



ENTERED
 ATTORNEYS AT LAW Office of Proceedings
 September 8, 2015
 Part of
 Public Record

1666 K Street, NW
 Suite 500
 Washington, DC 20006
 T 202.887.1400
 F 202.466.3215

Linda J. Morgan
 D 202.887.1429
 lmorgan@nossaman.com

BY HAND DELIVERY

September 8, 2015

Ms. Cynthia T. Brown
 Chief, Section of Administration
 Office of Proceedings
 Surface Transportation Board
 395 E Street SW
 Washington, DC 20423



Re: **STB Finance Docket No. 35743, Application of the National Railroad Passenger Corporation Under 49 U.S.C. § 24308(a) – Canadian National Railway Company**

Dear Ms. Brown:

Enclosed for filing in the above-referenced docket are the redacted public versions of the Opening Statement of the National Railroad Passenger Corporation ("Amtrak"), the Verified Statement of Paul Vilter, the Verified Statement of Benjamin Sacks, and Amtrak's proposed Operating Agreement. Also enclosed is a disc containing these redacted documents.

Please time and date stamp the extra copy of the filings and return it with our messenger. If you have any questions, please contact me.

Respectfully submitted,

Linda J. Morgan
 Attorney for National Railroad Passenger Corporation

PUBLIC VERSION - REDACTED

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 35743

APPLICATION OF THE NATIONAL RAILROAD PASSENGER CORPORATION
UNDER 49 U.S.C. § 24308(A) – CANADIAN NATIONAL RAILWAY COMPANY

OPENING STATEMENT

Linda J. Morgan
Kevin M. Sheys
Justin J. Marks
Nossaman LLP
1666 K Street, NW
Suite 500
Washington, DC 20006

Counsel for National Railroad Passenger Corporation

William H. Herrmann
Christine E. Lanzon
National Railroad Passenger Corporation
60 Massachusetts Avenue, NE
Washington, DC 20002

Dated: September 4, 2015



TABLE OF CONTENTS

I. Procedural History1

II. Overview 3

III. The STB's Broad Statutory Authority Under Section 24308(a)..... 5

IV. [REDACTED]

V. [REDACTED] 11

 A. The Key Elements Of Amtrak's Proposed Terms12

 B. Amtrak's Proposed Terms Meet All Of The Requirements
 Of Section 24308(a) And Would Advance The Statutory
 Goal Of Section 24101(c)(4)17

VI. Effective Date and Term..... 18

BEFORE THE
SURFACE TRANSPORTATION BOARD

FINANCE DOCKET NO. 35743

APPLICATION OF THE NATIONAL RAILROAD PASSENGER CORPORATION
UNDER 49 U.S.C. § 24308(A) – CANADIAN NATIONAL RAILWAY COMPANY

OPENING STATEMENT

The National Railroad Passenger Corporation (“Amtrak”) submits this Opening Statement in support of its application, pursuant to 49 U.S.C. § 24308 (a)(2), for a determination of reasonable terms and compensation for Amtrak’s continued receipt of services from, and use of tracks and facilities of, Grand Trunk Western Railroad Company (“GTW”) and Illinois Central Railroad Company (“IC”).¹

I. Procedural History

In anticipation of the expiration of the contract entered into by Amtrak and CN in May 2011 to govern the terms and compensation of Amtrak’s access to CN tracks and facilities (as amended, the “Current Agreement”), Amtrak and CN began negotiations on a new operating agreement in 2012. After months of negotiating, key issues remained unresolved between the parties. Accordingly, on July 30, 2013, Amtrak filed an application under 49 U.S.C. § 24308(a)(2), seeking the institution of a proceeding to determine reasonable terms and compensation for Amtrak’s use of CN’s tracks and other facilities and CN’s provision of services to Amtrak.

¹ GTW and IC are indirect subsidiaries of CN and are collectively referred to herein as “CN.”

In a decision served August 9, 2013, the Surface Transportation Board (the "Board" or the "STB") instituted this proceeding.² Pursuant to a stamp decision served August 21, 2013, the STB adopted a procedural schedule proposed by the parties. Per that schedule, CN and Amtrak filed separate statements identifying disputed issues on October 24, 2013. Amtrak's statement of disputed issues included the following:³

1. Compensation. The amount of compensation CN receives under the Operating Agreement, including whether, and if so, under what terms, CN should receive compensation in excess of CN's incremental costs for quality of service, including the formulation of such compensation and the administration thereof.

2. Penalties. To ensure a penalty program that effectively promotes improved operating performance of Amtrak trains, under what terms CN should be subject to penalties for untimely performance, including the formulation of such penalties and the administration thereof.

* * *

4. Length of Contract. The establishment of a date and terms for expiration or termination of the Operating Agreement, and, if so, what that date and those terms should be.

Following the filing of Statements of Disputed Issues, the Board granted several extensions of the procedural schedule to facilitate the parties' discovery. On September 23, 2014, the Board served a revised procedural schedule that would become effective upon completion of discovery, and, on March 26, 2015, the Board indicated that the procedural schedule had not yet begun due to outstanding discovery disputes.

Thereafter, the Board assigned and authorized Administrative Law Judge John P. Dring of the Federal Energy Regulatory Commission to rule upon discovery matters and resolve all disputes concerning discovery in this case. Judge Dring held a discovery

² Application of the Nat'l R.R. Passenger Corp. Under 49 U.S.C. § 24308 -- Canadian Nat'l Ry Co., STB Finance Docket 35743 (STB Served Aug. 9, 2013).

³ Amtrak's statement of disputed issues also listed the geographic scope of the Operating Agreement as an issue. In a letter dated July 27, 2015, Amtrak informed the Board that the geographic scope issue will not be before the Board.

conference on June 1, 2015, and ruled on all the remaining discovery disputes by order served June 4, 2015. On July 6, 2015, Amtrak notified the Board that discovery was completed and Amtrak and CN filed a joint request that opening statements for both parties be due on September 4, 2015. In a decision served July 14, 2015, the Board adopted a new proposed procedural schedule, which set the deadline as September 4, 2015 for this Opening Statement.

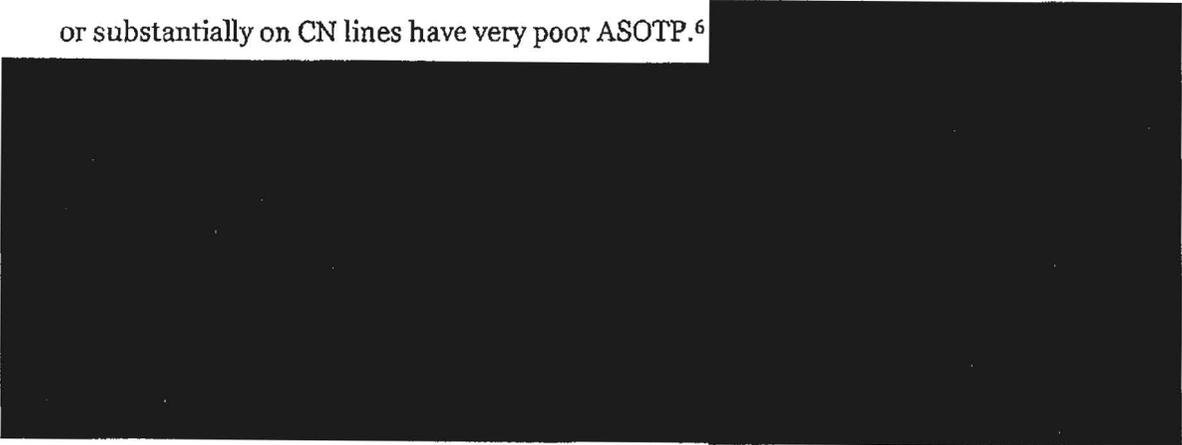
II. Overview

The crux of Amtrak's proposed terms and compensation is a restructuring of the quality payment and penalty terms to motivate CN to minimize delays to Amtrak trains and meet the statutory goal to "operate Amtrak trains, to the maximum extent feasible, to all station stops within 15 minutes of the time established in public timetables."

49 U.S.C. § 24101(c)(4). Amtrak measures this performance at "all station stops" with a measurement called All Stations On Time Performance or "ASOTP." ASOTP measures the percentage of station arrivals (or departures, in the case of the origin station) on an Amtrak train that occur within 15 minutes of the time established in public timetables.⁴

Whatever its hoped-for merits at the time it was adopted in 1983, and as it has been carried forward into the incentive/penalty system in place today, the Current Agreement has failed to cause CN to minimize delays to Amtrak trains.⁵ Amtrak trains

on CN have high levels of delays that are the responsibility of CN and since such host responsible delays are the primary driver of ASOTP, Amtrak routes operating primarily or substantially on CN lines have very poor ASOTP.⁶



Based on its experience with the shortcomings of the current incentive/penalty system, Amtrak is proposing a different quality payment and penalty system — one based on the number of minutes of host responsible delay to Amtrak trains. Amtrak's proposal retains some of the aspects of the current system.

[REDACTED]

[REDACTED]

Amtrak's delay-based quality payment and penalty proposal also has the following new features:

- Amtrak would pay CN a quality payment when CN HRD minutes on an Amtrak route during a month are less than a defined threshold level of HRD minutes for that Amtrak route.
- CN would pay Amtrak a penalty when CN HRD minutes on an Amtrak route during a month are greater than the same threshold level of delay.
- The threshold level of HRD minutes for the quality payments and penalties on each Amtrak route would be correlated to 80% ASOTP on that route.
- [REDACTED]
- Quality payments would be based on the same relationship between HRD minutes and payments as the penalty amounts.

III. The STB's Broad Statutory Authority Under Section 24308(a)

The requirements for an Amtrak-host railroad operating agreement and the statutory standard for STB-prescribed terms and compensation for Amtrak's continued receipt of services from, and use of tracks and facilities of, a host railroad when Amtrak and the host cannot reach such an agreement are set forth in 49 U.S.C. § 24308(a), which provides in pertinent part as follows:

(a) General Authority —

- (1) Amtrak may make an agreement with a rail carrier or regional transportation authority to use facilities of, and have services provided by, the carrier or authority under terms on which the parties agree. The terms shall include a penalty for untimely performance.
- (2) (A) If the parties cannot agree and if the Surface Transportation Board finds it necessary to carry out this part, the Board shall —

- (i) order that the facilities be made available and the services provided to Amtrak; and
 - (ii) prescribe reasonable terms and compensation for using the facilities and providing the services.
- (B) When prescribing reasonable compensation under subparagraph (A) of this paragraph, the Board shall consider quality of service as a major factor when determining whether, and the extent to which, the amount of compensation shall be greater than the incremental costs of using the facilities and providing the services.

Section 24308(a) places no limits on the terms and compensation the Board may impose, other than to specify that: (1) they must be “reasonable,” (2) the compensation must be based on “the incremental costs” of Amtrak’s use of facilities and the host railroad’s provision of services, (3) the terms must include a penalty provision for untimely performance, and (4) if there is a provision for payments in excess of incremental costs, that provision must consider quality of service as a major factor. Notably, the existence of penalty payments for poor performance is *mandatory*, while the existence of any payments above incremental costs is entirely *discretionary* and dependent on quality service.

In prescribing terms and compensation, the STB also should consider the statutory goal to “operate Amtrak trains, to the maximum extent feasible, to all station stops within 15 minutes of the time established in public timetables.”

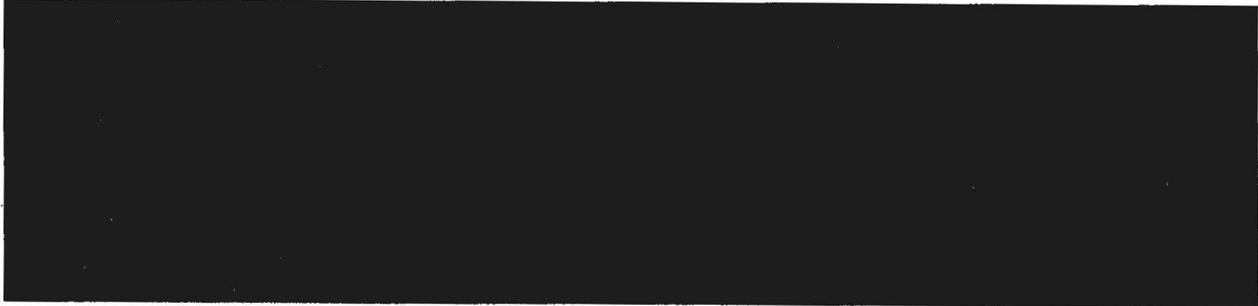
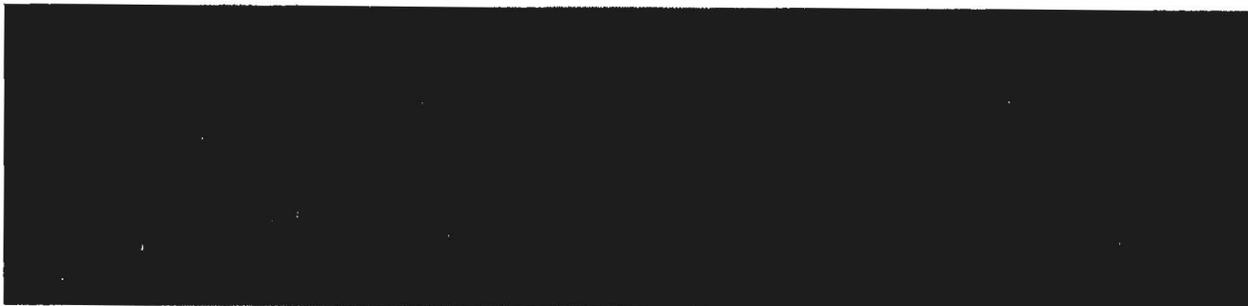
49 U.S.C. § 24101(c)(4).

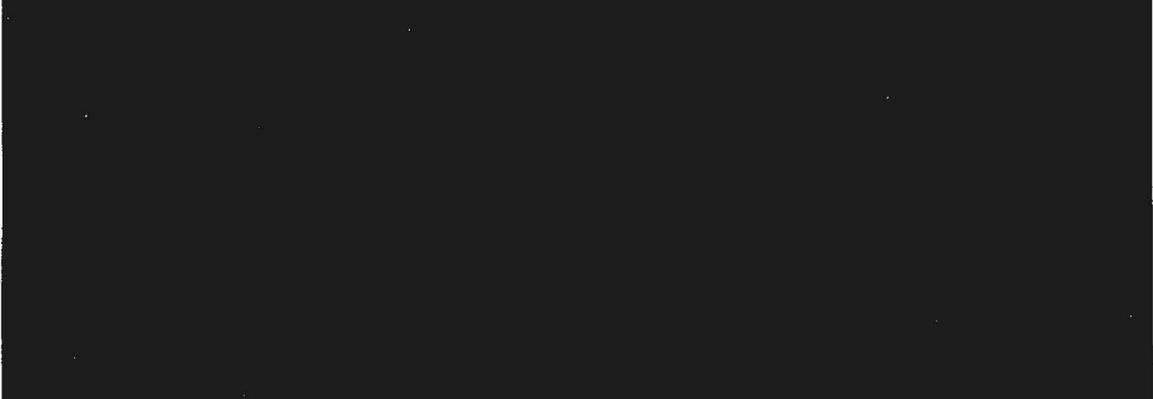
Amtrak’s proposed terms and compensation are reasonable because they would meet all of the specific requirements of section 24308(a) and would motivate CN, acting in its own economic interest, to minimize delays to Amtrak trains and thereby advance the on-time performance goal of section 24101(c)(4).

