condition requiring Applicants to adopt Northeast Operating Rules Advisory Committee ("NORAC") Operating Rules presently in effect on all Conrail lines within the NJSAA for a period of three years after approval of the transaction. NJT-8 at 12-13. As I told NJT prior to October 21, 1997, CSX and NS have determined that NORAC Operating Rules will be retained in the NJSAA for the three-year period covered by the Operating Plans. I also understand that CSX's Safety Integration Plan discusses the Operating Rules question.

4. South Jersey Light Rail Transit Project

I am very familiar with the issues presented by light rail operating over conventional rail tracks, as I was project manager for the first feasibility study of the Baltimore Light Rail Project in the 1980's. Based on that experience, it is my view that this operating scenario only works if there is almost no freight activity on the line. Conventional rail equipment (be it freight or passenger) and light rail equipment are not compatible. The structural design of light rail equipment is fundamentally different than the structural design of conventional rail equipment. Light rail equipment has a much lower static end strength and rollover strength than does conventional rail equipment. If a light rail trolley and a freight train or commuter rail train were to collide, the light rail trolley would most likely be crushed. Recognizing the

potential for a catastrophe, railroad industry practice does not permit the concurrent operation of light rail equipment and conventional rail equipment on the same line.[4]

Because the schedules of light rail trips and freight trains cannot be interwoven through the day, NJT has proposed to "window" freight traffic within the late night hours. I understand that the specific operational problems presented by the proposed project on the Bordentown Secondary are addressed by John Orrison in his Rebuttal Verified Statement. But it is apparent to anyone who has worked in the rail industry as long as I have that a proposal which does not allow for increased customer demands and future industrial growth, equipment malfunctions, and severe weather cannot be called a workable proposal. CSX is willing to work with NJT in evaluating options for passenger service in South Jersey. This is a matter that we should be able to address through commercial negotiations as the process moves forward. It appears, however, that the option most likely to be feasible would be constructing a separate track for a light rail system on Conrail's right-of-way, and it appears that NJT has not yet studied this option.

NJT's proposed light rail project has been controversial in New Jersey, both at the local and state levels. Many citizens and politicians are questioning whether the hefty price of the project is justified by its benefits. NJT's 1996 study assessing the feasibility of the light rail and conventional commuter rail options (included in Vol. 3) estimated the cost of

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[4] Many in the rail industry believe that current FRA safety regulations implicitly prohibit such concurrent operations. I am of this school. If there is any doubt as to the current state of the law, it will soon disappear: the FRA recently announced, in a notice of proposed rulemaking, that its new passenger equipment safety standards will explicitly prohibit the concurrent operation of light rail equipment and conventional rail equipment on the same line.

the diesel-powered light rail operation at $314 million, but some newspaper articles have quoted the price at $450 million. I have attached a few sample newspaper articles discussing opposition to the project. Reistrup Exhibit 1.

D. Southeastern Pennsylvania Transportation Authority ("SEPTA")

In its Comments and Request for Conditions, SEPTA seeks to modify its Trackage Rights Agreement with Conrail, dated October 1, 1990, in three material respects and to impose the redrafted "contract" on CSX and NS, as successors to Conrail. Specifically, SEPTA requests: (1) that the Board void Section 8.01(b), providing that either party may terminate the agreement upon six months written notice, and replace it with a new Section 8.01(b) providing for a ten-year term; (2) that the Board void the provision of Section 3.02(b) giving Conrail the right to assume dispatching control of its own Trenton Line on sixty days written notice to SEPTA; and (3) that the Board grant SEPTA operating rights for new light rail service over the Conrail Harrisburg Line to Reading and the Morrisville Line between Dale and Morrisville.

CSX had not had any relationship with SEPTA prior to this Transaction. Like Metra and NJT, the operations of this commuter railroad are run by talented personnel. Discussions regarding operational issues were productive from the outset. It was helpful to be able to assure SEPTA that there were not going to be significant traffic changes on the lines they share with Conrail and that CSX and NS would follow Conrail's operating practices for some time after approval. As with NJT, because the Shared Assets Areas were somewhat of a new concept, we discussed how they would work.

It soon became apparent to me that CSX would be able to take over Conrail's operations and succeed to Conrail's good working relationship with SEPTA. Half of the Conrail/SEPTA operation is Conrail operating over SEPTA lines, and thus our relationship with SEPTA is built solidly on mutual need and common interest. To think that the contract would be cancelled or SEPTA would not receive fair treatment is ludicrous. The issues that prevented complete agreement with SEPTA do not arise out of legitimate operational concerns related to the Transaction, but are in my view an effort to use the Board's process as leverage to obtain concessions that SEPTA knows it cannot obtain through the normal process of arm's-length negotiation.

Although CSX opposes the imposition of the requested conditions, CSX is committed to establishing a long-term, mutually beneficial relationship with SEPTA.

1. The Term of the Agreement

Although Conrail and SEPTA each have the legal right under Section 8.02(b) to terminate the Trackage Rights Agreement upon six months notice, as a practical matter neither is likely to invoke the right as each needs some lines of the other to operate. SEPTA's suggestion that CSX might be more likely than Conrail to terminate the Agreement is not supported by the realities of the Transaction. I have informed SEPTA that CSX is not opposed in principle to replacing the termination provision with a fixed-term extension of the Agreement, but the sticking point to date has been extension of the Agreement's provisions governing liability apportionment. SEPTA's very low cap on its liability leaves Conrail (and

CSX) unfairly exposed when an incident occurs involving SEPTA service over Conrail lines.

2. Control of Dispatching on the Conrail Trenton Line

Section 3.02(a) of the Trackage Rights Agreement provides that Conrail has the right to control dispatching on all Conrail-owned lines. Section 3.02(b), however, grants SEPTA the right to control dispatching on two segments of Conrail's Trenton Line, subject to Conrail's right to reclaim dispatching control upon sixty-days written notice:

> SEPTA shall exercise dispatching control of all trains on the Trenton Line (the former New York Short Line) from C.P. Newtown Junction (M.P. 6.2) to Neshaminy (M.P. 21.1), and on the Trenton Line (the former New York Branch) from Neshaminy (M.P. 21.1) to Trent (M.P. 33.0), except that Conrail, on sixty (60) days written notice, may assume such dispatching control.

SEPTA requests that the Board, as a condition to the approval of the transaction, void Conrail's right to assume dispatching control on sixty days written notice, thus giving SEPTA a permanent right to control dispatching on the Trenton Line. SEPTA has not provided any justification for this condition.

Use of the Trenton Line will be allocated to CSX. The CSX Operating Plan does not project any increase in freight traffic on the Trenton Line segments over which SEPTA operates. Consistent with CSX's overall policy not to change Conrail's operating practice and rules on Day One, CSX does not have any plans at present to exercise its right under Section 3.02(b) to assume dispatching control. Even if CSX were to exercise this right sometime in the future, SEPTA's interests would remain fully protected. Section 3.02(a) of the Trackage Rights Agreement provides that Conrail may not exercise its dispatching rights "in a manner which would unreasonably interfere with SEPTA's Trackage Rights."

Moreover, Section 3.02(d) provides that "[t]he scheduling and movement of SEPTA passenger trains shall take preference over all freight train movements."

3. Proposed Light Rail Service

Use of the Conrail lines over which SEPTA proposes to commence new light rail service will be allocated to NS, although CSX will have trackage rights over the Morrisville line. SEPTA has not presented any concrete proposals for this new service, but in accordance with what I said in connection with NJT's proposal, it does not appear that a light rail service would be feasible unless sufficient right of way is available for SEPTA to build a separate track for it.

E. Northern Virginia Transportation Commission and Potomac and Rappahannock Transportation Commission ("VRE")

VRE commenced providing commuter rail service in northern Virginia and the District of Columbia in the summer of 1992 over lines of CSX, NS and Conrail. In its Comments and Request for Conditions (VRE-8 and VRE-9), VRE seeks "acquisition of operating rights" over certain lines owned by CSX, NS, and Conrail. VRE-8 at 31-32. VRE's request for "acquisition of operating rights" is perplexing, however, because it already has "operating rights" pursuant to its Operating/Access Agreements with CSX, NS, and Conrail.[5] Instead, it appears that VRE seeks to modify it operating rights, as defined in

[5] Operating/Access Agreement Between CSX Transportation, Inc. and Northern Virginia Transportation Commission and Potomac and Rappahannock Transportation Commission Concerning Commuter Rail Service, dated January 10, 1995, effective through June 30, 1999; Operating Access Agreement Between Norfolk Southern Railway Company and Northern Virginia Transportation Commission and Potomac and Rappahannock Transportation Commission, dated July 12, 1996, effective through July 15, 1998; Operating Access Agreement Between Consolidated Rail Corporation and Northern Virginia Transportation Commission and Potomac and Rappahannock Transportation Commission

its Operating/Access Agreements with CSX and NS, in numerous material respects and to impose the redrafted "contracts" on CSX and NS. VRE also asks the Board to terminate the currently effective Operating Access Agreement between VRE and Conrail with respect to the line segment between RO Interlocking in Arlington, Virginia and the Virginia Avenue Interlocking in Washington, D.C. and to apply the terms of the redrafted "contract" with CSX to that line segment. These requests have nothing to do with the Transaction. VRE is trying to exploit the fortuity of this Transaction to get a better deal than it was able to negotiate with CSX in 1995.

1. VRE's Factual Presentation is Misleading or Erroneous in Many Respects

CSX has always attempted to provide quality service to VRE. In the past VRE has appreciated this effort, and has been willing to state its appreciation in writing. See Reistrup Exhibit 2. I have carefully analyzed VRE's factual representations in its submission to the Board and have concluded that they are erroneous or misleading in many respects.

First, VRE erroneously assumes that capacity on the line is constrained by freight traffic, when in fact it is constrained by passenger traffic. An additional freight train does not "consume" the same amount of capacity as an additional passenger train. The RF&P line from Fredericksburg to Alexandria is double track (except for the bridge at Quantico) with CTC bi-directional signalling. There would be no question that this line would have more than adequate capacity if all the trains expected to operate over the line post-Transaction were freight trains. This is because freight trains operate throughout the day and night.

Concerning Commuter Rail Service, dated December 1, 1989, renewed December 1, 1997, effective through December 1, 1998.

Capacity constraints exist because 30 of the 46 trains presently operating over the line segment are passenger trains, most of which operate within the morning and evening rush hours.[6] Interference from other passenger trains is a bigger problem to VRE than interference from freight trains. This can be seen on the string line charts attached to John Orrison's Rebuttal Verified Statement.[7] The Amtrak and VRE trains are concentrated in the morning and evening rush hours, whereas the freight trains largely operate outside of those periods. VRE delays are more pronounced during the evening rush hour when there is heavier Amtrak traffic than during the morning rush hour when Amtrak traffic is lighter. Amtrak trains have dispatching priority over both VRE and CSX trains under federal law, 49 U.S.C. § 24308(c). Another significant problem is that Amtrak's Auto Train blocks one of the two main lines at Lorton, Virginia for about 20-30 minutes each afternoon, although the delay can last for up to an hour when Amtrak has difficulty coupling segments of the train.

The analysis of Charles H. Banks presented by VRE also shows this to be the case. VRE-8, Banks VS. I have not been able to discern all the assumptions that went into Mr. Banks' study. But just taking his own numbers at face value, Mr. Banks reports in Tables 5 and 6 (Banks VS at 15A, 15B) that, during a 16-month period, 75 Fredericksburg-line VRE trains were delayed by interference from freight trains and 61 Fredericksburg-line VRE trains were delayed by interference from other passenger trains, and that 51 Manassas-line VRE

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[6] There are presently 30 passenger trains on the Fredericksburg to Arlington line segment (12 VRE trains and 18 Amtrak trains) and 16 CSX trains. CSX is proposing to increase its freight service over the line by 7 trains.

[7] The string line charts presented by Charles H. Banks (VRE-8, Banks VS at 4A, 4B) show trains going in both directions on the same chart, yet do not make it clear that the line is double track.

trains were delayed by interference from freight trains and 88 Manassas-line VRE trains were delayed by interference from other passenger trains, for a total of 126 VRE trains delayed by interference from freight trains and 149 VRE trains delayed by interference from other passenger trains.

Second, VRE's on-time performance statistics overstate the delays to its commuter trains caused by CSX. While I certainly understand VRE's displeasure at the significant delays caused by the derailment in Rosslyn in July 1997, that unfortunate incident should not be allowed to distort the overall record. A significant part of the fees VRE pays to CSX is directly tied to performance guarantees. The Agreement sets forth how on-time performance is calculated. It does not include delays not attributable to CSX, including delays attributable to Amtrak intercity operations, delays attributable to VRE's operator (Amtrak Commuter),[8] trains delivered late to CSX, and mechanical failure of VRE's equipment.[9] Using the contract measure, VRE has enjoyed very good on-time performance on CSX. Contract performance for 1996 was 94%. Contract performance for 1997 until the derailment in July was 95%. Performance since the track was restored on August 20 has been running at 97%. CSX could have declared the derailment a force majeure disruption and terminated all VRE service, but CSX complied with VRE's request to continue service as best it could. In addition, at VRE's request, the interlocking where the accident occurred was not just

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[8] Amtrak Commuter operates VRE under contract with the Northern Virginia Transportation Commission and the Potomac and Rappahannock Transportation Commission.

[9] VRE also appears to be counting as "delayed" trains that miss their arrival time as published in VRE's public schedules, but are on time according to the running times agreed to in the Operating/Access Agreement.

repaired, but upgraded with high-speed turnouts, which upgrading extended the time to recover from the accident. Moreover, CSX suggested that maintenance work underway near Fredericksburg be suspended after the accident so as not to compound the delay to VRE trains, but VRE declined the suggestion.

Third, I do not agree with VRE's prediction that its on-time performance will drop to 81.1% after the Transaction. VRE's analysis which resulted in the conclusion of an 81% on-time performance figure is not sound. Based on my operational experience, the increased freight traffic will have no effect on VRE.

One should start with a more reasonable assessment of current on-time performance -- 95% or higher, as shown above. One should then look at the schedules of the CSX trains proposed in the Operating Plan, taking into account the fact that the line is double tracked. As explained in the Rebuttal Verified Statement of John Orrison, this analysis shows that there will not be interference. One should also take into account the effect of the recent improvements to the line, some funded by CSX and some funded by VRE, and the additional improvements planned for the line.

CSX has completed several capital improvement projects on portions of the Fredericksburg line and is continuing to improve the remaining portions. These projects, funded entirely by CSX, include: 1) replacing rail and ties, 2) improving the ballast shoulder, 3) upgrading signal relays to modern microprocessors; and 4) installing CTC modern dispatch bi-directional signalling. In addition, CSX has rebuilt the trackage through the old Potomac Yard in Alexandria, including a third track over portions of the segment; the funding for this project was shared by CSX, VRE and others.

One important improvement CSX has planned and will fund is the clearance and track upgrade of the Virginia Avenue Tunnel in the District of Columbia. The tunnel project will permit track speed to increase from the present 10 mph to 25 mph or more, allowing freight trains to travel much more quickly over the line segments used by VRE. The increase in freight speeds will effectively increase the capacity of the line and alleviate a potential source of delays to VRE trains. The proposed improvement of the Virginia Avenue Tunnel is recognized by Amtrak and the FRA as having "a positive effect on passenger train performance south of Washington." The Northeast Corridor Transportation Plan, Report to Congress September 1997, Washington-Richmond Supplement Draft Report at V-7 (included in Volume 3). CSX will make every effort to plan its reconstruction of the Virginia Avenue Tunnel so that it will not interfere with freight and passenger service. If it turns out that some delays are unavoidable, CSX will work with VRE to minimize the delays.

Other projects are also planned. CSX plans to construct a siding at Lorton which will allow Amtrak's Auto Train to be connected without blocking a main track. This project, which is in the engineering phase, will be publicly funded. Further modernization of interlockings is planned to be accomplished with mixed CSX/public funding. VRE is also commencing design of the expansion of the bridge at Quantico to accommodate a second track.[10]

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[10] In addition, the Transaction will likely benefit VRE in two other respects. First, the CSX Operating Plan presented in the Application will assist CSX to meet its goal of operating a scheduled railroad. By adhering to schedules, train operations, both freight and passenger, will be improved. Second, dispatching of the line segment from RO interlocking in Arlington, VA to the Virginia Avenue interlocking in Washington, D.C. is now controlled by Conrail. After the Transaction, dispatching control would be transferred to CSX. VRE's Fredericksburg-line trains would thus be under the control of one dispatcher for the entire trip and Manassas-line

Fourth, with all due respect to VRE, I believe that its complaints about CSX management of the line are based largely on misunderstandings about rail operations. VRE is a very different organization from Amtrak, Metra, NJT, and SEPTA. VRE was only created in the late 1980s and did not begin commuter service until 1992. It does not own any of its own rail lines. The commuter service provided by VRE is operated by Amtrak Commuter under contract with VRE. Its ridership is small -- only about 7,200 boardings/day -- compared to that of the other commuter agencies. VRE is managed by persons who have business experience primarily, rather than railroading experience. None of this is said to be critical. These are just the facts. To the extent that VRE complains that CSX has not in the past had a representative close by who communicates regularly with it and can respond quickly to problems as they arise, I pledge that I stand ready, willing and able to fill that role, together with my staff.

Fifth, VRE claims that "[d]uring the maintenance season, CSX gives little or no regard to the operating schedule of VRE," and then states the numbers of trains delayed during the extraordinary period of the Rosslyn derailment. VRE-8 at 26. This claim is false and demonstrates VRE's lack of appreciation for CSX's efforts to accommodate it. Maintenance work on this line is regularly done at night to accommodate VRE and Amtrak operations, even though the Operating/Access Agreement permits maintenance work to be performed during the day, and indeed expressly states (Section 2.10) that maintenance work "will occasionally result in delays or cancellations of operations of the commuter rail passenger service." On all other CSX lines, CSX performs maintenance work during the

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trains would be under the control of two rather than three dispatchers.

daytime and curfews all traffic. The schedule for major maintenance work on the line has been set for 1998 and CSX will continue to perform this maintenance at night.

Sixth, I must take issue with VRE's charge that CSX is responsible for its ridership declines. Ridership declined significantly from mid-1996 to mid-1997 before the Rosslyn derailment on July 8 -- from an average of 7,656 boardings a day in Fiscal Year 1996 (VRE's fiscal year is from July through June (VRE-8 at 21)) to an average of 7,154 boardings a day in Fiscal Year 1997. VRE-8, Isaac/Taube VS, Att. 4. This decline occurred when on-time performance was very good by any reasonable standard -- an average of 90.1% (VRE-8, Roberts VS, Att. 2), including delays not caused by CSX. VRE admitted in its response to Applicants' interrogatory that the opening of the new HOV lanes on I-95 and decline in employment in Crystal City, Virginia contributed to the decline in ridership during this period. VRE-10 at 5. Other factors that have been cited as reasons for the drop-off are VRE's high fares and high parking costs. This spring, Stephen Roberts, VRE's Director of Operations, explained the ridership decline as follows: "The reason our numbers are less than they were a year ago is because people are making good decisions. It's cheaper to drive than take VRE. But that won't last forever." "Virginia Railway, a Service That's Losing Steam; Fare Cut Considered as Ridership Plunges," Washington Post (April 27, 1997). Reistrup Exhibit 3.

2. The Real Issue is Who Will Fund Improvements

The crux of the dispute is funding for infrastructure improvements required to support passenger operations. CSX acquired the RF&P line in 1991 and has been working to improve it. As improvements have been made, delays have decreased. VRE is attempting to

shift funding for additional line improvements needed for its passenger service to CSX. Numerous improvements to increase the capacity of the line for passenger service are contemplated in the contract between CSX and VRE. The only difficulty for VRE is that VRE's contract requires VRE to fund them, whereas VRE, not surprisingly, would like the Board to make CSX fund them. The funding of VRE has been a matter of some controversy within the State of Virginia since VRE was first proposed. Although VRE has many supporters, notably its riders, many others question whether the government subsidy to VRE is the best use of the money. See, e.g., Reistrup Exhibit 3.

CSX has worked and will continue to work with VRE management to provide a quality commuter service for northern Virginia. VRE has had access to CSX senior management, and has been involved in planning improvements that CSX has undertaken. CSX has offered VRE a ten-year extension to the Operating/Access Agreement to enable VRE to obtain long-term funding from bonding sources. CSX has also pledged to continue discussions on contractual amendments VRE desires, most notably a program of incremental infrastructure improvements and service expansions. However, these are matters that we should be free to negotiate with VRE. This Transaction does not change that fact or otherwise justify any of the substantial contract amendments VRE has proposed.

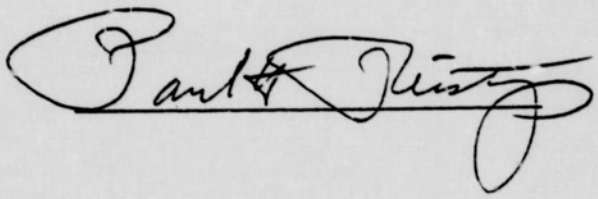
III. CONCLUSION

CSX has a long history of working together with passenger agencies to ensure that all trains on its lines operate in the safest and most efficient manner possible. CSX will continue to abide by this philosophy as it expands its rail network. I am confident that the

Transaction, if approved by the Board, will yield benefits for freight and passenger operations alike, and I will continue to work hard to make these predictions a reality.

VERIFICATION

I, Paul H. Reistrup, declare under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verified statement. Executed on December 10, 1997.



REISTRUP EXHIBIT 1

Burlington County Times
December 3, 1997

■ "Right off the bat, we want to work on an alternate plan for light rail. We'll pursue a bill to make that happen."
Dr. Herb Conaway, 7th District assemblyman-elect

Dems take aim at light rail

Conaway, Conners declare election victory, vow to fight NJ Transit plan

By Kathleen Cannon
BCT staff writer

MOUNT HOLLY — Introducing the new 7th District assemblymen-elect, Dr. Herb Conaway and Jack Conners.

Yes, exactly one month after the election, the topsy-turvy race is finally settled, with the Democrats declaring victory over Republicans Ken Faulkner and George Williams following a recount.

Yesterday's mop-up of the weeks-old recount involved checking absentee and provisional ballots. It changed the results by only one vote, not enough to affect the outcome.

The final tallies are Conaway, of Burlington City, 27,457 votes; Conners, of Pennsauken, 27,409; Faulkner, of Delanco, 27,335; and Williams, of Maple Shade, 25,211.

These new results supplant those announced on Election night. Then, it appeared Faulkner placed first, Conaway, second and Conners third, more than 200 votes behind Faulkner, in the race for two seats.

The subsequent recount produced enough new votes, mostly from Pennsauken, to catapult both Democrats over Faulkner.

"I want to thank the voters of the 7th District, all of them, not just the 74 that put me over," Conners said at a news conference yesterday.

But not so fast.

County Republican Chairman Glenn Paulsen said last night that he may appeal the Democrats' victory. Faulkner has at least until the

See RECOUNT A9

BCT photo/DENNIS MCDONALD

Seventh District Assemblymen-elect Jack Conners (right) and Dr. Herb Conaway listen to a question during a news conference yesterday.

Assemblymen-elect intend to fight light-rail plan

RECOUNT From A1

end of the week to file for a contested election, he said.

"We haven't lost yet," he said, adding Faulkner has instructed him to explore all options.

Faulkner could not be reached for comment last night.

In case a possible GOP appeal fails, Paulsen declined to say whether Faulkner would have an early advantage among Republican contenders to challenge the Democrats in the 1997 election.

Conaway dismissed talk of another appeal.

"It's hard to imagine where they might be able to find the votes to take Ken from third to second place. I'm not terribly concerned about it.

"You're seeing the start of two new assemblymen in Trenton. We're looking forward, not back," Conaway said.

And look forward they did.

The Democrats said one of the first things they will do after their swearing-in on Jan. 13 is introduce a resolution opposing NJ Transit's $450 million plan to build a light rail system along the Burlington County riverfront. Both men oppose the light rail plan as disruptive and expensive.

"Right off the bat, we want to work on an alternate plan for light rail. We'll pursue a bill to make that happen," Conaway said.

He said the measure, which would express the opinion of the Legislature, may propose beefing up bus transportation in the county.

"We're not going to turn our backs" on light rail opponents, Conners said.