IV. The Checkpoint-Based System In The Current Agreement Is Not Effective

Amtrak is proposing new terms and compensation because the current incentive and penalty system, which originated in 1983 and has been carried forward into the Current Agreement, is ineffective. CN has not minimized Amtrak train delays (HRD minutes). Under the current incentive/penalty system, CN has been operating Amtrak trains on the IC lines with a high level of HRD minutes with resulting low levels of ASOTP and all the while earning substantial incentive payments, as shown below for Amtrak's most recently concluded fiscal year:

Service	Fiscal Year 2014 ⁸		
	CN HRDs per 10K TM	All Stations OTP	Incentive Paid to CN
City of New Orleans	1182	52.7%	[REDACTED]
Illini/Saluki	1248	48.7%	[REDACTED]
Lincoln Service	1366	60.7%	[REDACTED]
Texas Eagle	2157	33.3%	[REDACTED]
Total:			[REDACTED]





Measuring performance by arrival times at CN checkpoints has not resulted in reduced CN HRD minutes. Instead, it has led to a situation where CN receives incentive payments even though Amtrak trains have levels of ASOTP nowhere near the statutory goal to “operate Amtrak trains, to the maximum extent feasible, to all station stops within 15 minutes of the time established in public timetables.” 49 U.S.C. § 24101(c)(4). Amtrak’s levels of ASOTP are far below what Amtrak passengers should be expected to

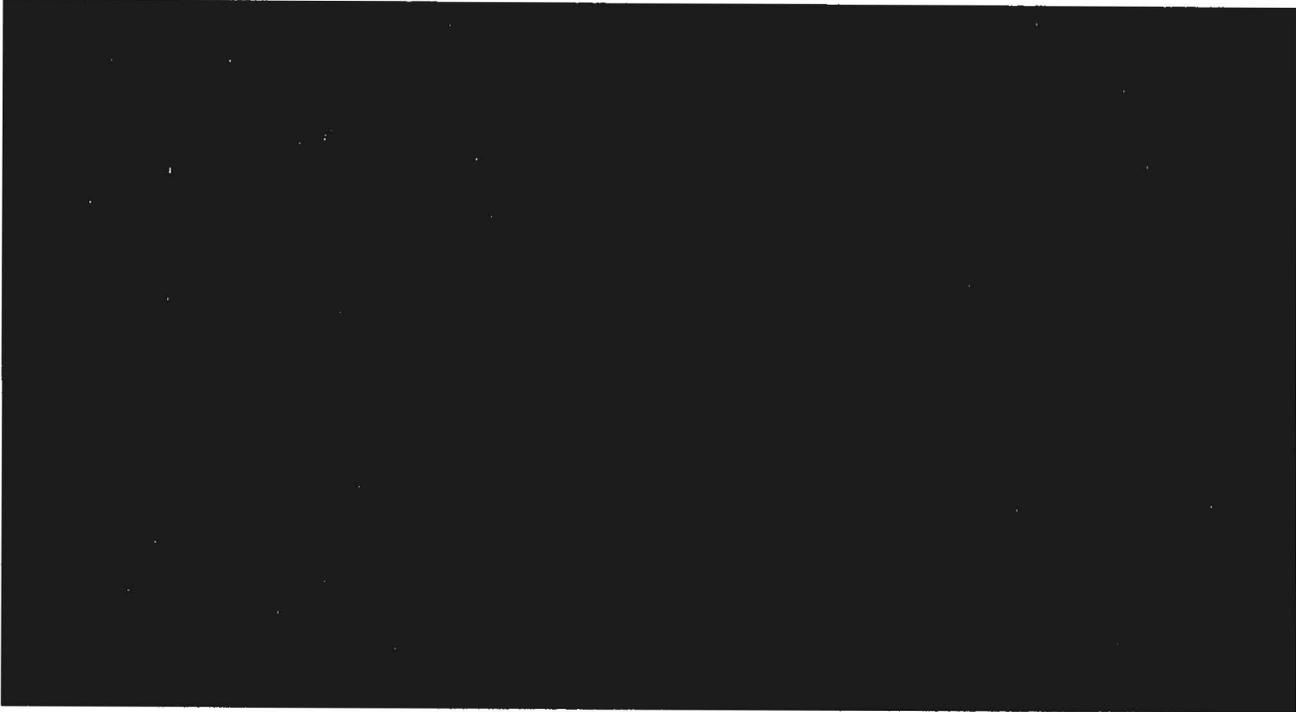


First, the Current Agreement does not reward CN for minimizing HRD minutes, but only for doing “good enough” to arrive at a checkpoint within tolerance.¹² CN can allow a significant number of HRD minutes, but few enough to arrive within the tolerance, and still receive an incentive payment. Paul Vilter’s Verified Statement and



¹² Vilter V.S. at 9.

Attachment 4 thereto document 45 examples where Amtrak trains ran "within tolerance" under the Current Agreement even though they had poor ASOTP.¹³



Second, CN has no contractual incentive to provide on-time performance [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Third, the current system creates a perverse disincentive to minimize HRD minutes on Amtrak trains that are significantly behind schedule. When CN HRD

¹³ Vilter V.S. at 10-14 and Attachment 4.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



V. Amtrak's Proposed Terms And Compensation Will Provide An Economic Motivation To CN To Minimize Delays To Amtrak Trains

Based on its experience with the shortcomings of the current incentive and penalty system, Amtrak is proposing a delay-avoidance quality payment and penalty system designed to motivate CN to minimize delays to Amtrak trains and thereby result in better performance by CN and better Amtrak service for the public.²³



²³ The Operating Agreement Amtrak proposes that the Board order the parties to enter into in its decision in the proceeding is filed herewith in order to minimize the chance that issues arise during implementation of the Board's decision in this proceeding. The proposed Operating Agreement includes the changes necessary to accomplish this goal, but at the same time retains those aspects of the Current Agreement that are workable and will foster a smooth and efficient transition.

A. The Key Elements Of Amtrak's Proposed Terms

Under Amtrak's proposal, CN would receive compensation above its incremental costs based on the quality of service it provides to Amtrak, and CN would pay a penalty for untimely performance. Both quality payments and penalties would be based on the level of CN HRD minutes to Amtrak trains, which generally relate to delays caused by host railroad dispatching decisions and the condition of host railroad track and signals. CN HRD minutes would be categorized using Host Responsible Delay codes ("HRD codes"), which record delays within CN's control and which CN and Amtrak already use to measure and record delays, and which they mutually review today. Delays that are not within CN's control, such as delays caused by Amtrak equipment failure, are not counted as HRD minutes.

The Quality Payment/Penalty Threshold. Amtrak would pay CN a quality payment on an Amtrak route when CN HRD minutes are equal to or less than a prescribed number of HRD minutes per 10,000 train miles for the Amtrak Route during a month. As CN HRD minutes decrease below this level, the quality payment received by CN would increase. Conversely, CN would pay Amtrak a penalty when CN HRD minutes are more than the same prescribed number of HRD minutes per 10,000 train miles during a month. As CN HRD minutes increase above this level, the penalty payment made by CN would increase. The "Threshold" — the prescribed number of HRD minutes per 10,000 train miles where payments turn from a quality payment to a penalty (or vice versa) — would be set for each Amtrak route on CN at the point where

the HRD minutes per 10,000 train miles correlates to 80 percent on-time performance averaged across all Amtrak stations on that Amtrak route.²⁴

Calculation of 80 Percent ASOTP. The proposed Thresholds have been derived from an analysis correlating (1) ASOTP at all stations under existing schedules on Amtrak routes on which CN is a host, to (2) HRD minutes on each route. Mr. Sacks has identified a statistically significant correlation between HRD minutes and ASOTP. When HRD minutes go up, ASOTP goes down, and vice versa.²⁵ To determine the Threshold for each of the six Amtrak routes on CN included in Amtrak's proposal,²⁶ Mr. Sacks calculated the number of CN HRD minutes per 10,000 train miles on each Amtrak route during each of the 48 months within the period of the review.²⁷ He then calculated the ASOTP on each Amtrak route for each month within the review period.²⁸ Next, Mr. Sacks plotted the CN HRD minutes per 10,000 train miles against the ASOTP for each of the 48 months on a separate graph for each of the six Amtrak routes.²⁹

From these data, Mr. Sacks then identified the number of HRD minutes per 10,000 train-miles that are statistically correlated to 80 percent ASOTP for each Amtrak route.³⁰ For each Amtrak route, the resulting Threshold is set forth in Table 1 of Mr.

²⁴ Vilter V.S. at 14-16.

²⁵ Sacks V.S. at 5-11.

²⁶ Mr. Sacks excluded the Sunset Limited route, where CN is a host for approximately 2 route miles.

²⁷ Sacks V.S. at 4-5 (calculation method) and 2-3 (analysis parameters and definitions).

²⁸ Sacks V.S. at 5-7.

²⁹ Sacks V.S. at 5-7 and Appendix B.

³⁰ Sacks V.S. at 7-11. In order to avoid reliance on skewed data, Mr. Sacks excluded trains on Amtrak routes with schedule changes due to major temporary track work and, if there were 10 or more days with such trains, he excluded the month. Mr. Sacks only considered periods after those schedule changes since he found there to be a substantial change in the HRD minutes – ASOTP relationship using statistical significance testing. For the same reason, he only used data on the Blue Water and Wolverine routes from the period after schedule changes were made on those Amtrak routes. Sacks V.S. at 9-10 and Appendix B at B-2, B-4.

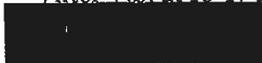
Sacks' Verified Statement and in the proposed Operating Agreement, Appendix V, Table

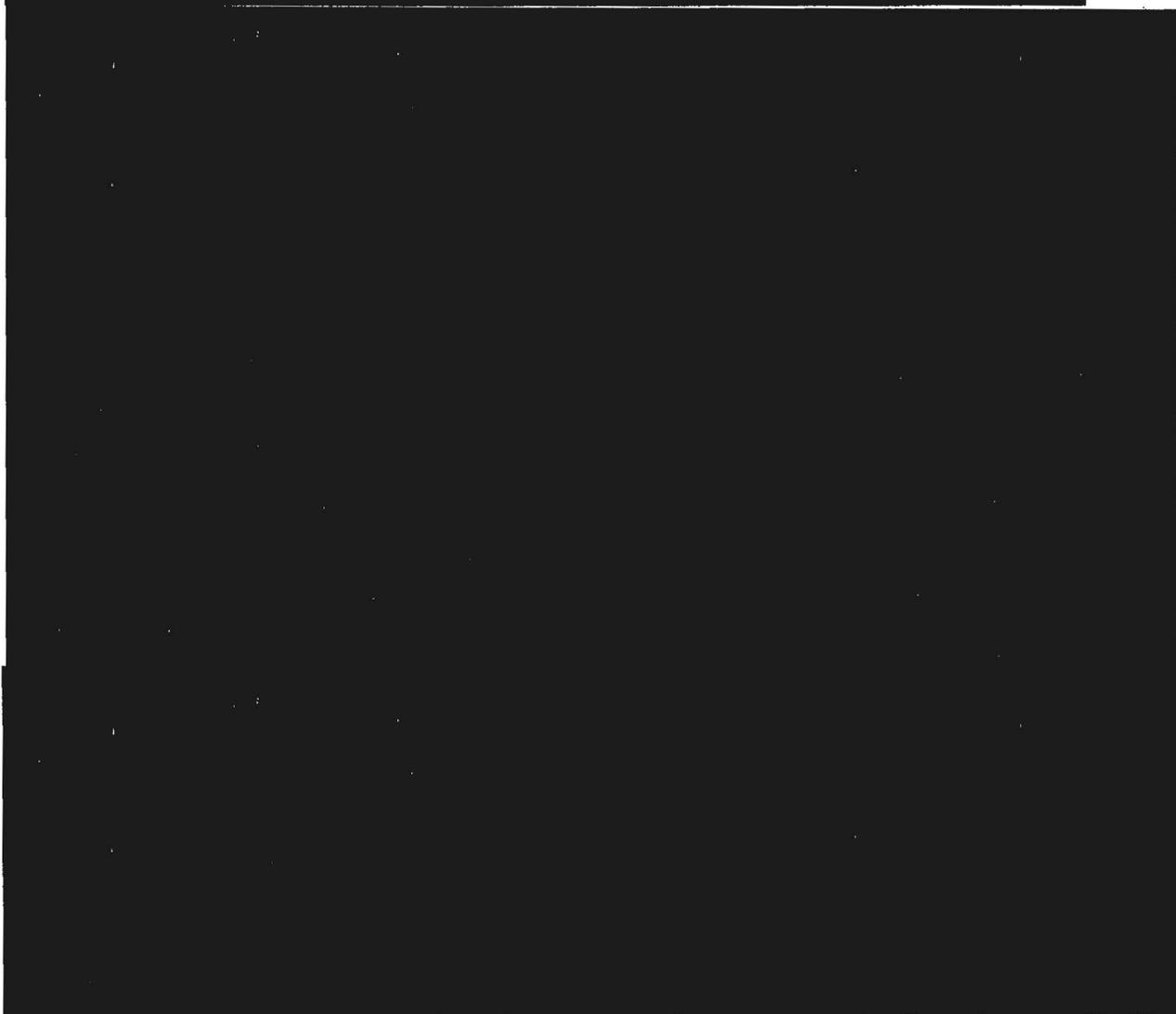
1.



³¹ Vilter V.S. at 15-16.

³² Vilter V.S. at 16-17 and n.24.





³⁵ Sacks V.S. at 15-16 and 17 (Figure 6).

³⁶ Sacks V.S. at 17-19.



[REDACTED]

However, Amtrak's proposed system does not continue to increase penalties indefinitely on a particular Amtrak route. [REDACTED]

[REDACTED]

The Quality Payment. As discussed above, Section 24308(a)(2)(B) does not require that the terms and conditions include any payment above incremental cost. Nonetheless, for performance better than the Threshold, Amtrak proposes to pay CN a quality payment. The quality payment structure provides for increasing levels of payments for decreasing levels of HRD minutes below the Threshold, based on the same relationship between payments and HRD that Amtrak proposes for penalty payments. So if CN HRD minutes decrease below the Threshold, the quality payments increase at the same rate that CN's penalty payments decrease, in relation to a decline in CN HRD minutes.⁴⁰

[REDACTED]

⁴⁰ Vilter V.S. at 18-19.

[REDACTED]

although it would need to provide better service to reach the maximums. Quality payments increase on each Amtrak route for each minute of reduction of HRD minute per 10,000 train miles, up to the point where such earnings equal [REDACTED]

[REDACTED] These quality payments are designed to provide an inducement to CN to provide quality service to Amtrak.

B. Amtrak's Proposed Terms Meet All Of The Requirements Of Section 24308(a) And Would Advance The Statutory Goal Of Section 24101(c)(4)

One of the statutory goals of the Rail Passenger Service Act is to "operate Amtrak trains, to the maximum extent feasible, to all station stops within 15 minutes of the time established in public timetables." 49 U.S.C. § 24101(c)(4). Amtrak's proposal uses HRD minutes, the primary driver of ASOTP, to establish on-time performance thresholds on a route by route basis. Thus, Amtrak's proposed terms and compensation advance this Congressional goal.

STB-prescribed terms must include a penalty provision for untimely performance. 49 U.S.C. § 24308(a)(1). Under Amtrak's proposed terms, CN would pay a penalty for untimely performance, beginning at the point where HRD minutes per 10,000 train miles on each Amtrak route rise above the amount correlated to 80 percent ASOTP averaged across all stations on that Amtrak route. The penalty would be set at a level to ensure that CN perceives minimizing HRD minutes to Amtrak trains to be in its economic interest.