The Democrats acknowledged that they will need Republican support in the GOP-majority Legislature for this initiative. They also conceded that Republican Sen.-elect Diane Allen, R-7th, of Edgewater Park, a light rail proponent, will be a roadblock.

"I guess we're going to have part ways on that" with Allen, shrugged Conners, who attributed his and Conaway's victory in part to their light rail position.

Allen was out of state last night and unavailable for comment.

Paulsen laughed when told of the Democrats' comments.

"To me, the whole light rail thing was a red herring in the election," he said. "I don't think public policy should be on the basis of, if Diane is for something, we'll be against it. I hope that's not their motivation."

Conaway said another high priority is a bill reforming the Pharmaceutical Assistance for the Aged and Disabled program to aid a blind Maple Shade man who has multiple sclerosis. The man's family earned just $70 more than it should to be eligible for the discounted prescription drug program and now owes the state $10,000 in back costs.

Conaway, a lawyer who is a practicing medical doctor, said he will ask for an assignment to the Assembly Health Committee. Conners, a banker, said he hopes to be appointed to the banking committee.

The Democrats' first job, though, is to find a district office and hire a staff. They will be replacing Allen and Assemblyman Carmine DeSopo, R-7th, of Westampton, as the district's representatives and need their own office to serve constituents.

Both Conaway and Conners, who called Faulkner and Williams "a couple of good guys," said they were relieved that the drawn-out contest was finally over.

"It was a close one and it took a long time coming, but it's sweet here at the end," Conaway said.

"I have learned the importance of every vote. I will never, ever take another vote for granted," Conners said.

Citation
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12/4/96 Burlington County Times (N.J.) A1
1996 WL 8819712

Found Document Rank(R) 1 of 1 Database
BSX-BRLG

Burlington County Times

Wednesday, December 4, 1996

Palmyra meeting draws rail opponents

By Jeff Beach

Palmyra, NJ, US, Middle Altantic --

PALMYRA -- Public hearings on the proposed light rail system through the county's riverfront towns got off to a bumpy start last night as residents here peppered New Jersey Transit officials with questions and objections to the line.

NJT officials tried to convince about 60 residents, many of whom live within 50 feet of the existing track bed, that the proposed R313.9 million passenger rail line between Trenton and Camden is a good idea.

At times, though, NJT representatives seemed to be their own worst enemies, giving incomplete answers to pointed questions and providing information that conflicted with previous statements.

"Your problem is you have incomplete information, conflicting information, at least as it comes through the media," said borough resident Jack Monahan.

The gathering at the Palmyra Borough Hall on Broad Street was the first of five public hearings to be held over the next two weeks on the controversial rail proposal. The next meeting is scheduled for 7:30 tonight in the Delran Township building on Chester Avenue.

Last night, the scales were decidedly tipped in opposition to the rail line. Many in the audience commented that NJT's public relations style raised almost as many questions as it answered.

"You keep saying things like 'probably' or 'we don't have that worked out yet,"' said Garfield Avenue resident Tom Delmore. "Words like that bother me."

While NJT was roundly criticized for the way it has handled public input, the bulk of the concerns raised by residents centered on safety. In a town practically bisected by the rail line, residents said, passenger rail service could create any number of hazards as children cross the tracks to reach their schools.

Many who spoke said they didn't think NJT's plans to provide

educational videos about train safety to schools or placing buffers around the tracks to keep kids away would prevent accidents from occurring.

"Nobody can stand here and tell you you're never going to have an accident," acknowledged Frank Russo, NJT's senior director of new rail construction. "What we can hang our hat on is that this system is infinitely safer than any trips you'll take in your automobile and it's safer to the pedestrian than crossing a street."

Some residents questioned why NJT's initial plans show Palmyra slated for two stations, one a park-and-ride on the south side of Route 73 and the other a walk-on station in the center of town.

Russo said the vast open areas south of Route 73 provided the best location at that end of the line for a park-and-ride that could handle a large number of cars.

However, he said, that station alone would fail to serve residents and businesses of downtown Palmyra, so the second station was added.

Also on the minds of those attending the hearing was the question of any additional crime problems the line might create. NJT had its Transit Police Chief Mary Rabideau on hand to talk about her force, which she called "the best-kept secret in law enforcement."

Rabideau acknowledged, though, that the transit police are not a first-response force, and are there to back up local police when they respond to an emergency.

The chief seemed stymied by resident Ed Adair of Washington Avenue, who asked her what the crime rate on the Newark subway system is.

"Extremely low," the chief said proudly.

"Well, we don't have any right now," Adair shot back.

Resident Mary Holloway asked why NJT was intent on putting a line through the riverfront when housing growth and traffic congestion are increasing more in the eastern section of the county.

"Everybody on the other side of Route 130 could be wherever they're going (by car) by the time they drive all the way over here to get on the train," she said.

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Illustration: photograph

REISTRUP EXHIBIT 2

Virginia Railway Express

A Transportation Partnership

January 13, 1996
-- via telecopier --

Richard H. Young, Jr.
Assistant Vice President
Passenger Services
CSX Transportation
500 Water Street
Jacksonville, FL 32202

Dear Mr. Young:

I am writing to convey the thanks of our passengers for the commitment and superior service rendered to Virginia Railway Express during the "Blizzard of '96." VRE operated every day the week of January 8th, due in no small measure to the efforts of the people of CSXT's Baltimore Service Lane. On Thursday, January 11th VRE provided transportation to 9,649 passengers, a number exceeded only by travel on the date of the Million Man March.

I am not so bold as to believe that we have conquered the forces of nature; nevertheless, I am humbled by the force of the human spirit exemplified in the commitment of CSXT signal and maintenance of way forces. With two months of winter still before us I am confident that any springtime retrospective will say that our best efforts will be both widely appreciated and respected.

With kindest regards.

Sincerely,

Stephen T. Roberts
Director of Operations

cc: Chairman Bulova and Members of the VRE Operations Board
A. R. Carpenter
G. L. Nichols
A. B. Aftoora
F. E. Pursley
E. A. Hill
C. D. Grady
W. V. Bazar

6800 Versar Center • Suite 247 • Springfield, Virginia 22151-4147

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E-MAIL: gotrains@vre.org

JAN 19 1996

Virginia Railway Express

A Transportation Partnership

January 6, 1997

Richard H. Young, Jr.
Assistant Vice President -
Passenger Service and NRPC Officer
CSX Transportation
500 Water Street
Mail Stop J-315
Jacksonville, Florida 32202

Dear Mr. Young:

I am writing to ask that you convey to your employees our recognition of the contributions made to allow the Virginia Railway Express to receive the 1996 Outstanding Public Transportation System Achievement Award for Urbanized Areas from the Virginia Department of Rail and Public Transportation.

Although we share a rotating plaque only through next October, we have reproduced a copy of an individual plaque on permanent display in our offices. I would be pleased to provide as many copies of this certificate as you may want. The Virginia Railway Express earned the 1996 award for outstanding achievement on the strengths of your management and the dedication of the employees of CSXT.

On behalf of our passengers, the Operations Board, the Department of Rail and Public Transportation and the Secretary of Transportation, thank you for a year of outstanding achievement.

With kindest regards,

Stephen T. Roberts
Director of Operations

cc: VRE Operations Board
Rick Taube, NVTC
Leo Auger, PRTC

6800 Versar Center • Suite 247 • Springfield, Virginia 22151-4147

TEL: (703) 642-3808
FAX: (703) 642-3820

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Virginia Department of

Rail and Public Transportation

Outstanding Public Transportation System Achievement Award

Urbanized Areas

Virginia Railway Express

1996

P-263

Virginia Railway Express

A Transportation Partnership

June 5, 1996
-- via telecopier --

Richard H. Young, Jr.
Assistant Vice President Passenger Services
and NRPC Operations Officer
CSX Transportation
500 Water Street
Jacksonville, Florida 32202

Dear Mr. Young: Dick

The sun is shining and all's right with the world. This morning Senator John Warner, Congressman Tom Davis and members of national and local print and electronic media rode VRE train #306 from Fredericksburg to Alexandria. The train departed, operated and arrived on-time. ABC has indicated that a segment will air on "Good Morning America" Thursday morning, other coverage would be expected this evening or in the morning papers.

The Senator and Congressman as well as the media spoke with a number of VRE passengers who all expressed enthusiastic support for the VRE operations. I have no hesitation in saying that this train represents the CSX Transportation commitment to our customer satisfaction.

With kindest regards.

Sincerely,

Stephen T. Roberts
Director of Operations

cc: A. R. Carpenter
Gerald L. Nichols
A. B. Aftoora
Wayne V. Bazar
James L. Larson
E. S. Bagley, Jr.
Edward V. Walker, III
Wade F. Hall
David A. Snyder

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TEL: (703) 642-3808 HOME PAGE: http://www.vre.org/gotrains

Virginia Railway Express

A Transportation Partnership

August 27, 1997
-- via telecopier --

Richard H. Young, Jr.
Assistant Vice President Passenger Services
and NRPC Operations Officer
CSX Transportation
500 Water Street
Jacksonville, FL 32202

Dear Mr. Young:

Under the provisions of our Operating Access Agreement, I am writing to request permission to operate Special Train service for the Promise Keepers Solemn Assembly on the Washington Mall, ,Saturday, October 4 1997. The attached schedules are proposed for three round-trips each for Fredericksburg Line and Manassas Line trains. We are working with Amtrak to allow for all VRE equipment to layover in Washington, however as of today we would require two deadhead moves for two train sets in order to provide layover at our Broad Run/Airport yard adjacent to the Manassas Airport. The deadhead returns would be the last two Manassas Line trains into Washington and would operate those two trains as the last two Manassas Line departures. Amtrak will continue to evaluate the storage options, and we would eliminate the four dead-head moves if possible.

Thank you for supporting our recent operations for the Girl Scout specials and the Fourth of July, they were well received and operated smoothly.

Your early reply will be most helpful in allowing us to respond to Promise Keepers. With kindest regards.

Sincerely,

Stephen T. Roberts
Director of Operations

Encl: October 4, 1997 Schedules

6800 Versar Center • Suite 247 • Springfield, Virginia 22151-4147

REISTRUP EXHIBIT 3

Citation
8/14/94 WASHPOST C10
8/14/94 Wash. Post C10
1994 WL 2434818

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Rank(R) 1 of 1

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The Washington Post

Sunday, August 14, 1994

OP/ED

Close to Home

Let's Derail the Movement to Spend More on Trains

After reviewing accounts of traffic patterns and the cost of transportation programs in Prince William County for the past few years, I have concluded that money being spent on the Virginia Railway Express and Commuteride (VRE) is a poor investment.

The more we spend, the less people seem to use it. Despite the $213 million being poured into the VRE to support commuters to Washington, the use of this public transportation by residents of Prince William County has dropped from 3 percent in 1980 to 2 percent in 1990, according to the U.S. Census. Money is being spent to move people to and from Washington, when that's not where the county's people need to go.

For example, according to the 1990 U.S. Census, Washington traffic accounted for only 13,547 commuters (11 percent) from Prince William County. By contrast, 32,934 commuters (27 percent) were going to Fairfax County and a whopping 43,265 commuters (35 percent) were traveling within the county. Yet when it comes to public transportation within the region you really "can't get there from here."

The Virginia Railway Express is overpriced and under-utilized, like other rail systems across the country. It also has failed in a major goal of capturing a significant number of commuters driving alone.

A passenger survey conducted by the VRE in October 1992 showed that only 37 percent (795) of 2,148 riders had driven alone prior to the start of VRE. The others were already using some form of car pool or public transportation. Yet the county and the Potomac and Rappahannock Transportation Commission are moving right along to build a bigger VRE, which will inevitably serve a smaller portion of commuters.

The VRE is supposed to be funded from ticket sales, a 2 percent motor-fuel tax and state grants. But the sum of these revenues is insufficient to cover expenses.

8/14/94 WASHPOST C10

Starting next July, $619,000 in general funds from Prince William County will be used to help pay for the VRE. In planning for fiscal year 1996, which begins July 1, 1995, the VRE already has determined that the level of service outlined in fiscal year 1995 could not be sustained without major increases in local subsidies.

Our elected officials should be making more judicious decisions about the use of general funds. Instead of spending our taxes to support a small number of travelers to Washington, they should be using the funds to meet the needs of the large numbers of transit-dependent citizens who live in Prince William County.