Section 24308(a) provides that if there is a provision for payments in excess of incremental costs, that provision must consider quality of service as a major factor.

Amtrak would pay CN a quality payment beginning at the point where HRD minutes on each Amtrak route fall below the amount correlated to 80 percent ASOTP averaged across all stations on that Amtrak route. This payment is based on quality service — avoidance of delays — and thus meets the requirement of 49 U.S.C. § 24308(a)(2)(B).

The penalties and the quality payments would start from the same thresholds, and both be based on the correlation of HRD minutes to ASOTP and on the same cost of service perceptions of CN. Amtrak's penalty and quality payment proposal meets the overarching goal of reasonableness set forth in section 24308(a).

VI. Effective Date and Term

Amtrak requests that the Board make the prescribed terms and compensation effective as of August 9, 2013, the date the Board served its decision commencing this proceeding, and effective for ten years from the date of the final decision.⁴¹

There is ample Board precedent for applying any new terms and compensation retroactively.⁴² By making the terms and compensation retroactive, the Board can ensure that neither party in this case benefits from any delay in reaching a final agency decision. Moreover, a retroactive decision in this case would encourage both Amtrak and other host railroads to make every effort to negotiate agreements before Amtrak is compelled to seek the Board's prescription of terms.

⁴¹ *Application of the Nat'l R.R. Passenger Corp. Under 49 U.S.C. 24308(a) – Canadian Nat'l Ry. Co.*, STB Docket No. FD 35743, slip op. at 3 (STB Served Aug. 9, 2013). This is a slight change from Amtrak's initial filing in this proceeding, which asked that the new terms and compensation be made effective as of August 12, 2013. *Application of the Nat'l R.R. Passenger Corp. Under 49 U.S.C. 24308(a) – Canadian National Ry. Co.*, 4 (Served July 30, 2013).

⁴² See e.g. *Application of the Nat'l R.R. Passenger Corp. Under 49 U.S.C. 24308(a) – Order to Require Service and Set Compensation Terms*, 1996 STB LEXIS 139, *4 (STB Served April 29, 1996) (“In prior proceedings, the ICC has found that compensation awards should be applied retroactively to the effective date of the order requiring access.”).

Amtrak also requests that the Board make the terms and compensation effective for ten years from the date of the final decision. The level of effort required of the parties and the STB and expense incurred for this proceeding justify imposition of a term of ten years in order for the parties to benefit from the investment necessary for the Board to establish such terms.

CONCLUSION

For the foregoing reasons, Amtrak's proposal is consistent with section 24308(a), the statutory goal embodied in section 24101(c)(4), and should be ordered by the Board.

[This space intentionally left blank]

Respectfully submitted,

By: Linda J Morgan

Linda J. Morgan
Kevin M. Sheys
Justin J. Marks
Nossaman LLP
1666 K Street, NW
Suite 500
Washington, DC 20006

Counsel for National Railroad Passenger Corporation

William H. Herrmann
Christine E. Lanzon
National Railroad Passenger Corporation
60 Massachusetts Avenue, NE
Washington, DC 20002

Dated: September 4, 2015

ATTACHMENT 1

REDACTED

**Verified Statement
of
Paul Vilter**

I. Introduction

My name is Paul Vilter and I am the Deputy Chief, Host Railroads at Amtrak. I have 29 years of railroad experience, including 15 years at Amtrak and 14 years at Class I freight railroads (CSX and Conrail). A copy of my resume is attached to this Verified Statement as Attachment 1.

A. Defined Terms

Before I begin, I want to explain a few key terms I will use throughout this Verified Statement:

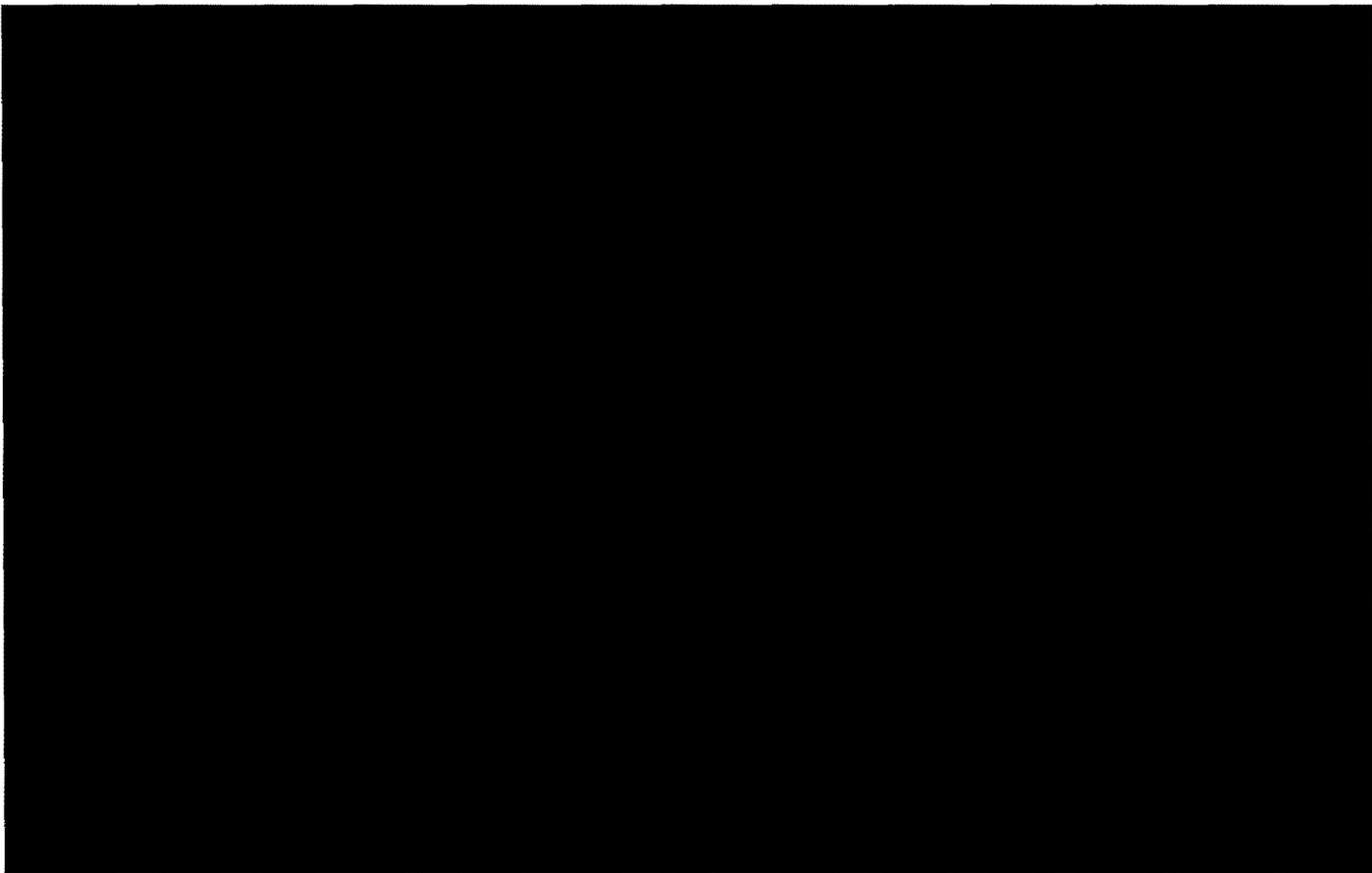
- The agreement between Canadian National (“CN”) and Amtrak presently governing Amtrak operations on CN lines was entered into on May 1, 2011. I refer to that agreement as the “Current Agreement.” It is important to note that the basic incentive and penalty concepts in the Current Agreement pre-date the Current Agreement and have been in place on some CN routes since 1983.
- Amtrak defines All Stations On Time Performance or “ASOTP” as the percentage of station arrivals (or departures, in the case of the origin station) on an Amtrak train that occur within 15 minutes of the time established in public timetables.¹



¹ For example, if a given trip of an Amtrak train has ten stations on its route (the origin station plus nine subsequent stations) and that trip left its origin station within 15 minutes of the scheduled time and arrived at five of the subsequent stations within 15 minutes of the scheduled time, it would have ASOTP of 60% (6 stations within 15 minutes divided by 10 total stations = 60% ASOTP).

- All delays to Amtrak trains are assigned a cause. The causes are divided into three types: Amtrak responsible delays; third party delays; and host responsible delays (“HRDs”). There are seven HRD codes relevant to this proceeding.²
- All delays to Amtrak trains are measured in minutes. I refer to host responsible delay minutes as “HRD minutes.”

B. Summary of Verified Statement



² Commuter Train Interference (“CTI”); Signal Delays (“DCS”); Maintenance of Way (“DMW”); Slow Order Delays (“DSR”); Freight Train Interference (“FTI”); Passenger Train Interference (“PTI”); and Routing Delays (“RTE”). The definitions for these HRD codes are provided in Attachment 6. These are delays that CN agrees are “of the type which CN normally has an ability to control” (2011 Agreement, Appendix VI Section C, page VI-3). Amtrak uses an additional HRD code, DTR (for Detour delays), but it is not discussed further because



³See the Table in Section II.

As explained in Section III below, Amtrak is proposing a delay-avoidance quality payment and penalty system designed to motivate CN to minimize HRD minutes. Overall, higher HRD minutes are the primary driver of lower ASOTP.⁴ Thus, lower CN HRD minutes will promote improved ASOTP for Amtrak passengers.

Under Amtrak's proposal, Amtrak would pay CN a quality payment when the CN HRD minutes are less than a set number of minutes, called the threshold ("Threshold"). CN would pay Amtrak a penalty when CN HRD minutes are greater than the Threshold. CN quality payments would increase as CN HRD minutes decreased below the Threshold, and CN penalties would increase as CN HRD minutes increased above the Threshold. The Threshold represents the point where the number of HRD minutes correlates to 80 percent ASOTP on the applicable Amtrak route.⁵

II. The Incentive And Penalty System In The Current Agreement Has Not Resulted In Minimized CN Delays To Amtrak Trains

In this section, I will show that the incentive and penalty system in the Current Agreement has not resulted in CN minimizing delays to Amtrak trains or good ASOTP for Amtrak customers, but has nonetheless generated substantial incentive payments for CN. I will then offer three explanations.

⁴ Mr. Sacks concludes that the proportion of the variation in ASOTP that is explained by variation in HRD minutes is significant. See Verified Statement of Ben Sacks ("Sacks V.S.") at 11.

⁵The thresholds were derived from a regression analysis correlating HRD minutes in the seven aforementioned categories to ASOTP on existing Amtrak schedules on each Amtrak route where CN is a host, except the Sunset Limited, which was excluded from the regression analysis. See Sacks V.S. at 7-11. Under Amtrak's proposal, the Sunset Limited would continue as it has for years to have neither a quality payment nor a penalty, since it operates over just 2 route miles of CN lines.

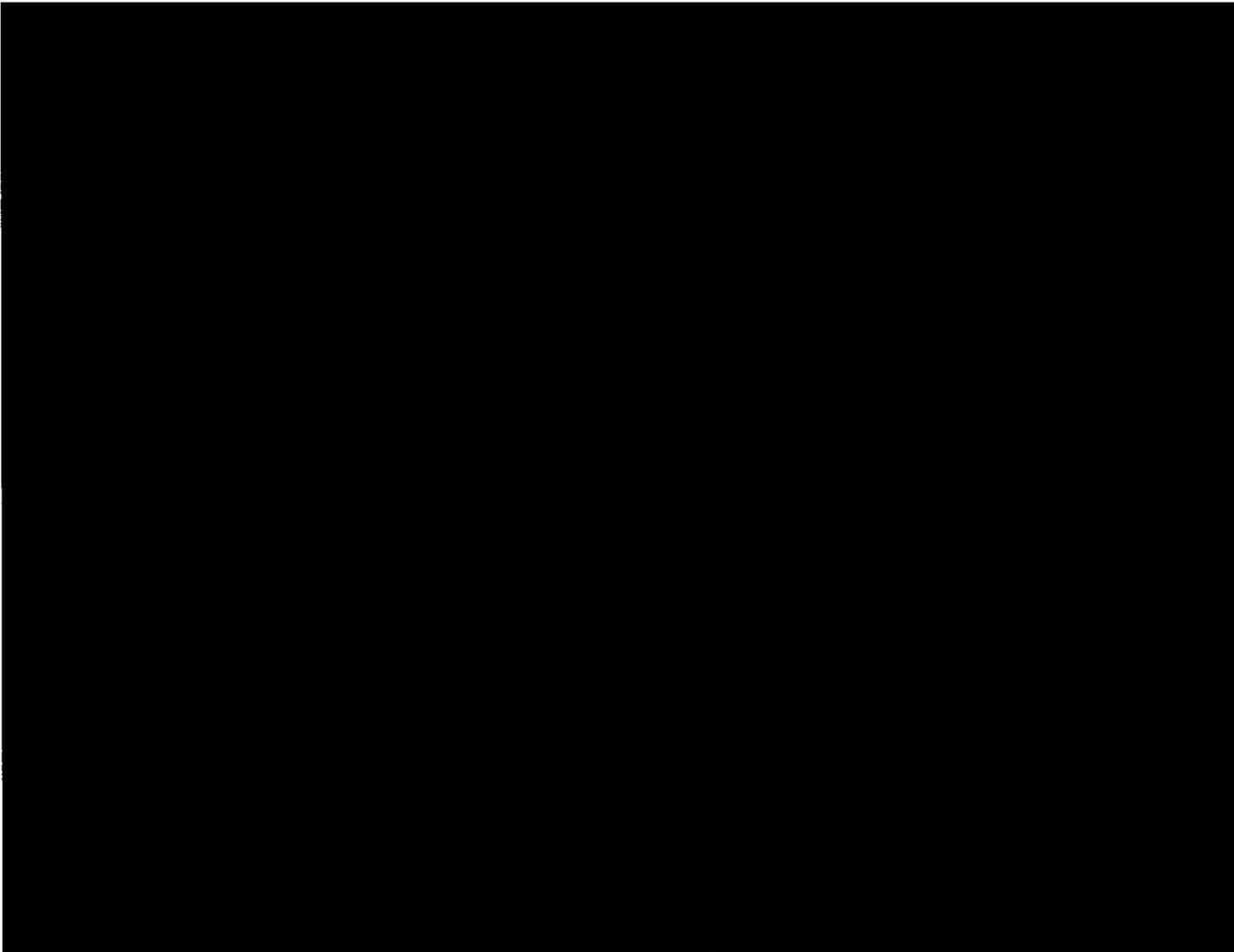
A. The Current System Has Led To High CN HRD Minutes, High Incentive Payments For CN and Low ASOTP For Amtrak Passengers

Under the current incentive/penalty system, CN has been operating Amtrak trains on the IC lines with a high level of HRD minutes with resulting low levels of ASOTP while earning substantial incentive payments, as shown below for Amtrak's most recently concluded fiscal year:

Service	Fiscal Year 2014 ⁶		
	CN HRDs per 10K TM	All Stations OTP	Incentive Paid to CN
City of New Orleans	1182	52.7%	
Illini/Saluki	1248	48.7%	
Lincoln Service	1366	60.7%	
Texas Eagle	2157	33.3%	
Total:			

Given the high level of CN HRD minutes, it is not surprising that ASOTP is so poor. HRD minutes are the primary driver of ASOTP.⁷ Thus, finding a system that motivates CN to minimize HRD minutes is critical to improving ASOTP for Amtrak passengers.