- John J. Cramsey

a resident of Prince William County since 1974, was a transportation auditor for the General Accounting Office from 1967-83.

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PHOTO,,Frank Johnston

---- INDEX REFERENCES ----

NEWS CATEGORY: LETTER

EDITION: FINAL

Word Count: 437
8/14/94 WASHPOST C10
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Thursday, April 27, 1995

WEEKLY - VIRGINIA

Dispute May Raise Rail Fares for Stafford Commuters

Leef Smith

Washington Post Staff Writer

Stafford County commuters who use the Virginia Railway Express could be asked to pay 12 percent more for every train ticket they buy because county officials have said they will not pay their share of the costs to run the railroad, VRE officials said.

The one-year rate increase, which would raise the cost to commuters traveling to and from the Leeland Road, Brooke and Quantico stations, was proposed Friday morning during a meeting of the VRE operations board to resolve a long-running dispute between the railroad and Stafford County over rail costs.

Stafford's Board of County Supervisors voted last month to limit the county's annual VRE payment to $750,000 -- about $25,000 less than the county is paying this fiscal year and $144,000 less than the railroad estimates the county would owe in the coming fiscal year.

County officials say the decision was made based on escalating rail payments that they consider unfair.

By increasing the fares, riders traveling from the Quantico station, which is in Prince William County but is used primarily by Stafford residents, would pay 65 cents more for every single-trip ticket. Riders at the Leeland and Brooke stations would pay 70 cents more for each ticket.

"Stafford doesn't want to put up the money, so it falls on the backs of the riders," said VRE spokesman Corey Hill. "It's unfortunate, but we've had to get tough."

Fairfax County Supervisor Sharon Bulova (D-Braddock), chairwoman of the VRE operations board, said she doesn't like the idea of making up the lost revenue by levying a surcharge on Stafford riders, but she said the money has to be found if the trains are going to continue running at their current level of service. Earlier this month, the railroad added more rush-hour, afternoon and weekend trains on its Fredericksburg line.

"Sadly, Stafford's decision puts us in a very difficult position," Bulova said, likening the contentious squabble to a "VRE family fight."

The rate-hike proposal is being forwarded to VRE's governing agencies for consideration at their meetings next Thursday. If it is approved, officials said, the 12 percent surcharge will be publicized and public hearings will be scheduled in Stafford. Officials said the new rate would be in place at the start of the new fiscal

year beginning in July.

Stafford County Administrator C.M. Williams criticized the rate increase as an unfair method of raising revenue.

"The burden should not be put on the backs of those who ride commuter rail from Stafford," Williams said. "The individual citizen should not be penalized."

Other options include asking the five other jurisdictions that share the cost of subsidizing commuter rail in Northern Virginia to pay more in order to make up the difference, or giving the other jurisdictions a subsidy break.

That would lower their payments to be proportionately comparable to Stafford's, a move that would result in reduced service for all commuters.

Bulova says she is not happy with any of the potential solutions.

"No one thinks it's fair that we ask the other jurisdictions to chip in, and I'd hate to see the newly expanded system cut back because of Stafford's refusal to pay," Bulova said.

Among its deliberations last week, the VRE panel also agreed to write a letter to Virginia Gov. George Allen to ask that the state pitch in the money that Stafford has said it will withhold.

Because Stafford collects enough gasoline taxes each year to pay its VRE costs, state officials say, it is unlikely that more funds will be approved.

"I don't see how the state could do it," said Tom Stewart, an engineer for the Virginia Department of Rail and Transportation. "It would set a precedent. If I pay the grocery bill of one jurisdiction I have to pay everyone else's, too, don't I? Everyone one will come running."

---- INDEX REFERENCES ----

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Metro

Virginia Railway, a Service That's Losing Steam; Fare Cut Considered As Ridership Plunges

Leef Smith
Washington Post Staff Writer

When transportation planners shared their vision for the Virginia Railway Express five years ago, they saw the state's first commuter railway attracting as many as 32,000 daily riders by the end of this year.

That rosy projection, which helped persuade local and state officials to pour millions of dollars into the ambitious project, was based on studies that showed commuters along Interstates 66 and 95 abandoning their cars in favor of the new railway linking Manassas and Fredericksburg to the District.

It hasn't happened. VRE ridership -- which peaked during the February 1996 blizzard, when riders made an average of 8,110 daily trips -- has gone steadily downhill since last summer. With current seating capacity at 12,000 riders each weekday, the commuter line averaged just 7,142 riders daily last month -- a drop of 11 percent from the same period a year before.

The worrisome free fall has VRE officials considering slashing ticket prices by 20 percent, but even that may not be enough to revive the line. If more riders don't come forward, at least two VRE board members now say, the troubled train system should be scrapped.

"VRE has the least impact of all modes of local transportation at the greatest expense," said one board member, Prince William County Supervisor E.S. "Ed" Wilbourn III (R-Gainesville). "How many hundreds of millions of dollars do we have to spend waiting on their prognostication" of success?

Ridership is down about 22 percent from a year ago in Stafford County, causing Supervisor Robert C. Gibbons (R-Rock Hill), a member of VRE's Operations Board, to say that commuters there must either start getting on the train or bid it adieu.

"We're spending a lot of money on this, and the fares aren't

affordable for people," said Gibbons, who supports cutting fares as long as contributions from local jurisdictions don't increase as a result. "At some point in time, we have to ask if it's the best use of our money. It might not be."

In December 1994, officials of the fledgling rail line predicted that a $10 million expansion of service would boost round-trip daily ridership -- then about 4,000 -- by 45 percent by last June.

To the contrary, ridership plunged last summer. Although the Manassas line has partly recovered, the Fredericksburg segment has not and is now running 14 percent behind last year's mark.

VRE officials blame the drop-off on a host of problems, including track work that caused poor on-time performance, government downsizing that has reduced the commuter pool, and competition in the Fredericksburg-Washington corridor from newly expanded car-pool lanes on Interstate 95. Most recently, officials have said VRE's high fares, which average $4.29 for a one-way trip, and additional parking costs are driving riders away.

Rail officials say the problem can be overcome by slashing most fares by 20 percent, a move that would cost VRE $1.5 million annually unless the Commonwealth Transportation Board agrees to pitch in.

"The people who left us are not coming back," said VRE's operations director, Steve Roberts. "But if we cut fares, others will give us some consideration."

Leo J. Bevon, director of the Virginia Department of Rail and Public Transportation, shares Roberts's concern and his optimism.

"Everyone would have liked to have seen [ridership] grow faster, but I don't think it's any time for panic," Bevon said. "It's not like we built it and can't figure out why no one's riding. It's just a matter of fixing the problem."

Said Roberts: "The reason our numbers are less than they were a year ago is because people are making good decisions. It's cheaper to drive than take VRE. But that won't last forever."

VRE, he predicts, will experience a renaissance next year when construction begins on the interchange where interstates 95, 395 and 495 come together in Springfield -- the so-called "Mixing Bowl." That massive highway project is expected to take up to a dozen years to complete, stalling traffic and frustrating drivers.

Lawrence D. Hughes, Prince William's deputy county executive, gives VRE high marks for improving the quality of life for outer

county commuters as well as providing transportation at a fraction of the cost of building new roads. Still, he said ridership declines are worrisome.

Concerns about flexibility, cost and convenience keep Joseph Czech off VRE. The acoustics engineer from Fairfax County tried riding the train six months ago during a no-cost-to-ride promotion but quickly decided it was easier to car-pool from his home to his job in Crystal City.

"It's easier and cheaper," Czech said. "Even the lower fares wouldn't make a difference for me."

Transportation officials, however, say the commuter line deserves more time to grow. As congestion on area highways increases, so will VRE's base of riders, they say.

Fairfax Supervisor Gerald W. Hyland (D-Mount Vernon), chairman of the VRE Operations Board, is optimistic. "We could not continue to sustain the ridership decrease that we've had," he said. "A year from now, you'll find the picture will be substantially changed for the better."

Although experts say heavy subsidies are common for commuter rail lines, VRE's high subsidy level has critics questioning whether the railroad is spending too much taxpayer money on too few riders.

Although riders plunk down an average of $4.29 a ride, VRE and the eight local jurisdictions that subsidize the railroad pay an additional $9.23 a trip.

"We're using hundreds of millions of dollars to provide a service to 4,000 of our most affluent citizens, and it's just not fair," said John J. Cramsey, a Woodbridge resident and former transportation analyst for the federal General Accounting Office. Cramsey is among the railroad's most outspoken detractors.

"VRE oversold this thing to a public that really didn't care. I think it's a big waste of money," Cramsey said. "They ought to sell it and start over" with other mass transit.

But Dan Foth, a commuter rail specialist with the American Public Transit Association, of which VRE is a member, said the young railway is a relative success compared with others across the country.

"If VRE died tomorrow, would there be a mass exodus from Stafford and Prince William? Would property values decline and drop? I don't think you'd see it immediately, but I think you'd see it over time," Foth said. "People thought Metro was a major boondoggle at first. Can you imagine the region without Metro today?"

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CAPTION: Assistant Conductor William Boggs helps passengers disembark at the Woodbridge station of the troubled Virginia Railway Express.

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The Washington Times

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D;BUSINESS TIMES

VRE plans to cut fares to fight ridership slide

Eric Fisher
THE WASHINGTON TIMES

Facing an 11 percent drop in passengers, Virginia Railway Express officials want to lower fares and create express routes from Fredericksburg to the District to entice commuters who are driving to work.

The VRE is eyeing the changes in response to two high-occupancy-vehicle lanes that opened in February on Interstate 95 in Prince William County. Officials say the HOV lanes have taken riders away from the commuter rail service.

The VRE last month averaged 7,140 riders per day, down 11 percent from March 1996. Ticket revenues for February totaled $600,000, down 14 percent from the monthly average in 1996.

"The two big complaints we hear are cost and time, so we're trying to address both concerns," said Corey Hill, a VRE spokesman.

The Commonwealth Transportation Board, which oversees the Northern Virginia rail line, will have to approve any changes before they can take effect.

VRE officials are proposing:

* Cutting fares either by 20 percent across the board or by $1 regardless of trip length. It now costs $6.70 to travel the entire route.

* Skipping three stops on two morning trains starting in Fredericksburg, cutting the trip to Union Station in the District by about 10 minutes. The stops skipped would be Brook in Stafford County, Rippon in Prince William County and Lorton in Fairfax County.

* Taking over pricing control for parking lots, with a plan of eliminating parking fees. Currently, lots are controlled by the individual counties, and rates vary widely.

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* Sending an 8:20 a.m. train from Manassas to Washington a half-hour earlier.

The VRE began looking for ways to boost ridership at the request of the transportation board.

Before the board decides on any of the changes, public hearings will be held in May and June.

Although VRE officials view the changes as solutions to short-term problems, the earliest VRE could implement them is the fall.

"That's as fast as the process works," Mr. Hill said.

Rush-hour traffic on I-95, despite the new HOV lanes, is perpetually clogged. Some 350,000 cars enter the District from Virginia every day, making it clear that many commuters see driving as a better deal than a train ride that costs nearly $7 each way and takes more than an hour from Fredericksburg.

VRE officials said they remain convinced that the rail line's overall future is sound, particularly with major construction set to begin in two years at the "mixing bowl," the messy interchange near Springfield where the Capital Beltway and Interstates 95 and 395 meet.

"We think that in the long term the commuter rail is going to do fine," said Rick Taube, the VRE deputy director of operations.

Mr. Hill added that taking over the pricing of the parking lots could increase VRE expenses to a point where the railway would be eligible for an additional $500,000 in state aid.

Such money could boost a small marketing budget that currently allows only a World Wide Web site and a couple of radio campaigns each year.

"We're working on ways to make our presence better known," Mr. Hill said

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Photo, The Virginia Railway Express has had lots of empty seats on the Union Station-Fredericksburg line because of HOV lanes on Interstate 95., By Cliff Owen/The Washington Times

---- INDEX REFERENCES ----

EDITION: 2

JOINT REBUTTAL VERIFIED STATEMENT

OF

JAMES C. ROONEY

AND

T. STEPHEN O'CONNOR

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Joint Rebuttal Verified Statement
of
James C. Rooney and T. Stephen O'Connnor

My name is James Christopher Rooney. I am President of Vanness Company and a managing director of the Vanness Brackenridge Group, a joint-venture firm which provides transportation consulting services. My business address is 830-13 A1A North, Suite 204, Ponte Vedra Beach, Florida 32082.