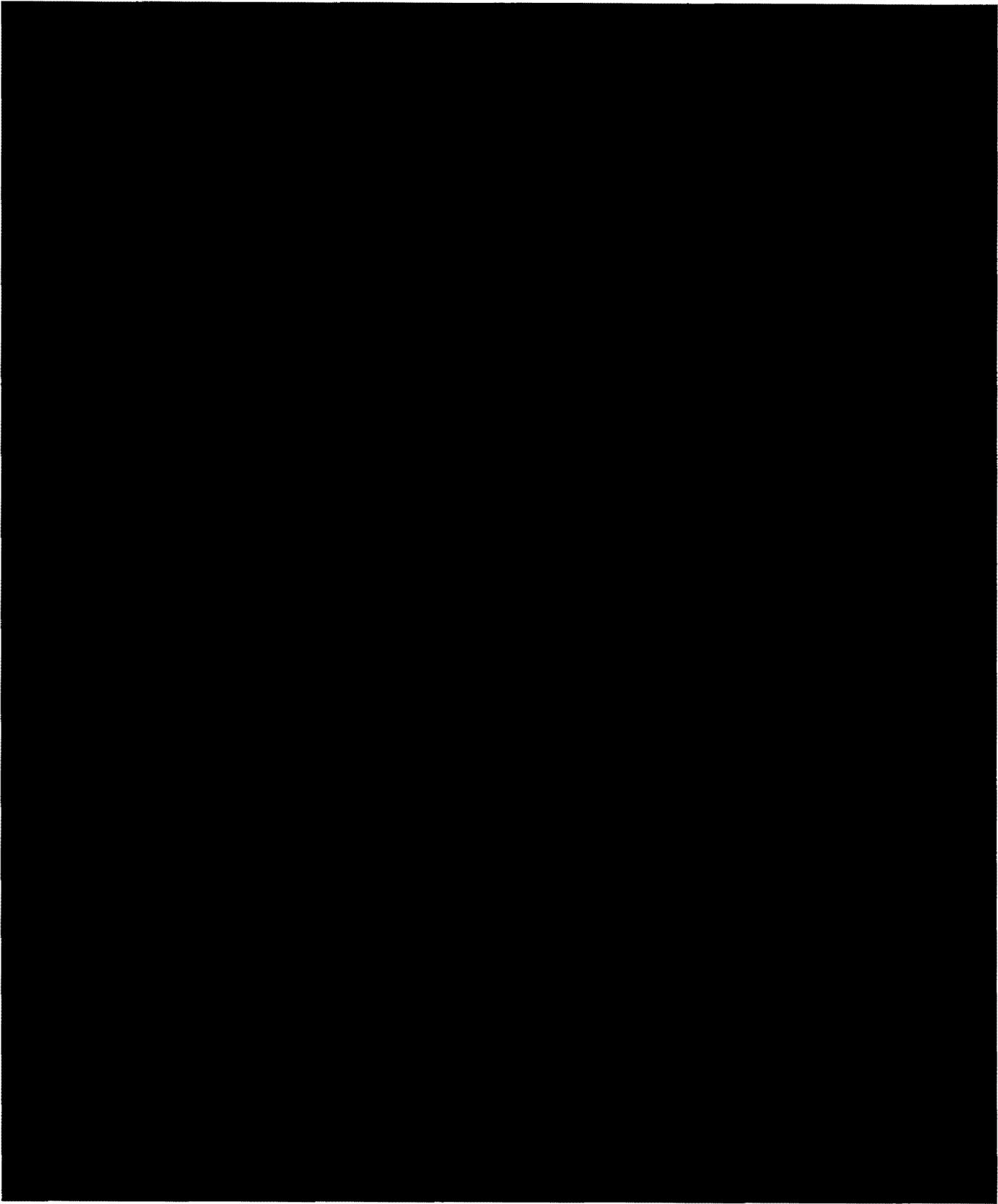


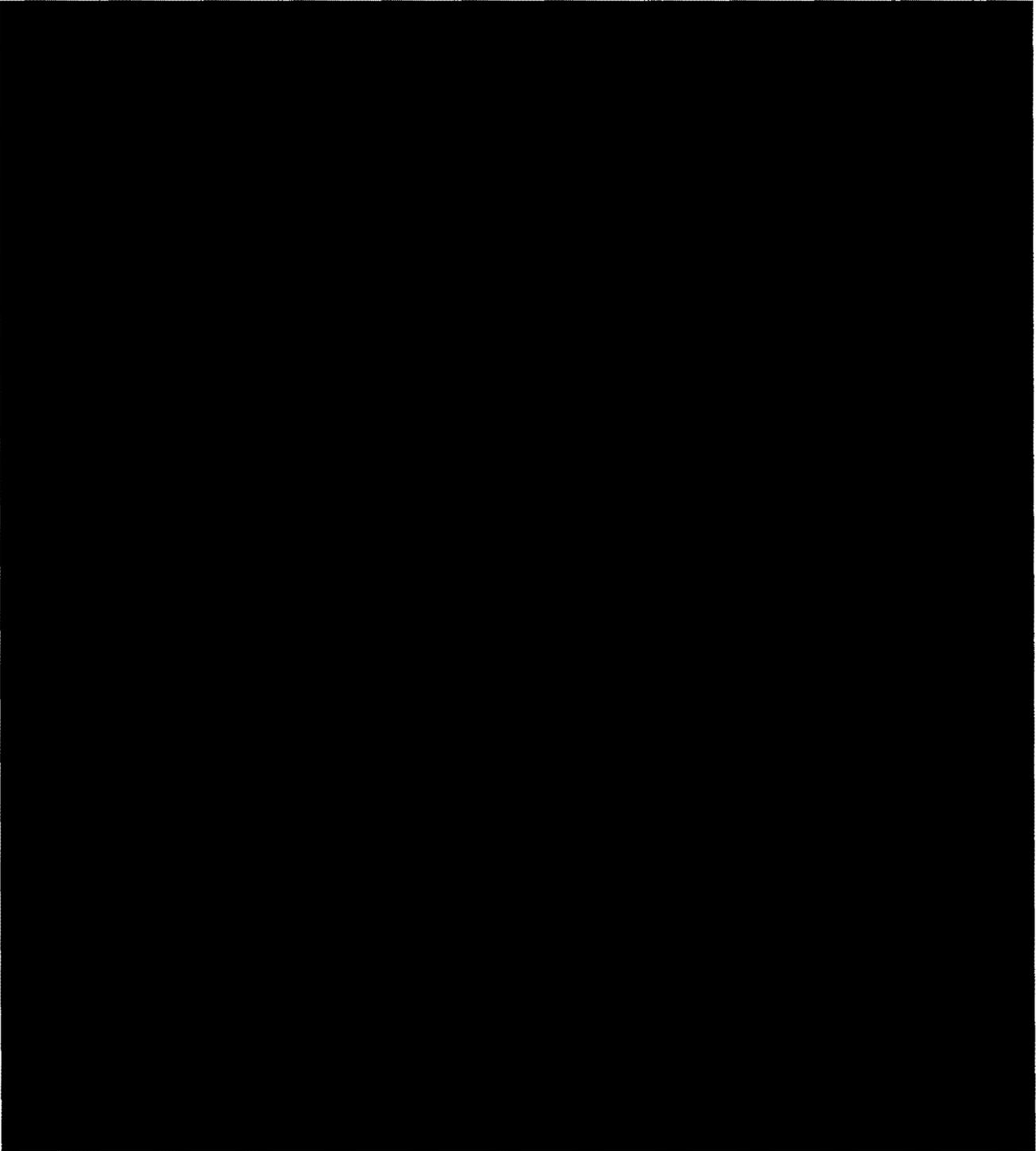
⁸ There are a total of 24 daily Amtrak trains on the six relevant Amtrak routes on CN: City of New Orleans - 2; Illini/Saluki - 4; Wolverine - 6; Blue Water - 2; Lincoln - 8; and Texas Eagle - 2. The Wolverines and Blue Water operate on CN's GTW lines. Regarding the Sunset Limited route, see footnote 6.



¹⁰ Recovery Time is extra time built into the schedule by agreement between Amtrak and a host railroad to help account for delays.

¹¹ Current Agreement, Appendix V, Section A.1.a, at App. V-1 and App. V-12 through V-18.

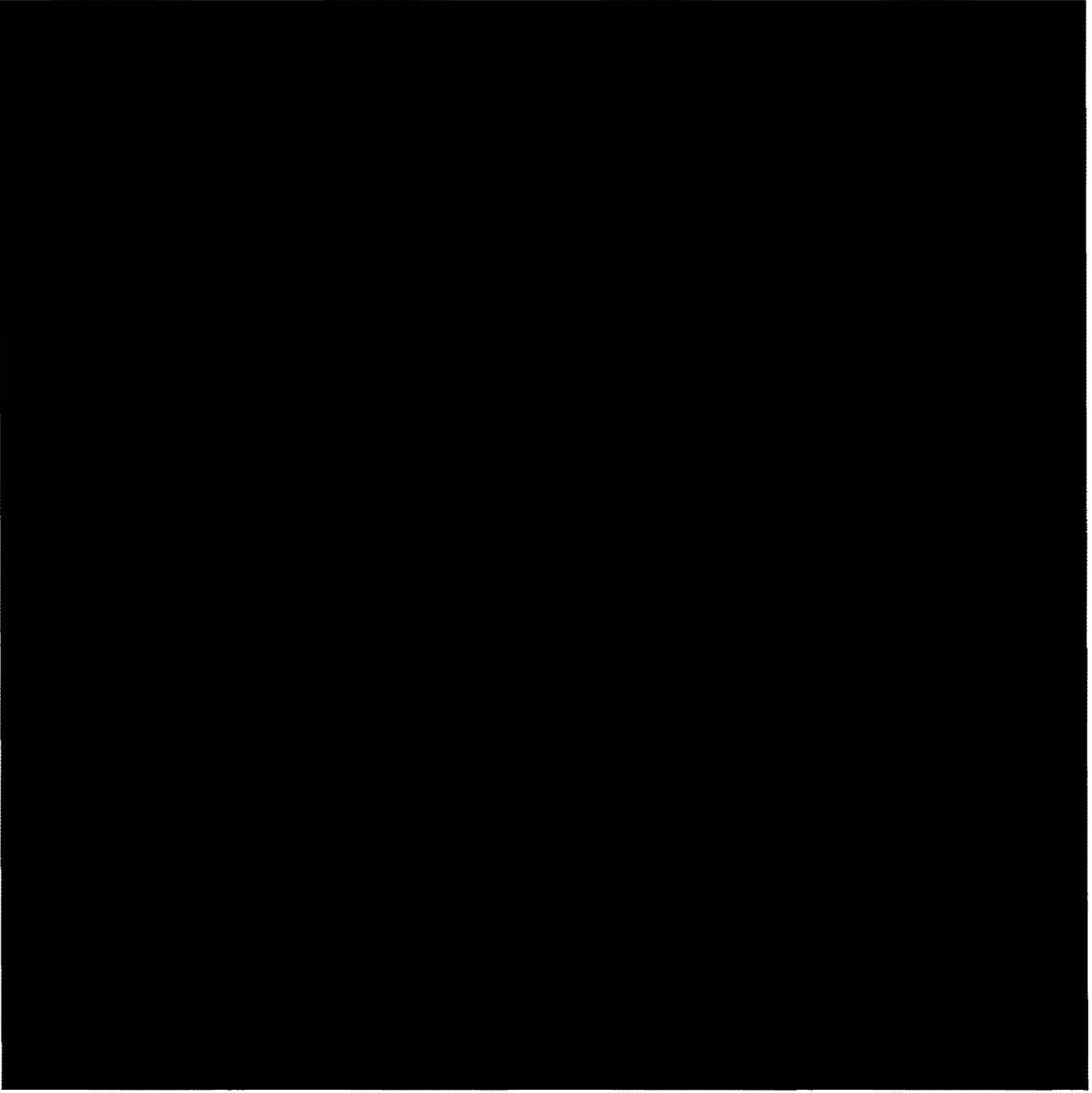


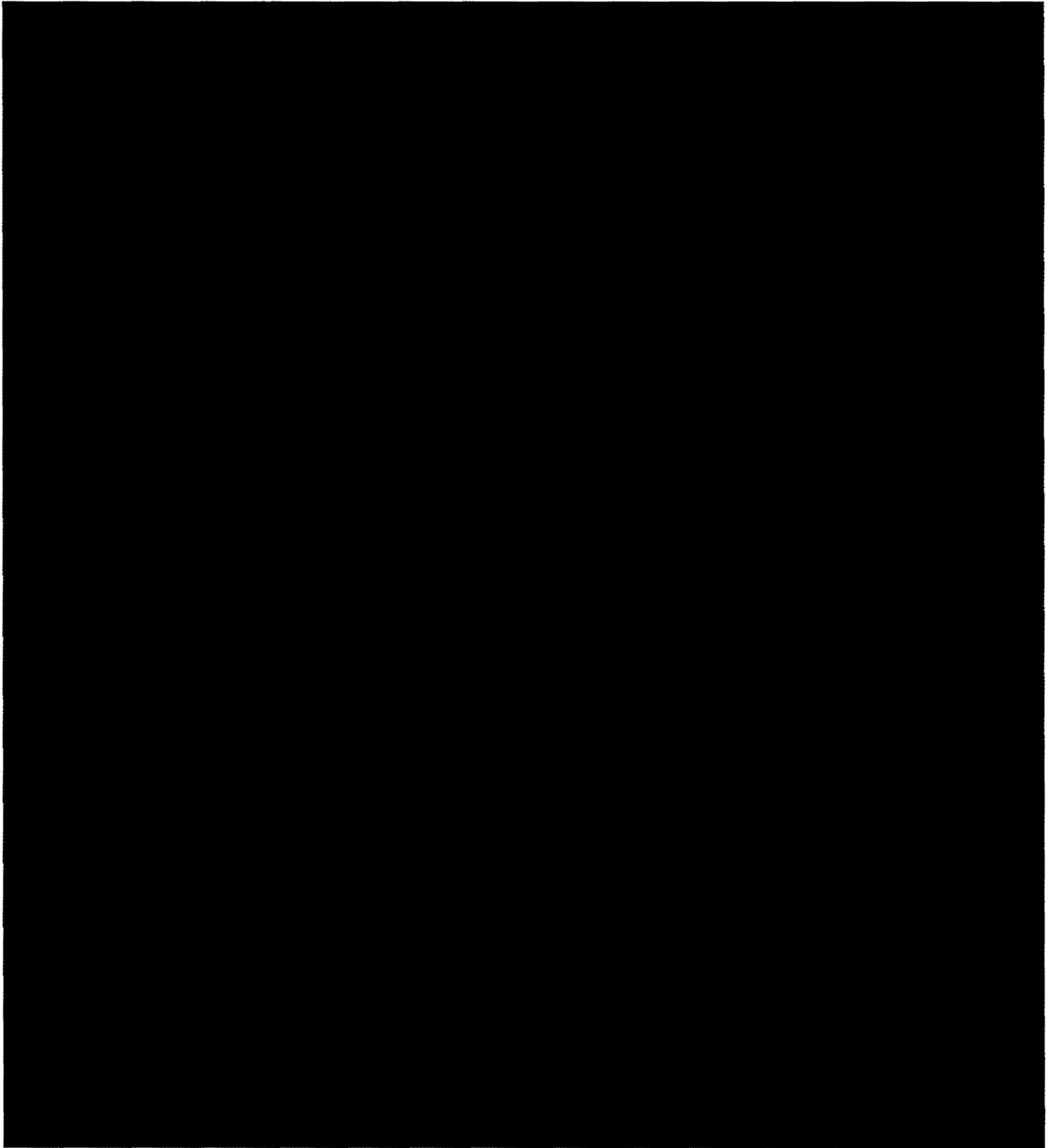


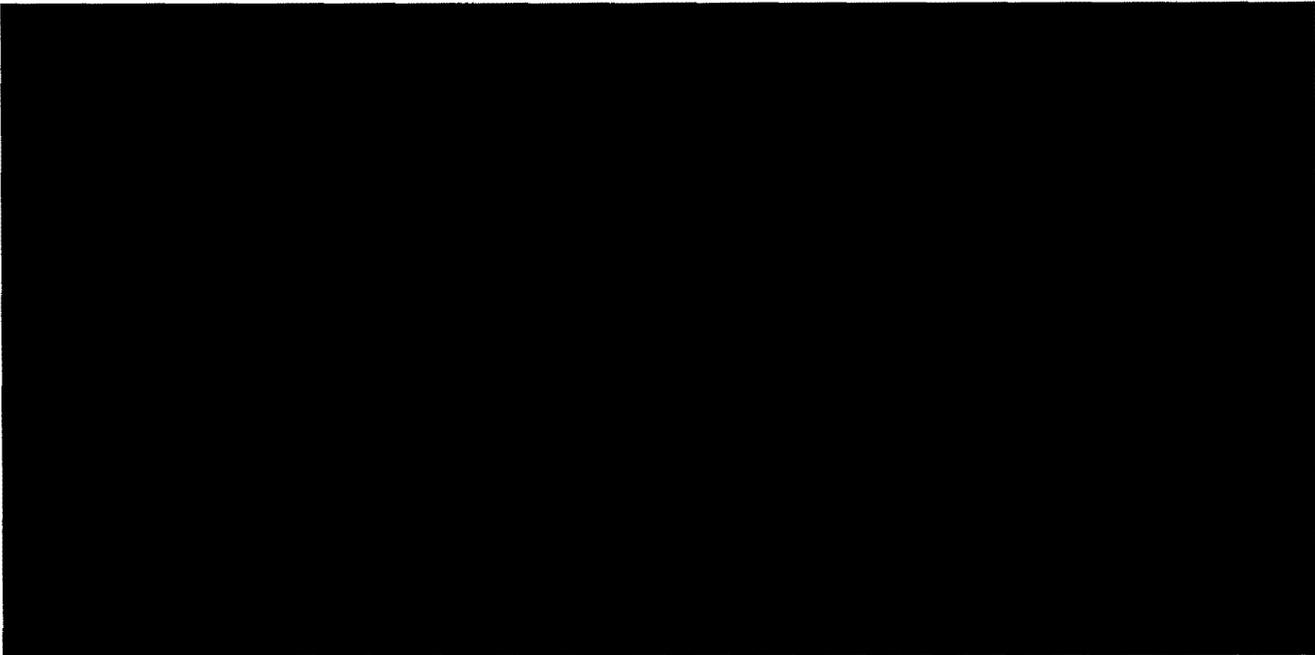
¹⁴ Refer to Attachment 4 for a detailed overview of the causes of delay along the route.

¹⁵ Refer to Attachment 4 for a detailed overview of the causes of delay along the route.









III. Amtrak's Proposed Delay-Avoidance System Will Motivate CN And Better Match Payments to Performance

Amtrak is proposing a delay-avoidance quality payment and penalty system because it will better match payments to CN's performance, and therefore motivate better performance by CN. In this section, I will explain the details of Amtrak's proposal, why Amtrak believes its proposal will be more effective than the current incentive/penalty system, and how the proposal retains the aspects of the Current Agreement that are workable and therefore will foster a smooth and efficient transition.



A. Detailed Explanation Of Amtrak's Proposal

1. The Basic Elements

Amtrak's proposal is a delay-avoidance quality payment and penalty system. Its principal objective is to minimize CN HRD minutes on Amtrak trains and thereby improve the on-time performance of Amtrak trains on CN. To achieve this objective, the proposal has the following three key components:

- A designated amount of HRD minutes for each Amtrak route that operates on CN each month (noted above, the "Threshold"). The Threshold is the number of HRD minutes per 10,000 train-miles that correlates to 80 percent ASOTP;
- For CN HRD minutes above the Threshold, penalties are set at a level 20 percent greater than the cost savings CN has claimed it realizes by providing poor performance to Amtrak trains;²⁰and
- For CN HRD minutes less than the Threshold quality payments based on the same cost savings relationship used to formulate the penalties.

2. Calculating the Threshold Per Amtrak Route

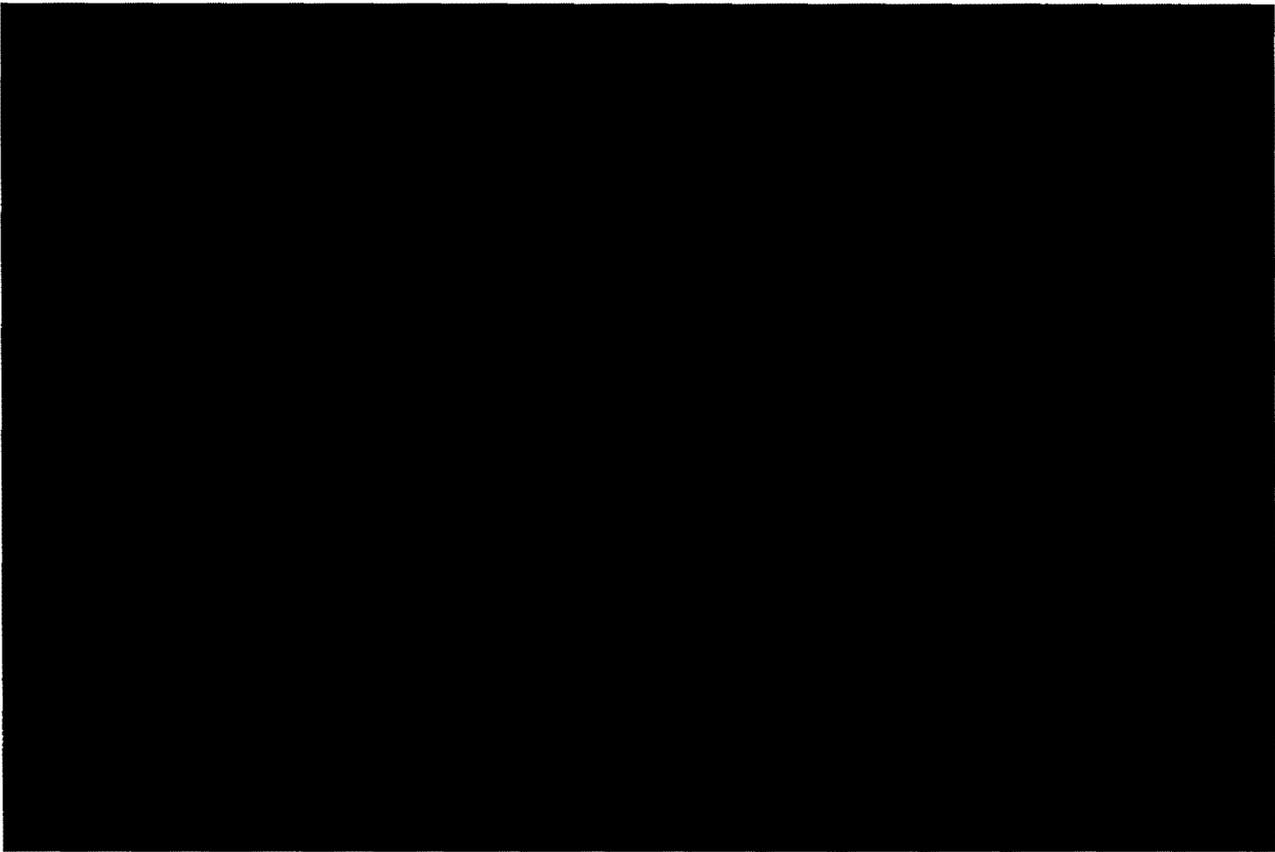
Amtrak's proposal is based upon a determination, for each Amtrak route, of a Threshold number of HRD minutes per 10,000 train miles that correlates with 80 percent ASOTP on that route.²¹ See Sacks VS at 4-11. The HRD data that are used for these correlations are the total HRD minutes per 10,000 train miles for all hosts in the entire route.

²¹ Thus, Amtrak's proposal is based on a measurement of HRD minutes all along a particular route, rather than only at specified checkpoints as provided under the Current Agreement.

Once the route's Threshold is established, then each month CN HRD minutes per 10,000 train-miles on a route would be compared against that route's Threshold, and an incentive or penalty computed for CN. For each Amtrak route, the Thresholds are set forth in Table 1 of Mr. Sack's V.S.

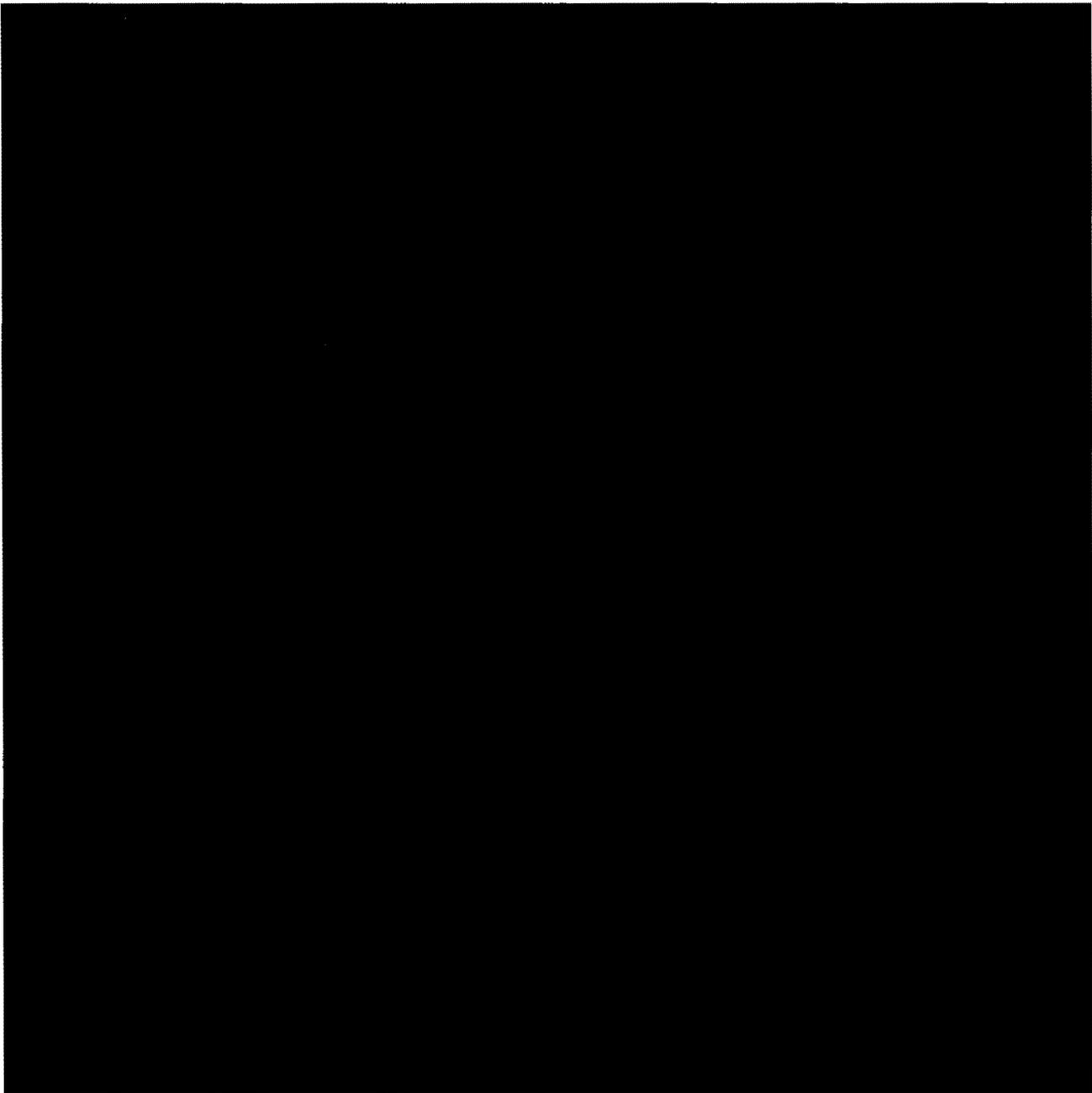
3. Penalties For CN HRD Minutes Above The Threshold

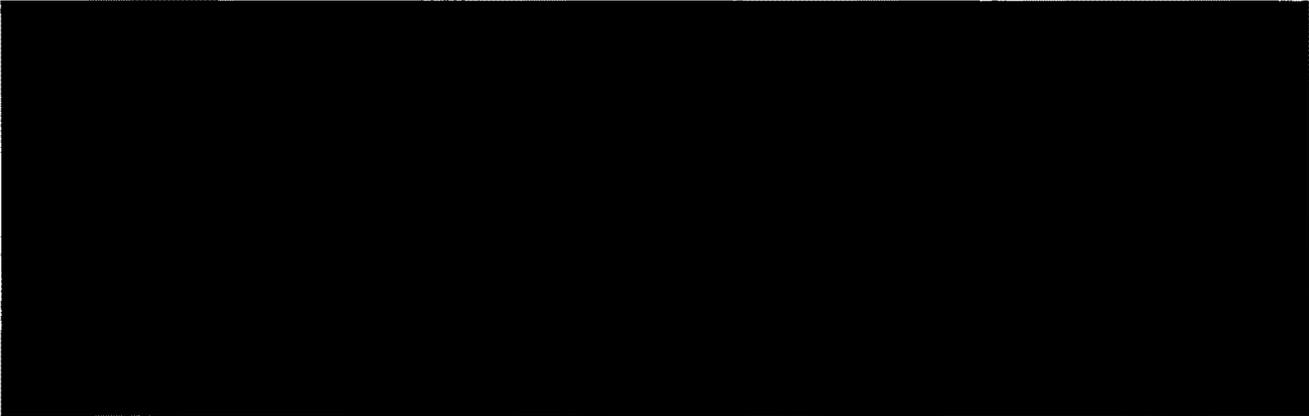
Under the proposal, for each month on each Amtrak route, CN is assessed a penalty if CN HRD minutes per 10,000 train-miles exceed the Threshold, with the penalty increasing as CN HRD minutes increase, subject to a maximum.²²



²²See Sacks V.S. at 18.