The Vanness Brackenridge Group was organized in 1987 to engage in worldwide consulting concerning rail structuring and strategic planning issues for railroads, governments, and bilateral lending agencies such as the World Bank and the Interamerican Development Bank. The group is composed of professionals having extensive experience in railroad strategic planning backed by relevant skills in economics, operations planning, financial modeling, market analysis, organizational restructuring, and policy development.

I served as Associate Administrator for policy and later as Deputy Administrator of the Federal Railroad Administration from 1982 to 1987. In those capacities I was involved in formulating the Government's positions concerning rail industry laws, regulations, and mergers. Additionally, during that time I headed the USDOT technical support team for the sale of Conrail, as first proposed to Norfolk Southern, and, ultimately, by public offering. Thus, I became well aware of the attributes and issues surrounding Conrail's creation and disposition after its takeover and rehabilitation by the Government. I have also acted as a consultant and an expert witness in a number of proceedings including the proposed Santa Fe Industries control of the Southern Pacific Transportation Company, the Kansas City Southern Industries, Inc. inconsistent application to control the Southern Pacific. With relevance to the instant proceeding I served the Canadian National Railway (CN) as consultant for CN's examination of the earlier

prospective offering by Norfolk Southern Railway (NS) of market access and trackage segments belonging to Conrail and NS, prior to the filing of the joint application by the Applicants. Most recently, I assisted CN with the preparation of its Comments and Responsive Application which CN was contemplating prior to reaching agreement with Applicant CSX, whereupon a limited scope request was filed.

I hold a Bachelor of Arts degree from Dartmouth College with concentration in economics and a Master of Business Administration degree from the University of Chicago with concentration in finance and accounting. I am a Certified Financial Analyst and a member of principal national professional societies including the Institute of Chartered Financial Analysts, Association of Transportation Practitioners, Transportation Research Forum, and Railway Supply Group.

My name is T. Stephen O'Connor. I am President of the Brackenridge Group, specializing in public and freight surface transportation, managing director of the Vanness Brackenridge Group, a joint-venture firm which provides transportation consulting services. My business address is 301 Warren St., Suite 204, Baltimore, Maryland, 21230. I submit this statement to summarize my background and present my review of the methodologies and applications contained in the Four Cities Consortium submission regarding its Alternative Routing Plan.

I have over twenty-three years experience in transportation economics and operations including financial analysis, costing, economic forecasting, operations analysis, litigation support, and contract negotiations. I have worked directly with most railroads in North America as well as public state and local municipalities as to their traffic and transportation needs.

In respect of the instant proceeding, I began providing consulting services to CSX in 1986 and thus became familiar with the evolving operations and philosophy of the company. With respect to Conrail, I began my career in the early 1970's preparing the Final System Plan for Congress as a manager for the United States Railway Association, which created Conrail and I have remained, through assignments, generally familiar with its operation since that time.

Like Mr. Rooney, I have acted as a consultant and an expert witness in a number of proceedings including the proposed Santa Fe Industries control of Southern Pacific Transportation Company and the Kansas City Southern Industries inconsistent application for control of Southern Pacific. I have performed trackage rights and joint facility analyses and negotiations and provided formal representation before the Surface Transportation Board (successor to the Interstate Commerce Commission).

I hold a Bachelor of Science degree from the University of Maryland in Business Management and have Masters in Economics from the University of Baltimore.

I. Introduction and Summary

Our statement focuses on the Comments and Request for Conditions of the Cities of East Chicago, Hammond, Gary, and Whiting, (collectively, The Four Cities Consortium, hereinafter the FCC). The consortium was formed for the purpose of analyzing the regional effects of the Applicants' proposed post-acquisition operations, and recommending solutions to the adverse impacts identified. While agreeing that the proposed acquisition will have potential efficiency benefits for the carriers and for freight shippers, the FCC alleges, generally, that post-acquisition rail operations will have an adverse impact on transportation and public health and safety in their communities.

In particular the FCC notes that these four cities are crossed by a relatively large number of rail lines, including several major east-west arteries that have a large number of at-grade highway crossings with heavily used highways in downtown business districts. FCC alleges that the Applicants' plans to run more trains over certain of these lines will exacerbate existing vehicle traffic delays and accidents damaging the integrity of the highway transportation system, impose additional fuel cost, and cause environmental damage from emissions.

The FCC has retained economic consultants to estimate delays, and to estimate the economic impact of those delays. FCC's consultants have devised an Alternative Routing Plan which proposes to route some of the rail traffic away from "problem areas" (defined by FCC as line segments in their communities predicted to see the most delay) and onto other lines believed to offer less interference (i.e., highway overpasses and underpasses, again within defined corridor segments). FCC claims that the Alternative Routing Plan would deliver the full benefits of the Applicants' contemplated operating plans and cost less than the investment plans proposed by the Applicants.

The FCC has presented its complaints and Alternative Routing Plan in essentially two parts, both focused on the post acquisition operating plans of Applicant CSX. The first part relates to the additional trains moving over the CSX trackage (including the Conrail Porter Branch which CSX will operate) between Willow Creek, IN, where the CSX tracks from the East enter the Chicago area, and their destinations at various yard facilities within the Chicago Terminal.

The second relates to CSX's proposed operation of the former Pennsylvania Railroad line from near Cleveland to Chicago via Fort Wayne (the Fort Wayne Line), which CSX will refurbish as a bulk train route and alternate routing for all its trains. FCC opposes

the reopening of this out of service (but not abandoned) line and its grade crossings and suggests an alternate routing using segments of both the NS and Elgin, Joliet and Eastern (EJE) Railroads.

Our verified statement examines the complained-of operations of CSX and BOCT and the FCC's proposed "remedies." We take into account its method of calculating delays, *ergo* perceived harm, and the appropriateness of its Alternative Routing Plan(s) as a means of mitigating delay.

We conclude that FCC has made a number of substantial errors in predicting delays and that the Alternative Routing Plan is both ineffective and impractical.

CSX/BOCT Lines and the Porter Branch:

The CSX operating plan for trains between the East and the Chicago area follows the principle of avoiding wherever possible the need for opposing trains to "meet" and give way to one another or wait while another train does work at a particular location. The schedules and routings have been devised for a predominantly counterclockwise flow of trains inbound from Willow Creek, IN to Pine Jct. where the BOCT line to the west turns and the line to Rock Island Junction farther north commences. These form the northern two segments of a diamond shape (with a separate northward leg to Rock Island Jct.). See Attachment 1, Schematic Locator Map.

Trains exiting Chicago will generally continue in the counterclockwise direction using the BOCT tracks to reach Pine Jct. or IHB tracks to Gibson and Ivanhoe Interlockings and thence onto the Porter Branch via Tolleston to Willow Creek completing the southern two segments of the diamond. There are, of course, exceptions dictated by more direct train-specific routes.

FCC has associated vehicular delays and accidents with increased train movements mainly on two segments of the diamond, the segment of CSX/BOCT track from Willow Creek via Pine Jct. to Calumet Park IL and the segment of the Fort Wayne Line from Hobart, IN to Clarke Jct.

To remedy the delays, the FCC has proposed that CSX acquire and rehabilitate an out of service section of the IHB from Virginia Street to Chase Street in Gary -- a distance of about 2.1 miles. This line segment is elevated above street level in central Gary. This would be connected to the Porter Branch on the east and Ivanhoe Interlocking on the west, in effect elevating a portion of the existing parallel Ivanhoe-Porter Branch routing to Willow Creek. Having assumed these improvements, the Alternative Routing Plan recommends that 17 eastbound CSX/BOCT trains be rerouted over the elevated line.[1]

With respect to the issue of train interference with vehicular traffic, we have examined CSX's proposed schedules in detail and attempted to relate them to the FCC assertions. In subsequent sections we will describe more fully the following summary conclusions:

- The FCC calculations relating to train-caused delays on the Pine to Calumet Park BOCT segment appear to use a train speed assumption of 25 MPH (current FRA data for existing timetable speeds), whereas CSX has stated in responses to interrogatories that it plans to upgrade the BOCT segment to 40 MPH operation.[2] We replicated the FCC calculations using 40 MPH, and the predicted CSX/BOCT train-caused delays fell from

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[1] See FCC-9, Burris VS at 14 and n.13.

[2] See C.D. Clayton letter to C.A. Mills, Oct. 3, 1997; FCC-9, Andrew VS, Table 1 at 5; and FCC workpaper FCCO198HC.

989 hours per day post-acquisition originally estimated by FCC to 385 (61 percent). The latter figure is to be compared with 517 current hours of delays for this segment as computed by FCC. Again, the improvement over the status quo is driven by CSX's post-acquisition capital improvement and the resulting increase in train speeds. Andrew VS, Table 1 at 5.

- Overall, from Willow Creek to Calumet Park, the recalculated CSX plan delays would be 444 hours and the FCC plan 527 hours respectively. The FCC plan would result in more delays than the CSX plan. Andrew VS, Table 1 at 5.
- We also made a detailed examination of proposed train schedules and a calculation of the hours during which trains would pass the CSX/BOCT segment of at-grade crossings. We concluded that a conservative maximum of only two additional trains will traverse the BOCT "problem" section during the 6 AM to 6 PM peak vehicular traffic window.
- FCC has proposed rerouting 17 unidentified eastbound trains from the CSX/BOCT tracks to the proposed alternative routing over IHB.[3] In reality, only eleven eastbound trains (those from Forest Hill, 59th Street and BRC) could feasibly be rerouted via IHB. Of those, all but Forest Hill (2 trains) would use the more efficient, shorter reverse routing on BRC through Rock Island Junction in preference to the IHB line.[4]

With respect to the investment program proposed by the FCC to create an Alternative Routing for the Porter Branch (which would be elevated under FCC's plan), we made a physical inspection of the IHB line which would have to be rehabilitated. We also

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[3] See Burris VS at 14 n.13.

[4] See Attachment 2.

examined FCC's traffic delay assertions with respect to the Porter Branch. Our conclusions are summarized as follows:

- CSX's currently proposed schedules do not burden the Porter Branch with significantly more trains than currently use it, but do meet the operational requirements of the CSX's "counterclockwise plan." NS will be removing 9.6 average daily trains to the NS Chicago Line and to NS Kansas City run-throughs, so net CSX additions would amount to only 1.8 trains per day.
- The possibility of an elevated line is intriguing as a long-term alternative, and might be the focus of a joint relocation planning study. By observation, the physical condition of the infrastructure assets is very poor today. It would require significant repair and reconstruction. Thus, the investment programmed by FCC would be materially inadequate. This has unfavorable implications for the investment savings and rate of return requirements proposed by FCC.

Fort Wayne Line

With respect to the Fort Wayne Line, we will demonstrate that the FCC Alternative Routing Plan is neither operationally compatible with the Chicago operations envisioned by CSX, nor commercially viable, and because we believe the FCC erred in calculating Fort Wayne Line delays, its plan is unlikely to result in an improvement in regional highway transportation delays as asserted by FCC.

- In its calculations FCC has apparently assumed an operating speed of 10 MPH for a large part of the Fort Wayne Line (current FRA speed data based on out of service track exemption) despite the fact that Applicant CSX has stated that it plans to upgrade to 40 MPH operation. FCC's assumptions lead to a projected 443 hours of daily delays versus

only 83 hours if its Alternative Routing Plan were adopted (Andrew VS. Table 1 at 5), despite its 32 crossings with 150 thousand vehicles versus Fort Wayne's 27 crossings with 72 thousand daily vehicles.[5]

- Correcting the train speed reduces Fort Wayne delays to 39 hours (91 percent) to a level less than that computed by FCC for its Alternative Routing proposal. The economic impact is being reduced accordingly.
- Moreover, by rerouting trains, the FCC merely proposes to shift the burden of delays at grade crossings southward, i.e., to Van Loon and Hobart. The alternative NS line in this area has already been the subject of studies seeking its realignment on grounds of congestion and grade crossing accidents. In addition, today the NS line involved is congested.