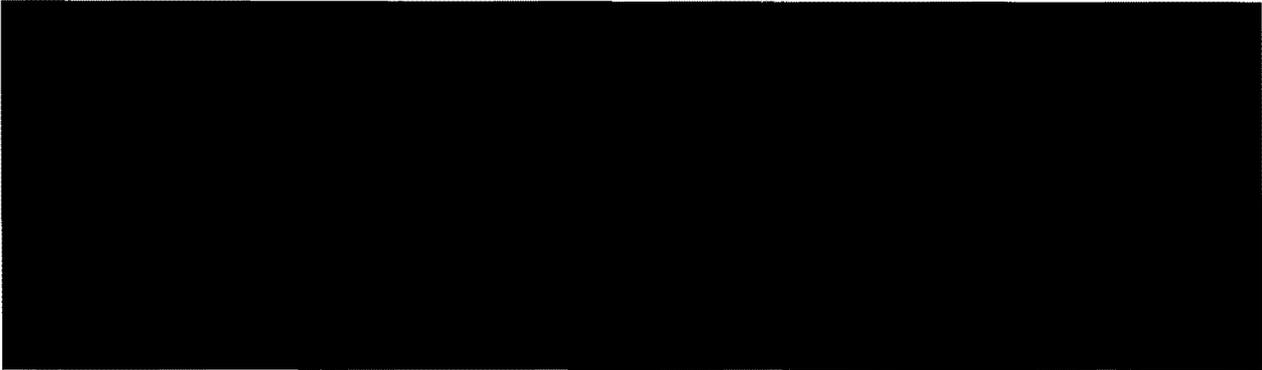




4. Quality Payments for CN HRD Minutes Below The Threshold

Under the proposal, each month on each Amtrak route CN earns a quality payment if CN HRD minutes per 10,000 train-miles are below the Threshold, with the quality payment increasing as CN HRD minutes decrease, subject to a maximum.³¹

As just discussed regarding penalties, for each route Amtrak's proposal establishes a relationship between changes in CN HRD minutes and changes in penalty payments incurred by CN. The quality payment schedule uses this same relationship. So if CN reduces CN HRDs, the quality payments increase at the same rate that CN's penalty payments decrease.





³¹ See Sacks V.S. at 20.



C. Amtrak's Proposal Preserves Workable Aspects of the Current Agreement



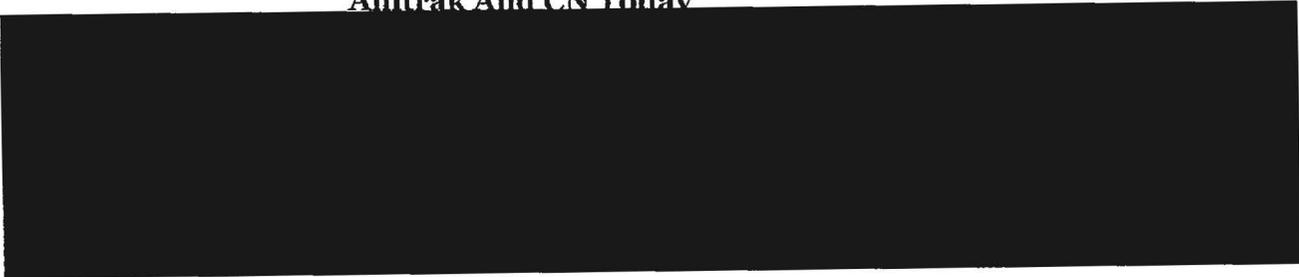
All delay minutes incurred by Amtrak trains on host railroads nationwide, including CN, are recorded. Amtrak utilizes a system called Electronic Delay Reporting (eDR) to account for each minute of delay experienced by each Amtrak train

operating on host railroads nationwide. Based primarily on information from a GPS-based system that automatically logs arrival, departure, and passing times at stations and other locations, the eDR system calculates the number of minutes of delay above PRT within each segment of an Amtrak route. The train's Conductor (the employee in charge of the train) then enters the cause and location of each delay based on the Conductor's direct observations and information from train bulletins, radio communications, Amtrak engineers, freight train crews, dispatchers, maintenance of way crews and other personnel.

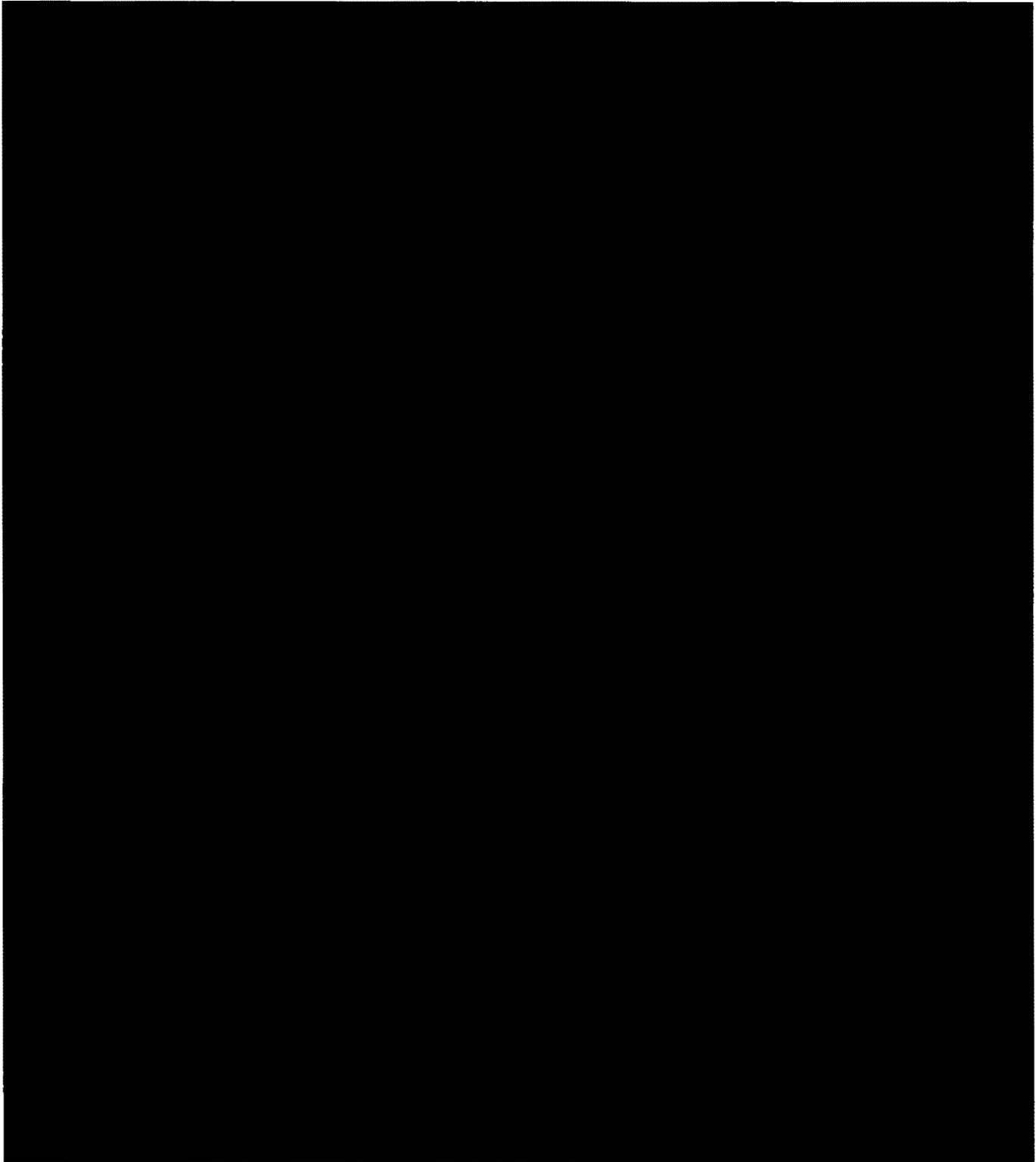
All delays in excess of PRT are categorized in one of twenty six (26) delay codes. Each delay code is classified in one of three categories based on responsibility: Host-Responsible Delays (HRD, already discussed), Amtrak-Responsible Delays, or Third Party Responsible Delays. As previously described, CN quality payments and penalties would be calculated from CN HRD minutes only. Amtrak Responsible Delays, Third Party Responsible Delays, and delays incurred on host railroads other than CN would have no bearing on CN quality payments and penalties.

Amtrak's proposal employs this delay coding and categorization process which is used today nationwide, including by Amtrak and CN.³²

**2. Amtrak's Proposal Preserves The Delay Report Review
And Initial Dispute Resolution Procedures Used By
Amtrak And CN Today**

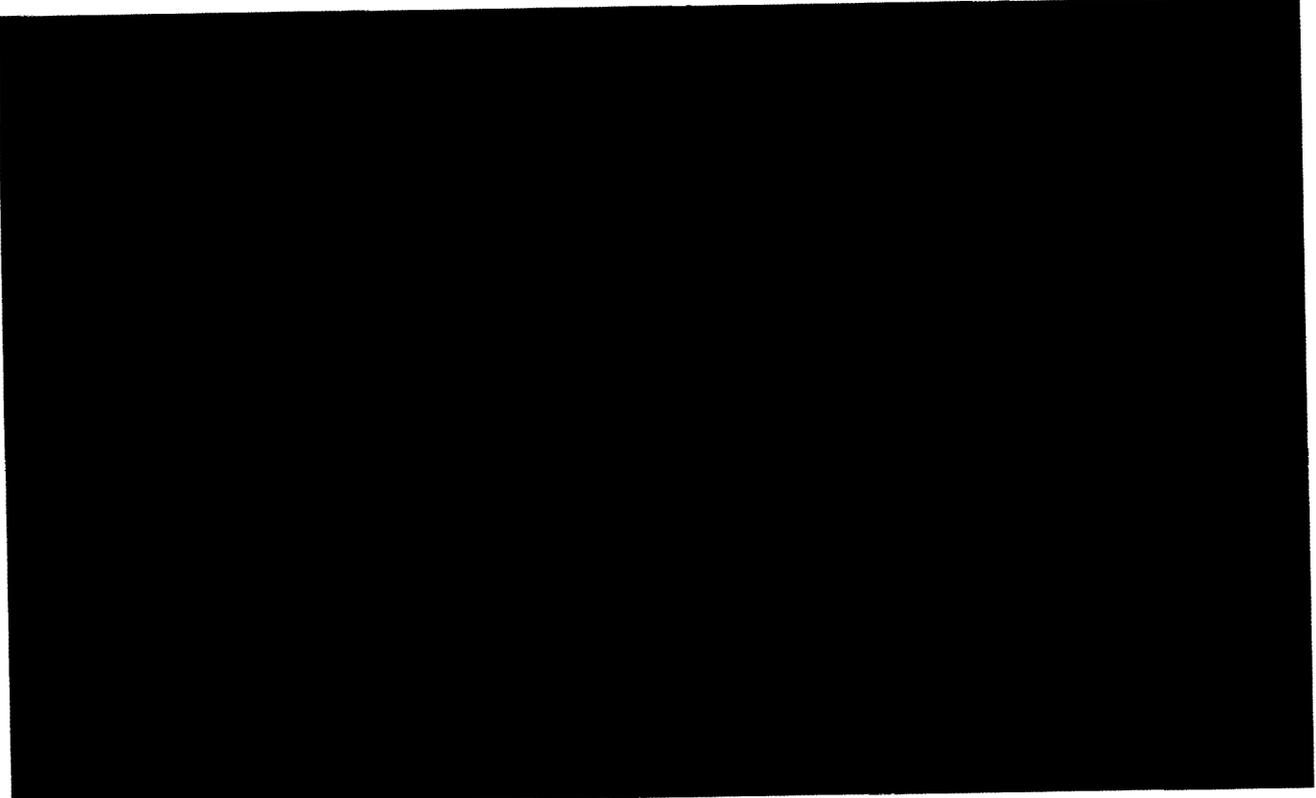


³²See Delay Codes, Attachment 7; see Proposed Agreement, Article 1.



³³See Attachment .





3. Amtrak Does Not Propose Changes In The Public Train Schedules

Conversion to a delay-avoidance system as proposed by Amtrak does not require any changes to the public train schedules, which have been agreed to by CN and Amtrak and are memorialized in the Current Agreement. Amtrak does not propose any schedule changes, and proposes to carry forward the current schedules on CN to the proposed Agreement.³⁶ Schedule changes would continue to be agreed-upon and memorialized in the proposed Agreement as they are in the Current Agreement.

IV. Conclusion

In summary, the current incentive and penalty system has not caused CN to minimize CN HRD minutes on Amtrak trains. HRD minutes are the primary driver of

³⁶ See Proposed Agreement, Appendix II.

ASOTP, so reducing HRD minutes is the most important goal if Amtrak passengers are to secure better service. Amtrak is proposing a delay-avoidance quality payment and penalty system based on threshold levels of HRD minutes associated with 80% ASOTP on each route. I believe the proposed penalties and the quality payments will motivate CN to minimize HRD minutes, thus supporting achievement of higher ASOTP and providing improved service to Amtrak passengers at all Amtrak stations on CN.

VERIFICATION

I, Paul Vilter, verify under penalty of perjury that the foregoing is true and correct. Further, I certify that I am qualified and authorized to file this verification.

Executed on September 4, 2015

A handwritten signature in cursive script, appearing to read "Paul Vilter", written over a horizontal line.

Paul Vilter
Deputy Chief, Host Railroads
National Railroad Passenger Corporation

List of Attachments

Attachment 1 – Vilter Resume

Attachment 2 – Current Agreement

Attachment 3 – Comparison of Amtrak’s Proposed Agreement to the
Current Agreement

Attachment 4 – Delayed Trains That Earned Incentives

Attachment 5 – Trains With Delays Beyond The Point Where CN Could
Earn An Incentive

Attachment 6 – Delay Codes

Attachment 7 – CN Change requests

ATTACHMENT 1

VILTER RESUME

Paul Evan Vilter



SUMMARY

Experienced, creative business professional and leader. Skilled at negotiations, managing complex cross-functional teams, and implementing process improvements. Experience in operations, logistics, planning, finance, marketing, and sales.

EXPERIENCE

National Railroad Passenger Corporation (Amtrak)

Philadelphia, PA

2003 – Present

Deputy Chief, Host Railroads (Operations Department)

- Manage business relationships with approximately 30 US “host” railroads whose tracks are used by Amtrak passenger trains.
- Negotiate and manage contracts governing \$120 million in annual expenditures
- Negotiated tri-party intercity passenger rail investment agreements among host railroads, states, and Amtrak governing \$3+ billion in public investments in private host railroad infrastructure.
- Negotiated 20 year comprehensive operations and maintenance agreements with the State of Michigan and Norfolk Southern.
- Created and helped implement comprehensive host railroad performance metrics, and the first redesign of host railroad performance incentives in 20 years.
- Advise senior Amtrak management, brief US Congressional staff and state transportation officials, and speak at national transportation events regarding railroad performance and strategy.

2013 – 2014

Chief Logistics Officer (Acting for 5½ months) (Finance Department)

- Asked by Chief Financial Officer to temporarily lead Amtrak’s Procurement & Materials Management Department during search to replace previous incumbent.
- Led 500+ management and unionized employees executing a supply chain with \$1.5 billion annual spend across 30 warehouses nationwide.
- Stabilized the department’s operation and morale.
- Concurrently served as Deputy Chief Host Railroads.

2001 – 2003

Senior Director, Route Profitability (Planning Department)

- Led company-wide, cross-functional team which designed in nine months a Route Contribution Analysis system to identify and manage revenues, costs, and contribution from business segments.

1999 – 2001

Director (Finance Department)

- Redesigned a business unit as part of an intensive Strategic Design Team. Improved annual performance by \$3 million.

Conrail, Inc.

Philadelphia, PA

1997 – 1999

Domestic Market Manager (Marketing Department)

- Designed and implemented marketing, pricing, product development, and channel strategy for \$290 million business unit.
- Generated growth by developing new products, enhancing existing services, improving asset utilization, and applying new yield management strategies.

Paul Evan Vilter

Page Two

- 1996 – 1997* **Regional Manager (Sales Department)**
- Built strong relationships with 40 shortline railroad partners in Mid-Atlantic and New England region, generating \$150 million in annual revenue for Conrail.
 - Member of award-winning team that designed the Local Area Management organization structure, which reduced costs while improving customer service and revenue.

- 1993 – 1996* **Account Executive (Sales Department)**
- Negotiated with national retail chains to establish major distribution centers for their products. Located facilities, oversaw leasing, and managed renovations. Opened three significant sites, the largest worth \$10 million in new revenue.
 - Strengthened customer relationships, uncovered opportunities, and built consensus within the company to meet customer needs. Exceeded growth targets each year.

- 1989 – 1993* **Business Development Analyst (Marketing Department)**
- Won Conrail Impact Award for entrepreneurial recycled paper strategy, attracting new customers and growing traffic in a mature market by 30% annually. Managed print media advertising campaign.

CSX Transportation **Baltimore, MD**

- 1984 – 1988* **Assistant Manager (Planning Dept), Assistant Manager (Marketing Dept)**
- Designed and implemented train network analysis and sales force bonus systems.
 - Designed components of intra-company transfer pricing system.
 - Designed and implemented trend analysis system.
 - Forecast volumes and revenues.

International Business Machines Corporation **Rochester, MN**

- 1980 – 1984* **Watson Scholar**
- Won IBM Thomas J. Watson Memorial Scholarship based on academic merit.
 - Four years full-time summer employment in Finance and other functions.

EDUCATION

J. L. Kellogg Graduate School of Management, Northwestern University **Evanston, IL**

- 1988–1989* **Master of Management – MBA**
- Concentrations in Marketing, Finance, and Transportation in an accelerated program.

Michigan State University **East Lansing, MI**

- 1980–1984* **Bachelor of Arts – BA. Graduated with High Honors.**
- Numerous academic honors including Mortar Board, MSU Tower Guard, Beta Gamma Sigma, and Phi Beta Kappa Certificate of Scholarship.

ADDITIONAL EXPERIENCE AND AFFILIATIONS

- Speaker at industry forums, including Transportation Research Board, Transportation Research Forum, Passenger Trains on Freight Railroads conference
- Lecturer at Michigan State University Railway Management Program
- Member, Board of Trustees, John W Barriger III National Railroad Library

ATTACHMENT 2

CURRENT AGREEMENT

REDACTED

ATTACHMENT 2

**COMPARISON OF AMTRAK'S PROPOSED AGREEMENT
TO THE CURRENT AGREEMENT**

REDACTED

ATTACHMENT 4

DELAYED TRAINS THAT EARNED INCENTIVES

REDACTED

ATTACHMENT 5

**TRAINS WITH DELAYS BEYOND THE POINT OF WHERE CN COULD
EARN AN INCENTIVE**

REDACTED

ATTACHMENT 6

DELAY CODES

Delay Codes

<u>Code</u>	<u>Code Description</u>	<u>Explanation</u>
ADA	Passenger Related	Passenger-Related delays specifically related to disabled passengers (wheelchair lifts, exercising guide dogs, etc.)
CAR	Car Failure	Car Failure (includes HEP failure, legitimate HBD or DED actuations, set out/pick up defective/repared cars)
CCR	Cab Car Failure	Cab Car Failure (all en route delays caused by mechanical failure of working cab cars.) A non-working cab car, i.e., one being used simply as another passenger car in the trailing consist of a train, will not be considered a Cab Car for purposes of delay coding. "Cab Car" includes NPCU's (de-powered F-40's) and all variations of passenger-carrying Cab Cars.
CON	Hold for Connection	Hold for Connection (holds for train or bus connections, including en route holds)
CTI	Commuter Train Interference	Commuter Train Interference (meets, following, overtakes)
CUI	Customs	Customs and Immigration delays
DBS	Debris	Debris Strike (including emergency braking, damage, set-outs from same; also debris blocking track ahead, or removal of debris from train; also includes objects thrown at train).
DCS	Signal Delays	Signal Delays (wayside detector failures including false actuations, defective road crossing protection, restrictive wayside or cab signals from unknown cause or from signal, power-switch or CTC-system failure; efficiency tests of the crew NOT involving Amtrak officers; drawbridge stuck open).
DMW	Maintenance of Way	M of W Work (holding for defect repair or M of W forces to clear; inability to contact M of W Foreman on radio; held for or routed around M of W work or equipment).
DSR	Slow Order Delays	Temporary Speed Restrictions (slow orders, slows through M of W site) Exception: heat/cold orders; see "WTR."

DTR	Detour	Detour Delays (all delay or time lost while operating on a detour, regardless of the reason for the detour).
ENG	Locomotive Failure	Engine Failure (HEP Failure, legitimate HBD or DED actuations, or any on-board HBD alarm, cab signal failure on engine, set out defective engines, operating with freight engine due to mechanical failure, undesired emergency applications, air problems, radio failure on engine)
FTI	Freight Train Interference	Freight Train Interference (meets, following, overtakes, restrictive signals known to be caused by freight trains, holds due to freight train derailments, non-scheduled stop to pick-up/drop-off freight train crew)
HLD	Passenger Related	Passenger Related (multiple spots, checked bags, large groups, smoke breaks, checked firearms, other passenger-related delays; except for disabled passengers, see delay code "ADA"; or sick/injured, see "INJ")
INJ	Injury Delay	Injury Delays (injured or sick passenger or employee)
ITI	Initial Terminal Delay	Initial Terminal Delay due to late-arriving inbound train causing late release of equipment or late crew rest, where mechanical-failure delay is NOT involved. (NOTE: Code "ITI" is to be used ONLY for a delay at the train's Initial Terminal station.)
MBO	Drawbridge Openings	Drawbridge openings for marine traffic, where NO failure of the drawbridge is involved.
NOD	Unused Recovery Time	Wait for scheduled departure time at stations, kill time to prevent early arrival at stations.
OTH	Miscellaneous Delays	Miscellaneous Amtrak-responsible delays (unable to make normal speed, heavy train, isolation of engine[s] for fuel conservation, etc.; also, person pulling emergency cord)
POL	Police-Related	Police Related (DEA; police/fire department holds on right-of-way, bomb threat delays; can include on-train police activity)
PTI	Passenger Train Interference	Passenger Train Interference (meets, following, etc.-does not include commuter trains)

RTE	Routing	Routing (crossover moves, lining manual or spring switch, run via siding, late track bulletins, inability to contact DS, dispatcher-holds). Also includes delays resulting directly from being routed to abnormal track at stations.
SVS	Servicing	Servicing (fuel, water, toilet/trash dumping, inspections, normal switching/set-out/pick-up locomotive, cars (including private/office cars) or section of train, normal engine changes, pick-up previously set-out equipment, loading/ unloading non-carload express)
SYS	Crew & System	System (late crew, unscheduled re-crew, single engineer copying authorities or restroom break, efficiency tests involving Amtrak officers, hold due to passenger train derailment, alleged crew rules violation; delayed-in-block after station stop, assisting another Amtrak train which is disabled, blocked by another Amtrak train disabled due to mechanical failure)
TRS	Trespassers	Trespasser Incidents (includes crossing accidents, trespasser or animal strikes, vehicle on track ahead; "near-miss" delays; bridge strikes by vehicle or boat)
WTR	Weather-Related	Weather (includes heat/cold orders; storms, floods, fallen trees, washouts, landslides; earthquake-related delays; slippery rail due to leaves; burning leaves caught under truck of car; snow-removal equipment working ahead; ice or snow under equipment, including wayside defect-detector actuations caused by ice)

ATTACHMENT 7

CDR CHANGE REQUEST ANALYSIS

REDACTED

SACKS VERIFIED STATEMENT

PUBLIC VERSION REDACTED

BEFORE THE SURFACE TRANSPORTATION BOARD

APPLICATION OF THE NATIONAL RAILROAD PASSENGER CORPORATION UNDER 49 U.S.C. § 24308(A) – CANADIAN NATIONAL RAILWAY COMPANY : FINANCE DOCKET NO. 35743

VERIFIED STATEMENT
OF

BENJAMIN SACKS

ON BEHALF OF

NATIONAL RAILROAD PASSENGER CORPORATION

September 4, 2015

TABLE OF CONTENTS

I.	Identity of Expert	1
II.	Qualifications of Expert Witness	1
III.	Background for Analysis	2
IV.	Scope of Opinions	3
V.	Substance of Opinions	4
	V.A. The Dataset Supporting My Analysis	4
	V.A.1. Host Responsible Delays	4
	V.A.2. On-Time Performance	5
	V.B. Finding the 80% Point	6
	V.C. Penalty Schedule	12
	15
	16
	16
	V.C.4. Maximum Penalty Minutes	18
	V.C.5. Penalty Rates	20
VI.	Integrating Quality Payments	22
	Appendix A: Resume of Benjamin Sacks	A-1
	Appendix B: Relation of All Stations OTP to HRD for Amtrak Routes	B-1
	Appendix C: Detailed Regression Results	C-1
	Appendix D: Sensitivity Tests for the Time Period for the 2013 Level of Service	D-1
	Appendix E: Derivation of Maximum Penalty Minutes	E-1
	Appendix F: Data Received	F-1
	Appendix G: CN Proposal of July 20, 2013	G-1

I. Identity of Expert

Benjamin Sacks
Principal
The Brattle Group
1850 M Street NW, Suite 1200
Washington, DC 20036

II. Qualifications of Expert Witness

1. I have over 15 years of experience providing expert advice and testimony on the application of economics, corporate finance and statistics to valuations, the estimation of damages and determination of liability. Statistical regression analysis is among my areas of expertise.
2. I received my B.A. in mathematical economics from Columbia University, and my M.A. in economics from the University of Chicago.
3. Since 1997, I have been a testifying expert or consulting expert in numerous litigations and arbitrations. My recent representative experience includes the following:
 - a. In *ACS Shareholder Litigation*, Delaware Court of Chancery, Consolidated C.A. No. 4940-VCP I served as a testifying expert and critiqued the Defendant's expert's regression analysis.
 - b. In *Eastbanc, Inc. v. Georgetown Park Assoc. II L.P., et al.* (Sup. Ct. D.C. 2006), I served as a testifying expert and conducted regression analyses to understand the expected sales per square foot in a proposed shopping mall development.
 - c. I served as a consulting expert on behalf of the Russian Federation in three parallel arbitrations under UNCITRAL Rules in The Hague brought by former majority shareholders of Yukos Oil Company for alleged violations of the Energy Charter Treaty. I ran regression analyses on the relationship between valuation multiples and criteria posed by the Claimant's expert as predictors of those multiples.
 - d. In an international arbitration involving the value of mining concessions in Latin America, heard at the Permanent Court of Arbitration, I served as a consulting expert and performed regressions examining changes in the relationship between news events and the price of publicly traded shares.
 - e. In *PBM Products LLC v. Mead Johnson Nutrition Company and Mead Johnson & Company*, Eastern District of Virginia, C.A. No. 3:09CV269, I served as a consulting

expert and performed regression analysis on the relationship between sales, advertising and other factors.

- f. In *Coleman (Parent) Holdings, Inc. v. Morgan Stanley & Co. Inc.* CA 03-5045 AI (Fla. Cir. Ct.) I served as a consulting expert and performed a regression analysis of terminated mergers to determine whether the stock price of the target company was higher or lower than expected.
 - g. In an international arbitration involving the value of a Russian oil company, heard at the Stockholm Chamber of Commerce, I served as a consulting expert and performed regressions examining the relationship between news events and changes in the price of publicly traded shares.
 - h. In *Lehman Brothers Holdings Inc. and Official Committee of Unsecured Creditors of Lehman Brothers Holdings, Inc. Et al. v. United States of America* (U.S. District Court for the Southern District of New York) concerning tax-shelter transactions, I served as a consulting expert and provided statistical analyses showing that the way in which certain financial transactions were being structured were not cost-minimizing.
4. My resume, which contains a more complete explanation of my background, is attached as Appendix A.

III. Background for Analysis

5. To begin, I provide some background pertaining to my analysis:
- a. My analysis looks at data from the period July 1, 2011 through June 30, 2015 (the "Analysis Timeframe").
 - b. My analysis relates only to Amtrak trains that operate for a portion of their route on Canadian National Railway Company ("CN") rail lines. Thus, to differentiate between CN rail lines and rail lines operated by other companies on which a given Amtrak train may run, I will refer to "train miles" and "CN Train Miles."
 - c. There are 24 Amtrak trains that operate on six routes over CN rail lines: the City of New Orleans, Illini/Saluki, Wolverine, Blue Water, Lincoln, and Texas Eagle routes (the "Amtrak Trains" running on "Amtrak Routes"). I have excluded the Sunset Limited which operates over CN in the New Orleans area for only approximately two miles.

- d. Conductors on Amtrak Trains record any delays that occur on each trip of their train, as well as the cause of those delays, and include this information in a report called an electronic Delay Report (“eDR”).¹
- e. Amtrak uses codes to categorize delays that occur while operating on host railroads. Responsibility for these delays is attributed to either the host railroad (“Host Responsible Delays” or “HRD”), Amtrak (“Amtrak Responsible Delays”) or a third party (“Third-Party Responsible Delays”). For purposes of my analysis and testimony Amtrak defines the following types of delays as Host Responsible Delays:

- Freight Train Interference (“FTI”)
- Passenger Train Interference (“PTI”)
- Commuter Train Interference (“CTI”)
- Slow Orders (“DSR”)
- Signals (“DCS”)
- Routing (“RTE”)
- Maintenance of Way (“DMW”)

I adopt this definition.

- f. In addition to measuring Host Responsible Delays, Amtrak also measures the on-time performance of each Amtrak Train at each station on each Amtrak Route (“All Stations OTP”).²



IV. Scope of Opinions

- 6. I was asked to determine, using data provided to me by Amtrak (described below), the number of HRD minutes that correlate with 80% All Stations OTP (the “80% Point(s)”) for each Amtrak Route.
- 7. I was asked to develop an implementable Penalty System based on these 80% Points with the following goal:

[REDACTED]

¹ I understand that Amtrak has transitioned from paper delay reporting to electronic delay reporting. For purposes of my analysis, these systems are equivalent because they record the same information.

² Amtrak records minutes late or early, which I use to determine All Stations OTP. See Section V.A.2.

8. Amtrak also asked me to demonstrate how their proposed Quality Payment system would integrate with the proposed Penalty System.

V. Substance of Opinions

9. I use standard statistical methods to calculate the 80% Points. I first discuss the data that I use for this analysis. I then explain my analysis, its results and how these results are used to determine the 80% Points. I then explain the Penalty System that is based on the 80% Points.
10. Throughout this report, when I discuss HRD minutes I will generally discuss them as HRD minutes *per 10,000 Amtrak train miles* ("HRD/10K") or as CN HRD minutes *per 10,000 CN Train Miles* ("CN HRD/10K"). I do this for three main reasons:
 - a. First, as a convenience to the reader. Much of the analysis in this report deals with the impact of HRD on All Stations OTP. Routes differ significantly in length and the impact of a minute of HRD on All Stations OTP will generally be smaller for longer routes. But, the impact of a minute of HRD *per unit length* is generally of the same order of magnitude across Routes. It is easier for the reader to compare the impact of HRD on All Stations OTP across routes if HRD is normalized to account for the length of the Route.
 - b. Second, it is my understanding that Amtrak reports delays to the Federal Railroad Administration and others in increments of minutes of delay per 10,000 train miles, so this was a natural way to normalize across routes.
 - c. Third, this normalization has no effect on the determination of the 80% Point, or on any of the statistical properties of the analyses leading to it, or on the Penalties, if any, that CN might incur if this system is implemented.
11. Results calculated using HRD/10K can be converted to HRD by multiplying by the total Amtrak train miles for the Amtrak Route, and then dividing by 10,000. Similarly, results calculated using CN HRD/10K can be converted to CN HRD by multiplying by the CN Train Miles for the Amtrak Route, and then dividing by 10,000.