The FCC's Alternative Routing Plan posits that 12-miles of the Fort Wayne Line need not be rehabilitated and numerous "closed" grade crossings need not be reopened if CSX were to route its bulk traffic over the NS line from Hobart to Van Loon, IN and thence over the Elgin, Joliet and Eastern Railroad (EJE) to the EJE's Kirk Yard, which serves the USX's Gary Steel Works and other steel works along the Lake Michigan shore. We have examined the appropriateness of the proposal in light of CSX's plans, and conclude that:

- FCC has wrongly inferred that the sole purpose of CSX's acquisition of the Fort Wayne Line is to serve the USX's Gary Works and other steel works along the lake shore, and has based the rationale for its Alternative Routing Plan on this inference.
- In fact, CSX's primary motives for acquiring the Fort Wayne Line are to divert all types of slower moving bulk trains from the main line (former B&O), improving the flow of

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[5] See Attachment 3, USDOT Average Daily Traffic.

traffic on the former B&O, high speed line and to provide an alternative route for any train in case of emergency or congestion of the mainline.[6]

- Because the proposed EJE routing is located on bridges above the intersection of CSX, Conrail (NS), the Fort Wayne Line (CP501) and the CSX/BOCT at Pine Jct., it leaves trains on the Fort Wayne Line literally and figuratively "up in the air," greatly complicating access to the CSX mainline and to other connecting lines, negating the operational flexibility which was CSX's objective for acquiring the Fort Wayne Line, and frustrating operating plans across the CSX system. See Attachment 1, Schematic Locator map.
- The FCC's longer proposed rerouting would increase CSX's payments of private car mileage allowances and costs associated with shipper-owned equipment. The proposed route would also require more horsepower than the current route, thus CSX would need to add helper engines.[7]
- The need (1) to pay market-based trackage rights fees to both EJE and NS, (2) to negotiate time slots with not one, but two, additional railroads and (3) to move the trains with two additional dispatchers (NS and EJE) would remove the advantages of single line service efficiencies.

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[6] CSX Operating Plan CSX/NS-20, Vol. 3A at 117 and 259.

[7] Elgin Joliet and Eastern Railroad uses 4 or 5 six axle SD38, low geared locomotives to surmount the grade from Ivanhoe to Pine Jct. on its line and descend at Kirk or vice versa, whereas the CSX or Fort Wayne Line will likely require maximum of three six axle units.

Summary

In summary, we believe that the FCC's failure to recognize CSX's improved operational factors, including speed and time of day of train operations, in its calculations of vehicle delays resulted in very substantial overstatement of the perceived delays and harm resulting from them. When the adjustments are taken into account on an equivalent basis it becomes clear that the Alternative Routing Plan(s) are not needed and overall do not accomplish any improvement. In fact, in the case of both the Pine Jct. to Calumet Park and Fort Wayne segments the Alternative Routing Plan is inferior to the CSX plan.

However, even supposing significantly reduced delays, the Alternative Routing Plan for the Fort Wayne Line, if adopted, would negate all benefits of the planned efficiencies and flexibility envisioned by CSX for that line, thus denying the benefits of the Transaction with respect to CSX's Chicago operations. Similarly, the Alternative Routing Plan for the CSX/BOCT segment could not be implemented as proposed because there are insufficient trains to justify it on those grounds alone and FCC has offered no plans for capital investments.

II. CSX's Operating Philosophy and Facilities at Chicago

The CSX operating plan for trains between the East and the Chicago area is governed by the principle of avoiding wherever possible the need for opposing trains to "meet" and give way to one another or to wait while another train does work at a particular location.

This coherent "counterclockwise policy" has been applied to produce schedules and routings in a predominantly counterclockwise flow of trains inbound from Willow Creek to Pine Jct. From Pine Jct., trains can proceed north to Rock Island Jct. and the Belt Railway or via the CSX/BOCT to Barr and IHB Blue Island Yards. This forms the northern two segments of a diamond shape (with a separate northward leg to Rock Island Jct.). See Schematic,

Attachment 1. Trains exiting Chicago will generally continue in the counterclockwise direction using the BOCT tracks to reach Pine Jct. or IHB tracks to Gibson and Ivanhoe Interlockings and thence onto the Porter Branch via Tolleston to Willow Creek completing the southern two segments of the diamond.

There will, of course, be exceptions dictated by more direct train-specific routes. Whenever possible, run-through trains between CSX and western connections will be assembled elsewhere and will take the most efficient routing through Chicago. And, for instance, auto, coal and some other trains routed to Gibson and other IHB yards will head into the Porter Branch directly, bypassing Pine Jct. and CSX/BOCT altogether.

As an example of routing improvements made possible by the lines obtained, the CSX coal delivered to Inland Steel Company is now routed via CP501 to CP502 thence to IHB (heading in wrong way) to the Michigan Avenue Yard where IHB completes the work. In the future this train will move Fort Wayne via Porter Branch direct to Ivanhoe to IHB and thence to Michigan Ave Yard. As previously noted, the Fort Wayne Line will serve as an alternate routing, intersecting both the BOCT at Clark Jct. and Porter Branch at Tolleston, and as a primary bulk train routing. CSX also expects to combine some crew districts among the CSX former B&O main line and the Fort Wayne Line [Fort Wayne - Garrett - Willard and Chicago Terminal] to achieve fluid operations between these lines.

Returning to the diamond analogy, we describe in subsequent sections the function of each of the track segments and the environment surrounding the segment. The purpose will be to demonstrate that the CSX Operating Plan preserves the traditional operating modes of these segments and does not radically change them to the detriment of public health and safety as FCC

implies. Referring to the Schematic Locator Map -- Attachment 1.1, we briefly summarize the role and environment of each of the lines in the FCC area:

- ***CSX main line Willow Creek to Pine Jct.***: *Today CSX's principal entry line to Chicago from the East, this high speed line (which will be restored to two track 70 MPH operation between Greenwich OH and Pine Jct.) is characterized by wide, brush free right of way with excellent forward and side visibility and few grade crossings. From Millers (east Gary) to Pine Jct. the line is part of the broad transportation corridor including Conrail's Chicago Line (NS) and the EJE, and IHB Railroads. The line's role is to remain the principal east-west routing. As noted by FCC, this corridor will experience an increase in CSX traffic and a corresponding decrease in Conrail(NS) as a result of the division of Conrail lines, hence traffic, farther east.* <u>See</u> *Photo Exhibit at 1.*
- ***Pine Jct. to Rock Island Jct.:*** *The line is also part of the broad lake shore transportation corridor including Conrail's Chicago Line (NS) and the EJE, and IHB Railroads. Its CSX role in the future will be to reach BRC's Clearing Yard, CSX's Bedford Park intermodal yard, and CSX's proposed 59th Street intermodal facility as well.*
- ***Pine Jct. to Calumet Park Segment of BOCT:*** *Today this segment is the main east- west connector for CSX trains to BOCT facilities and the yards of IHB and BRC that it uses in the southwestern Chicago suburbs. Since CSX's plan is to continue to use the services of these railroads offering the best, most cost effective switching services, the line's role must continue. However, as we will show in subsequent sections, the effect of planned directional train routings, signaling and other improvements to raise speeds to 40 MPH and consideration of when (time of day) the trains pass here greatly ameliorates the situation hypothesized by FCC.* <u>See</u> *Photo Exhibit at 2.*

- ***Conrail Porter Branch (CSX will obtain Porter to Ivanhoe):*** *Today Conrail uses this signaled 40 MPH line in both directions to reach directly its affiliate IHB at Gibson Yard and to distribute traffic throughout the IHB network of connections from there. CSX's Operating Plan does not materially change the number of trains on the line (due to removal of 10 trains to NS' Conrail Chicago Line) but would change the predominant flow from westbound to eastbound, as described above.*

- ***CSX Rehabilitation of the Conrail Fort Wayne Line:*** *Today this line is out of service between Hobart, IN and Clark Jct. but used from Warsaw, IN eastward, as part of the NS' service route to Chicago. CSX will rehabilitate the line to a 40 MPH route for bulk trains and alternative routing for all trains between Cleveland to Chicago. There are 3 grade crossings between Tolleston and Pine Jct.; however for the southern half of the segment there are significant crossings between Tolleston and Hobart, IN. This former double track main line affords a broad right of way with good visibility and it should be noted that as recently as 1990 this line hosted 2 Amtrak trains and at least one local freight each day. CSX proposes 5 unscheduled (extra) bulk trains per day.*

III. Discussion of FCC's Delay Calculations

The main focus of FCC delay calculations was the BOCT segment from Pine Jct. to Calumet Park (FCC-9, Andrew VS, Table 1 at 5), accounting for 78% of FCC's current and 61% of alleged future vehicle delay hours.[8] The bulk of the remainder was ascribed to the Fort Wayne Line.

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[8] In this table Andrew has included his calculation of imputed IHB train caused vehicle delays in his totals. Thus, for Pine Jct. to Calumet 516.9 / 663.9 equals 78%. We do not agree with IHB's inclusion, but use it in the context of the complained of delays here.

Actual vehicle delays, train speeds and other data were sampled during a one week period in September 1997 at 12 grade crossings. Seven of the crossings were on the BOCT segment and five were along the lake shore routes including (as one site) several streets in Whiting, IN. With respect to the Fort Wayne Line segment, 27 grade crossings were not directly measured for vehicle flows. Instead a vehicle delay model calibrated from the 12 crossings sampled was applied to the crossings not measured, using USDOT/FRA vehicle flows and FRA segment train speed data. The latter procedure was also used for all of the grade crossings on IHB, NS and EJE lines used in the Alternative Routing Plan analysis.

We were struck by anomalous delay results pertaining to the Fort Wayne Line. Here the proposed Alternative Routing using the NS and then EJE tracks shows a daily vehicle flow volume of 150 thousand across 32 crossings with train speeds of 30 to 45 MPH, whereas the Fort Wayne Line crosses 27 crossings with a total flow of only 72 thousand vehicles and CSX proposed train speeds of 40 MPH.[9] Andrew proposes 443 daily delay hours for the Fort Wayne and only 83 for the Alternative Route. Andrew VS, Table 1 at 5.

We discovered that Andrew used the FRA train speed data (Andrew VS, Table 1 at 5 n.1) and FCC Workpaper FCC0151HC-0153HC). This data is collected from the railroads and relates to the existing timetable speed of the track on which a graded scale of FRA track safety tolerances is calibrated for track inspectors to observe. For very low speeds (shortlines, sidings, infrequently used tracks) FRA assigns a class of exempted track, which Andrew no doubt picked up when he apparently assigned 10 MPH to the Fort Wayne Line, notwithstanding CSX's announced plans to upgrade to 40 MPH.

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[9] See Attachment 3, USDOT Average Daily Traffic.

By the same token, Andrew appears to use existing FRA 25 MPH train speeds for the BOCT segment from Pine Jct. to Calumet Park (FCC Workpaper Documents FCC0198HC and FCC0151HC-0153HC), notwithstanding CSX's professed intention to upgrade this segment to 40 MPH operation (See, e.g., C.D. Clayton letter to C.A. Mills, Oct. 3, 1997), with predictable results for delays.

We replicated the delay calculations performed by Andrew for the two critical segments in question -- the Willow Creek to Calumet Park including the CSX/BOCT, and the Fort Wayne Line -- in order to test the effect (which should be proportional) of increasing train speed on reducing delay.[10] Summary data relating to this replication can be found in Attachment 3.

Table 1. -- Recalculated Delays for the Willow Creek and CSX/BOCT Segments (in hours of daily delay to vehicles):

Route/Segment	Current per GMA Table 1	Applicants Plan per GMA Table 1	Recalculated Using CSX's Proposed Speed[11].	Alt. Routing Plan per GMA Table 1
Willow Creek to Pine Jct. (CSX Mainline)	24.5	54.9	58.7	31.3
Pine Jct. to Calument Park (BOCT)	516.9	988.9	385.4	495.9
Total Willow Creek to Calumet Park	541.4	1043.8	444.1	527.2
Total Change in Delay for Segment		-599.7		

[10] FCC did not use the model conventionally used by FRA, FHWA, and STB. Nevertheless, although it was not possible to perfectly reproduce all the numbers in Andrew VS Table 1 using the formulae presented in Andrew's Attachment GMA-6 and the underlying data, very similar results were obtained using the same input variables as he used.

[11] Andrew also used FRA speeds for the Willow Creek to Pine Jct. segment, reflecting in this case passenger train limits. These were reduced to freight train speed, slightly increasing delays.

Conclusion with respect to the Willow Creek to Calumet Park segment:

As can be seen from the above table, adopting the speeds proposed by CSX very dramatically reduces the daily delay hours attributable to operations over the CSX/BOCT segment. Delays fall in direct relation to the speed improvements attributable to the CSX's acquisition related investments. In fact, the numbers suggest that even given an increase in traffic of six trains, the overall delays situation along the BOCT will actually be improved as a result of the capital improvements.

Table 2. -- Recalculated Delays for the Fort Wayne Line Segment (in hours of daily delay to vehicles):

Route/Segment	Current per GMA Table 1	Applicants Plan per GMA Table 1	Recalculated Using CSX's Proposed Speed	Alt. Routing Plan per GMA Table 1
Hobart-Tolleston-Pine Jct.	N/A	443.0	39.8	
Hobart-Van Loon-Pine Jct.	N/A			83.4
Total Change in Delay for Segment		-403.2		

As noted above, the anomalous results concerning the Fort Wayne Line were corrected with the increase in train speed from 10 MPH to 40 MPH. The Fort Wayne Line, which overall encounters fewer crossings and less than half the vehicle flow, should, and does, produce about half the expected delay of the Alternative Routing Plan, if operated at equivalent train speeds.

Calculation of Economic Impact:

In his verified statement, Burris converts the delay factors produced by Andrew to annual equivalents (multiplication of daily delays by 365) and uses these factors in his calculation of economic impact resulting from the delays (Burris VS at 9). These impacts result

from four factors: a) Lost productivity due to vehicles (occupants) waiting at grade crossings: b) Additional fuel consumption associated with cumulative delays; c) Atmospheric pollution from exhaust emissions during delays; and d) Increased rail/vehicle accidents related to increased train traffic. Burris VS at 17.

As can be seen from the nature of the above impacts, in all cases except rail/vehicle accidents the reduction in economic impacts should be directly proportional to the reduction in cumulative vehicle delays. As previously shown, the recalculated delays, therefore produce significant decreases from those claimed by FCC, and, in both cases, the FCC plans result in more delays and greater economic impact.

With respect to accidents, an important collateral consideration is the time of day when trains pass crossings. As demonstrated in the following section, a maximum of two additional trains will pass the CSX/BOCT segment in peak auto traffic hours (6 AM to 6 PM) as defined by FCC, consistent with the shift change patterns in this industrial area. As this is the densest area of crossings considered by FCC, it is clear that the problem envisioned by FCC is substantially ameliorated by much smaller off peak vehicle traffic flows, as shown in the FCC sample data.

IV. FCC's Proposed CSX/BOCT Remedy Does Not Account For Proposed CSX Train Schedules and Routings.

We examined CSX's train schedules and routings through Chicago in light of FCC's assertions that they would cause excessive delays to traffic, and we also examined the FCC's alternatives. Our focus in this exercise were those trains entering and exiting Chicago through Willow Creek and particularly those using the "problem segment" from Pine Jct. to

Calumet Park. All of these schedules are shown in Attachment 2 and the results of the analysis are summarized in the table which follows.

There are more total trains (53.8) than Attachment 13-5 to the CSX Operating Plan shows due to 4 CP trains through Porter which stay on Conrail until reaching CP501 where they enter CSX/BOCT tracks, thus don't pass "Deshler—Willow Creek" or "Willow Creek—Pine" on CSX segments. The other small absolute differences between the table and the Operating Plan are due to interim changes in the schedules, blanket calculation of train frequency, and rounding.

- New trains mean CSX (and CP) Willow Creek and Grand Rapids trains not in the base count of 1995 trains. Twenty-eight trains enter the calculations as such.
- The CP Rail Provisional Schedules (placeholders) and one Amtrak train each way using the CSX mainline are not counted. Amtrak does not enter the CSX/BOCT segment and would not cause the complained of delays in any case.
- Routing via Rock Island Junction means that trains continue along the lake shore transportation corridor line to a point beyond the municipal boundaries of the FCC and enter the Belt Railway of Chicago facilities there.
- Routing via Ivanhoe means that trains enter the Conrail (CSX) Porter Branch at Willow Creek (in the case of Grand Rapids trains, at Porter) and proceed on the Porter Branch to the Ivanhoe Interlocking where the IHB line to Gibson Yard commences. This is the same routing proposed as an alternate for 17 trains by the FCC.
- Thus, the remaining "existing" and 6.2 "new" trains pass the sampled seven grade crossings all of which lie on the CSX/BOCT routing. (There were 5.7 new trains per

CSX/NS-20, Vol. 3A Operating Plan Attachment 13-5, and FCC rounded up to 6 new trains upon which their incremental delay calculations were based).

Emphasis was placed on estimating the time of day trains would transit the CSX/BOCT segment versus routings over other segments unlikely to produce significant delays including the route north via Rock Island Jct. and the route using the IHB and Porter Branch via Ivanhoe Interlocking.

- Hour of day calculations are based on when trains enter or leave a yard plus or minus the time in transit to the segment Calumet Park or State Line Tower to Pine Jct., thus the hour in which they would be expected to be in the segment.
- It can be seen from the calculations that the number of "new" trains operating during the 6AM to 6PM peak vehicle traffic window (as defined by FCC) is only 12.2, half the number of new trains programmed.

Of these 12.2 new "daylight" trains:

- 3.2 will proceed along the shoreline transport corridor to Rock Island Junction without entering the CSX/BOCT tracks.
- 3.0 will use the Porter Branch to Ivanhoe and the IHB.
- Q135 and Q137, presently on the CSX/BOCT line, have been rerouted to Rock Island Junction in the new plan -- 1.6 daily trains.
- 3.8 additional existing trains will be rerouted via Ivanhoe to the Porter Branch.

Thus only 0.6 additional trains will be using the CSX/BOCT tracks during the 6AM to 6PM peak window, post-acquisition. For conservatism we say 2 additional trains to account for occasional train delays, etc. The following table summarizes the tabulations.

Table 3. -- Summary Results of Peak / Non-Peak Train Schedule Analysis

All Scheduled Trains	Daily Frequency	6 Am to 6 PM Trains	Daily Frequency
Number New Daily Trains	28.2	Number New Daily Trains	12.2
Trains Using RJct. Alternate	-8.0	Trains Using RJct. Alternate	-3.2
Trains Using Ivanhoe Alternate	-6.2	Trains Using Ivanhoe Alternate	-3.0
Reroutes of Existing Trains	-7.8	Reroutes of Existing Trains	-5.4
Net New Trains on BOCT	6.2	Net New Trains on BOCT	0.6

FCC's Proposed Routings Are Not Compatible With Train Flow

FCC proposes rerouting an unidentified 17 eastbound trains from the CSX/BOCT tracks to the IHB proposed alternative routing.[12] In reality only eleven eastbound trains, those from Forest Hill, 59th Street and BRC, could feasibly be rerouted via IHB and those would require use of BOCT's Chicago Heights Subdivision or a backing move through Blue Island Interlocking -- not an ideal routing for scheduled trains. Moreover, for all but Forest Hill (2 trains), the more likely, shorter routing would be reverse routing on BRC through Rock Island Junction without using the IHB line in any event.

V. FCC's Proposed Fort Wayne Line Remedy is Incompatible with CSX's Chicago Operating Plans.

Proposed Alternative Fort Wayne Line Routing Greatly Complicates Interconnection with CSX Mainline and Other Lines To/From Pine (Clarke Jct.):

The FCC's Alternative Routing Plan posits that 12 miles of the Fort Wayne Line need not be rehabilitated and numerous "closed" grade crossings need not be reopened if CSX were to route its bulk traffic over the NS line from Hobart to Van Loon and thence over the EJE to EJE's Kirk Yard which serves the USX's Gary Steel Works and other steel works along the Lake Michigan shore. We have examined the appropriateness of the proposal in light of CSX's plans.

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[12] See Burris VS at 14 n.13.

Inconsistent with statements in the CSX Operating Plan, we believe FCC has misperceived the purpose of CSX's acquisition of the Fort Wayne Line by inferring its only function would be to serve the USX's Gary Works and other steel works along the lake shore and has implicitly based the rationale for its Alternative Routing Plan on this inference. Burris VS at 8 and 16.

Service to these steel plants, important as it may be, is not the sole purpose for this line's acquisition. CSX already serves these plants directly or indirectly and proposes to move other bulk traffic over the Fort Wayne Line, including grain and other bulk commodity trains operating to and from multiple customers and connecting carriers throughout Chicago. CSX/NS-20, Vol. 3A at 117. Moreover, while EJE is the preferred carrier for USX's Gary Works, it is not the sole carrier and in some instances does not reach the other steel works along the lake shore.

In fact, CSX's primary motives for acquiring the Fort Wayne Line are: 1) to divert all types of slower moving bulk trains from the main line (former B&O), improving the flow of traffic on this latter, high speed line, which itself is being improved to 70 MPH double track between Greenwich, OH near Cleveland and Pine Jct. at a cost of over $100 million; 2) The Fort Wayne Line will be improved to 40 MPH operation (standard speed for CSX bulk trains) in those segments not already suitable for that speed and will provide a fully adequate alternate route for any train in case of emergency or congestion of the mainline. CSX/NS-20, Vol. 3A at 259.

FCC proposes to use the EJE (Route 3, Joliet - Gary Divisions) from Van Loon MP 3.5 to Gary MP 11.0, a distance of 7.5 miles. This important eastern end of EJE's belt around Chicago was elevated to avoid interference with the mainlines along the lake shore which

it crosses at a 90 degree angle to enter its own Kirk Yard. Thus, its physical location on bridges above the intersection of CSX, Conrail(NS), the Fort Wayne Line (CP501) and the CSX/BOCT at Pine Jct. greatly complicates access to the CSX mainline at Pine Jct. and to other connecting carriers including direct access to either the CSX/BOCT or Rock Island Jct. Through trains attempting to reconnect with the CSX mainline through CSX's Curtis Yard would have to pull almost across the bridges, reverse and make a backing move down the inclined connecting track to Curtis Yard, negotiate the yard, and pull north (west) onto the mainline. These movements are further complicated by the existence of gradients on both ends of the bridges.

Proposed Alternative Fort Wayne Line Routing Adds Costs and Potential Delays to CSX Trains

The proposed rerouting of bulk trains consisting of shipper owned/leased mileage based equipment would be adopting the longer right triangle mileage legs in lieu of the hypotenuse to make the service costlier. The proposed route would also require more horsepower than the current route, thus the need to add helper engines.[13] Assuming that CSX would have to pay market based trackage rights fees (and assuming they were granted) to not one, but two, additional railroads and negotiate time slots to move the trains with two additional dispatchers (NS and EJE), the advantages and efficiencies of single line service would be destroyed.

The following paragraphs show the increased costs attributable to market based trackage rights, and the required increased horsepower that we believe must be added to those proposed by the FCC for both the use of the EJE/NS lines as well as the IHB.

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[13] Elgin Joliet and Eastern Railroad uses 4 or 5 six axle SD38, low geared locomotives to surmount the grade from Ivanhoe to Pine on its line and descend at Kirk or vice versa, whereas the CSX or Fort Wayne Line will likely require maximum of three six axle units.

FCC did not account for the level of power required to operate over the proposed EJE alternative route with its high line grade characteristics. To distribute traffic off the EJE to the steel mills and connections trains would require up to two units of "helper power" for both the ascending and descending movements. A conservative estimate of the incremental expense for locomotive ownership (assuming 1.5 units) and operating costs, including fuel, servicing and crews, $825,000 per annum.

FCC estimated a trackage fee for use of the EJE and NS tracks is also well below the market rates. Also FCC ignores any fee for incremental use of the IHB line under the Alternative Routing Plan. CSX would likely be charged a fee and credited with 25.5% of the proceeds due to its ownership position. The total increment over and above that cited by FCC could add another $1.0 to 2.0 million, with the range attributable to use of FCC's lower rate rising to the market rates.

Taking these charges into account, annual operating costs of FCC's proposed plan would increase from $16 million to $18 million, thus, exceeding Applicants' annual operating costs. See Burris VS, Table at 26.

VI. FCC's Alternative Routing Plan Proposed Purchase and Rehabilitation of the IHB Elevated Line Underestimates the Investment Needed.

The FCC has proposed that CSX acquire and rehabilitate an out of service section of the IHB from Virginia Street to Chase Street in Gary -- a distance of about 2.1 miles. This IHB segment, which is elevated above street level in central Gary, would be connected to the Porter Branch in the vicinity of Virginia Street in the east and these IHB tracks would be used to Ivanhoe in the west. Having assumed these improvements, the Alternative Routing Plan

attempts to justify them by recommending that 17 trains be rerouted eastbound over the elevated line and off of the CSX line.

There appear to be discrepancies between FCC's assumptions of the condition of the physical plant required for the Alternate Routing and its actual condition. For example, where it appears (but is not the case) that the IHB line continues as a mainline from Chase Street to Gibson Yard, in fact, the mainline is the Porter Branch and the IHB tracks beyond Gibson to the east are industrial service tracks or, in effect, two controlled sidings. Beyond Ivanhoe Interlocking eastward, these tracks would need to be brought from Class II to Class III condition to accomplish the proposed mission.

Physical Condition of the Elevated Line Is Poor:

We observed that the physical condition of the infrastructure assets is poor to very poor and could not in their present condition support heavy rail operations (including stack trains and bulk trains) for this line. See Photo Exhibit at 2. Of the existing rail/highway bridges, condition is poor to unusable on 65% of the bridges seen in Gary, although in some cases the problems may be limited to severely eroded support columns and decking. In addition, we observed 150-200 feet of old wooden trestles that would have to be filled in, and the track subgrade would have to completely replaced or replaced with small purpose built culverts where necessary. FCC witnesses Messrs. Heinzman and Dunn made no provision for bridge repairs in their capital needs estimates. FCC-9, Heinzman/Dunn VS at Exhibit GHL/RHD-2.

As observed by Heinzman and Dunn, track structure must be replaced on the entire line from Virginia Street to Chase Street. This rehabilitation should also include work on the IHB line from Chase Street to Ivanhoe, or a reconnection made to the Porter Branch west of Chase Street, as the former IHB Line is not in condition to accommodate 40 MPH operations.

No account of the cost of acquiring the land for either connection has been made. Thus. the investment programmed by FCC seems materially inadequate and this has unfavorable implications for the investment savings and rate of return improvements claimed by FCC.

Our recapitulation of additional investment needs is as follows:

Table 4. -- Investment Requirements

Investment Cost Parameters	Investment Element	Unit Cost	L.E. Peabody Estimate ($000)	Incremental Investment Cost
132 # rail. platform clean top off with 12 inches ballast. ties. OTM	2.1 track miles	$200 per track foot	1.116.776	1.100
Fill in 2 trestles and repair super and substructure 5 bridges	2 Trestles 5 Bridges	5@$9000 per track foot per 10 ft. section; 2 trestles@$2000 per 10 ft. section	none	441
Crossover west of Chase St. (or improve IHB track)	2 number 12 or higher turnouts and 250 ft. of track	$150.000 per turnout and $200 per track foot	none	800
Purchase and clearing of land	Purchase 3/4 a. occupied land and housing and 1/2 a. vacant commercial land	300.000 for occupied residential and $100.000 for vacant commercial	none	400
Total Incremental				**2.741**

Taking these adjustments into account, overall capital costs would increase and FCC's claimed capital offset savings ($6.56 million Applicants versus $1.56 million FCC) are reduced from $5 million to $2.26 million by or about half. Burris VS p. 26 and Exhibit PHB-6.

Verification

STATE OF FLORIDA }
}
}
COUNTY OF SAINT JOHNS }

James Christopher Rooney, being duly sworn, deposes and says that he has read the foregoing statement, knows the contents thereof and that the same are true and correct.

James C. Rooney

Sworn to and subscribed
before me this 8th day
of Dec., 1997.

Witness my hand and official seal.

JUDITH H. ADKINS
NOTARY PUBLIC
STATE OF FLORIDA

Judith H. Adkins

WASHINGTON, D.C.)
) ss
)

VERIFICATION

T. Stephen O'Connor being duly sworn, deposes and says that he is qualified and authorized to submit this Rebuttal Verified Statement, and that he has read the foregoing statement, knows the contents thereof, and that the same is true and correct.

T. Stephen O'Connor

Subscribed and sworn to before me by T. Stephen O'Connor this 9 day of December, 1997.

My Commission Expires:

IRENE LINTON
District of Columbia
My Commission Expires
November 30, 2000

EXHIBITS

Exhibit A: Photographs of Chicago Terminal Area

Page 1 Upper Left -- CSX Mainline at MP 239 illustrating clearance and visibility.

Upper Right -- EJE line on overpass at Pine (Clark Jct.) with Conrail tracks in foreground, CSX in background

Lower Right -- Looking down on Clarke Jct. from EJE bridge

Lower Left -- EJE train (four SD32 locomotives) crossing overhead Fort Wayne Line at Pine (Clarke Jct.).

Page 2 Upper Left -- Eroded Bridge Column due to road salt - IHB Line - Broadway Ave. - Gary IN.

Upper Right -- Wooden Trestle requiring replacement - between Broadway and Jefferson Sts. - Gary IN

Lower Right -- CSX/BOCT / IHB crossing vicinity Kennedy Ave. and Chicago Ave. - East Chicago IN - showing track and visibility characteristics

Lower Left -- Wooden columns and transition spans, no abutments- Chase St. Gary IN - IHB Line


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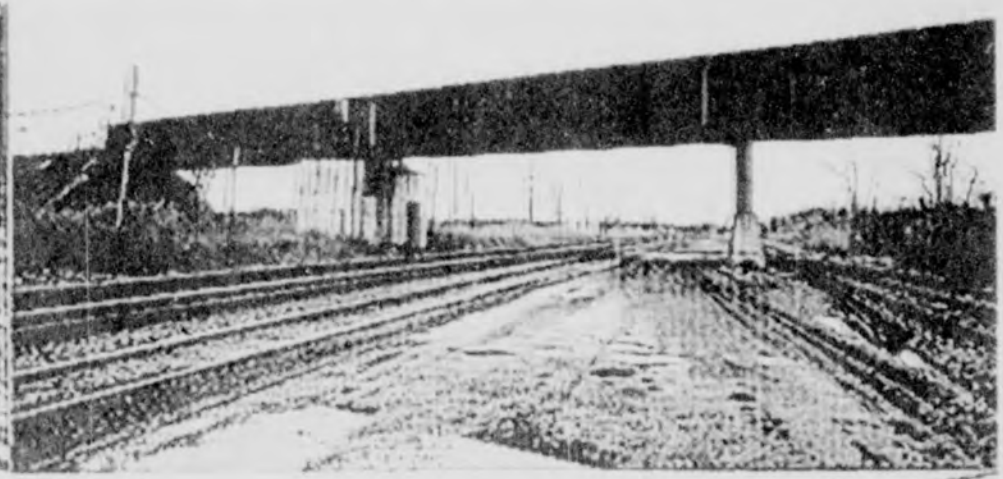

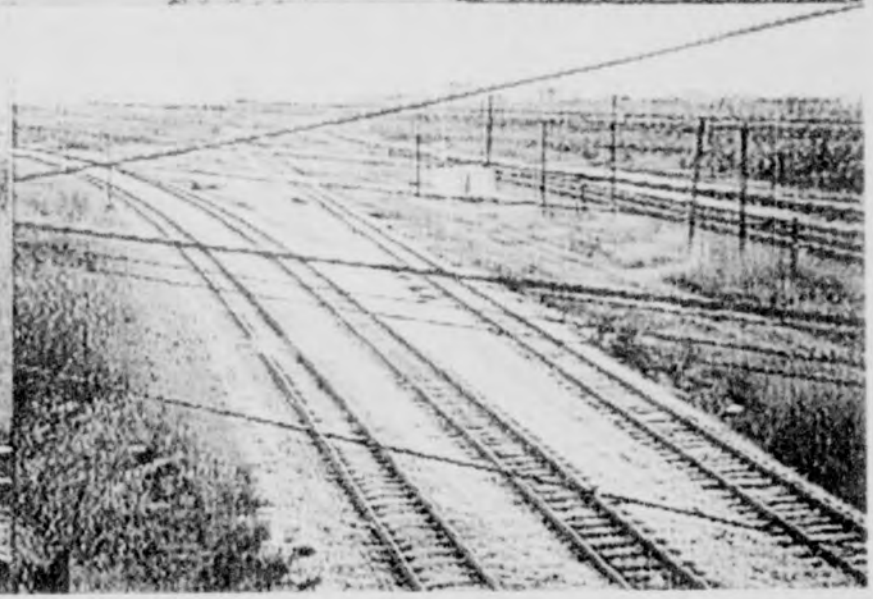

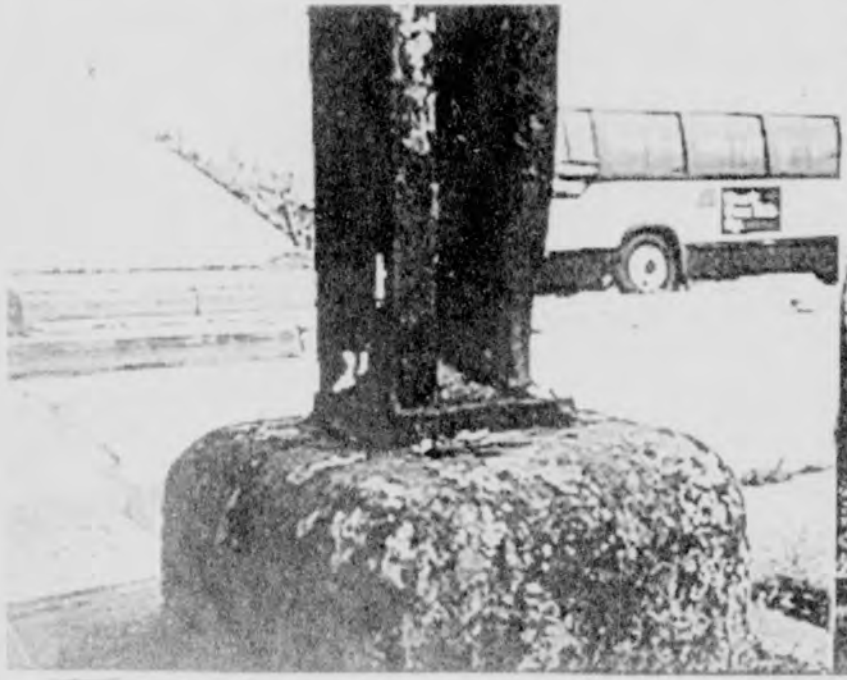

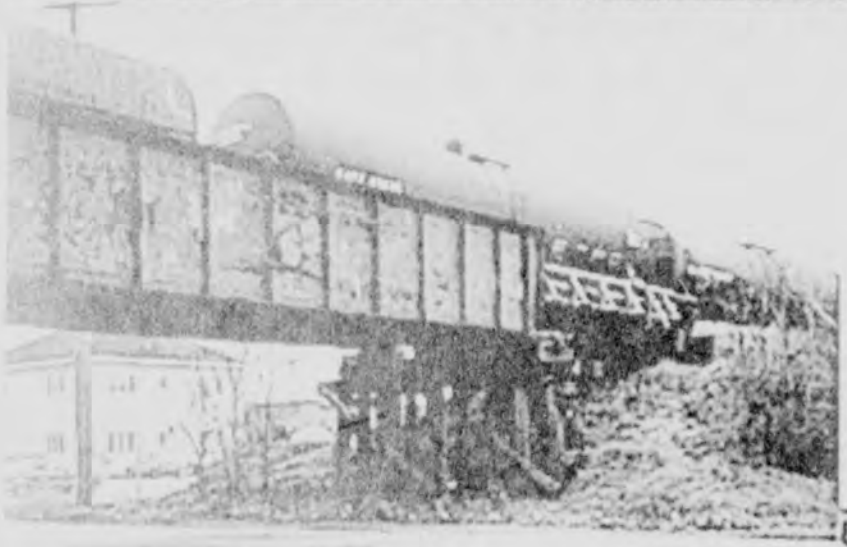

ATTACHMENTS