V.A. THE DATASET SUPPORTING MY ANALYSIS

V.A.1. Host Responsible Delays

12. To calculate HRD/10K for each of the six Amtrak Routes in each month during the Analysis Timeframe, I first summed the total number of HRD minutes on every train on

each Amtrak Route in each month, separately for each Amtrak Route and month.³ I then calculated HRD per train mile, for each Amtrak Route and each month, by dividing each HRD figure by the total train miles on that Amtrak Route in that month.⁴ The formula for this is:

$$\text{HRD / train mile}_{r,m} = \frac{\text{All HRD minutes on route "r" in month "m"}}{\text{All Amtrak train miles on route "r" in month "m"}} \quad (1)$$

13. As an illustrative example, in June 2015, the total minutes of HRD on the City of New Orleans route ("CONO"), summing across all City of New Orleans route trains that month, was 5,183. Total Amtrak train miles on the City of New Orleans route in June 2015 were 56,076. Applying the above calculation, the resulting HRD minutes per train mile on the City of New Orleans route for June 2015 was 0.0924.

$$\text{HRD / train mile}_{\text{CONO},6/15} = \frac{\text{All HRD minutes on CONO in 6/15}}{\text{All Amtrak train miles on CONO in 6/15}} = \frac{5,183}{56,076} = 0.0924 \quad (2)$$

14. I calculated HRD/10K by multiplying the numbers resulting from the division discussed above by 10,000.

$$\text{HRD / 10K}_{r,m} = \frac{\text{All HRD minutes on route "r" in month "m"}}{\text{All Amtrak train miles on route "r" in month "m"}} \times 10,000 \quad (3)$$

15. Looking again at the City of New Orleans route in June 2015, the total minutes of HRD was 5,183, and total Amtrak train miles was 56,076. Therefore, the HRD/10K for the City of New Orleans route in June 2015 was:

$$\text{HRD / 10K}_{\text{CONO},6/15} = \frac{5,183}{56,076} \times 10,000 = 924 \quad (4)$$

V.A.2. On-Time Performance

16. For purposes of this analysis, an Amtrak Train was considered on-time at each station if (i) for the origin station, it departed from the station within 15 minutes of its scheduled departure time, and (ii) for all other stations, it arrived at the station within 15 minutes of its scheduled arrival time ("On-Time" means within 15 minutes of the scheduled time). Any trains that departed more than 15 minutes after their scheduled departure time from their origin station or arrived more than 15 minutes after their scheduled arrival time for all other stations were not considered On-Time at that station for the purpose of this

³ This data was supplied in the eDR Dataset, see Appendix F. I only consider non-temporary trains.

⁴ This data was supplied in the Train Miles Dataset, see Appendix F.

analysis. I calculated All Stations OTP as the fraction of all station stops on the entire Amtrak Route at which Amtrak Trains were On-Time, and I calculated this measure for each Amtrak Route in each month during the Analysis Timeframe.

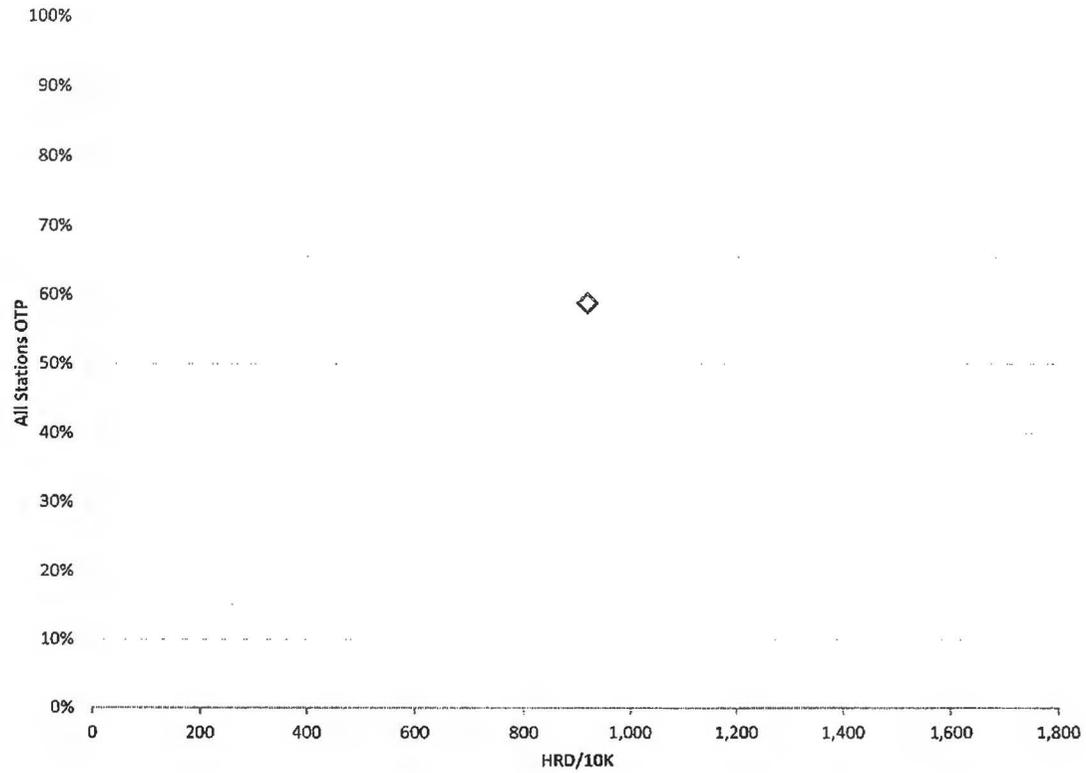
17. As an illustrative example of the All Stations OTP calculation, in June 2015 Amtrak Trains on the City of New Orleans route were On-Time at 670 out of 1,140 total station stops. Therefore, All Stations OTP for the City of New Orleans route in June 2015 was 58.8%, as calculated below.

$$\text{All Stations OTP}_{\text{CONO,6/15}} = \frac{670}{1,140} = 0.588 \text{ or } 58.8\% \quad (5)$$

V.B. FINDING THE 80% POINT

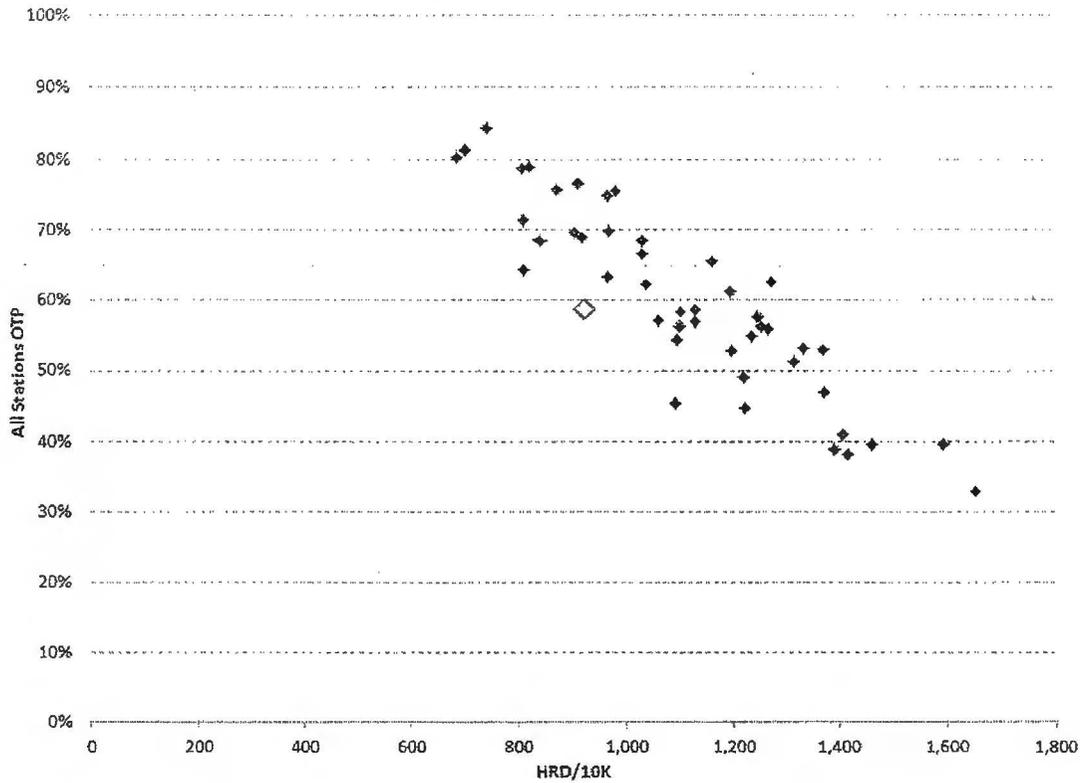
18. I next discuss how I use standard statistical methods to find the 80% Point. Before presenting the statistics, I first demonstrate and explain the common sense observation that I will analyze rigorously with statistics: more HRD/10K leads to lower All Stations OTP in a largely predictable fashion.
19. I do so with a graph. I first explain how the graph works, and then plot the data on the graph, allowing the reader to observe the relationship between HRD/10K and All Stations OTP.
20. In Figure 1 below, the vertical axis represents the All Stations OTP percentage, and the horizontal axis represents HRD/10K. I have plotted the data point for Amtrak Trains on the City of New Orleans route during June 2015: 924 minutes of HRD/10K and a 58.8% All Stations OTP.

Figure 1: Data Point for City of New Orleans Route in June 2015
(924 minutes of HRD/10K and 58.8% All Stations OTP)



21. In Figure 2, I plot, with solid diamonds, the data points for the other months of the City of New Orleans route during the Analysis Timeframe. June 2015 remains as a hollow diamond.

Figure 2: All Stations OTP and HRD/10K for the City of New Orleans Route during the Analysis Timeframe



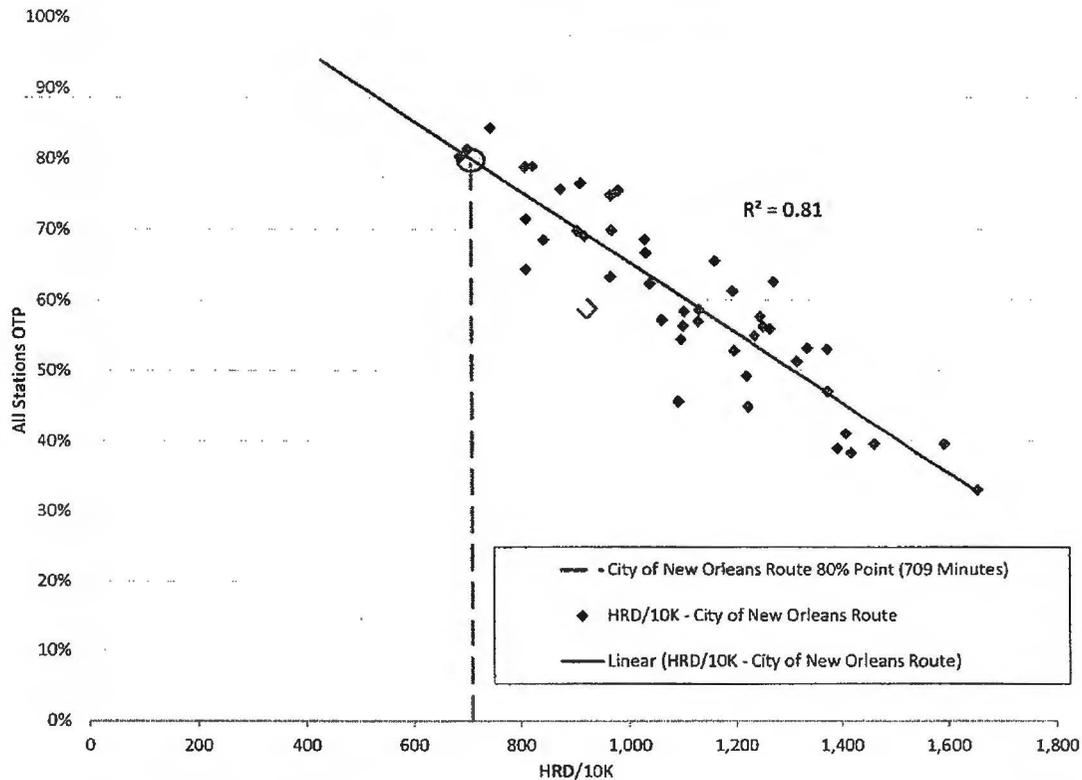
22. The data in Figure 2 shows that All Stations OTP decreases as HRD/10K increases. This is the common sense observation that I analyze rigorously with standard statistical methods.
23. I used a statistical method called ordinary least squares regression ("OLS") to estimate *by how much* All Stations OTP decreases as HRD/10K increases. That relationship is represented in Figure 3 as the solid downward sloping line (technically called the "line of best fit") which has been added to same data points as contained in Figure 2.⁵
24. The level of HRD/10K at which All Stations OTP should average 80% (the "80% Point") is determined by the line of best fit.⁶ As can be seen in Figure 3, the 80% Point is the point

⁵ The "line of best fit" is the line that fits the data best according to the OLS regression. OLS determines the line of best fit, also called the regression line, as the line that minimizes the sum of the squares of the vertical distances between each point and the line.

⁶ In statistical language, the 80% point is the level of HRD/10K at which the expected All Stations OTP is 80%.

on the line of best fit where it crosses the 80% All Stations OTP threshold. This point is circled on the graph. The vertical line (dashed) connecting this point to the horizontal axis shows the minutes of HRD/10K at which All Stations OTP is expected to be 80%. For the City of New Orleans route this occurs at 709 minutes of HRD/10K.

Figure 3: Statistical Analysis of the Relationship between HRD and All Stations OTP for the City of New Orleans Route



25. The relationship between HRD/10K and All Stations OTP determined by OLS—represented by the line of best fit—was statistically significant and had substantial explanatory power.⁷ Statistical significance means that the relationship observed was unlikely to be due to random chance. The technical meaning is that—at the conventional 5% level of significance which I use—if there was no actual relationship between HRD/10K and All Stations OTP, then there would be a 5% or less chance of observing an apparent relationship as large as that actually observed in the data.⁸

⁷ See Appendix C.

⁸ See, for example, Kennedy, Peter. *A Guide to Econometrics*. 5th ed. Cambridge: MIT Press, 2003. 246.

26. The explanatory power was high because monthly differences in HRD/10K explain 81% of monthly differences in All Stations OTP for this Route.⁹ In layman's terms this means that, on average, for any two points, 81% of the difference between their levels of All Stations OTP was explained by differences in their minutes of HRD/10K. So, for the City of New Orleans route during the Analysis Timeframe, *most* (i.e., 81%) of the month to month variation observed in All Stations OTP was explained by month to month variation in HRD/10K.
27. I analyzed each Route separately. Data plots for other Amtrak Routes using the same methodology are similar in that All Stations OTP declines in a largely predictable manner as HRD/10K increases. These data and plots are provided in Appendix B. Detailed regression results are in Appendix C. All regressions used to determine the 80% Points were statistically significant at the conventional 5% level.
28. For each regression, the dependent variable (what needs to be explained) was All Stations OTP, calculated on a monthly basis as discussed above.¹⁰ The independent variable (the factor doing the explaining) was HRD/10K. The regression equation is given in equation (6):

$$OTP_{r,m} = \alpha_r + \beta_r * HRD/10K_{r,m} + e_{r,m} \quad (6)$$

where $OTP_{r,m}$ is All Stations OTP for Route r in month m ; $HRD/10K_{r,m}$ is minutes of HRD/10K for Route r in month m ; $e_{r,m}$ are the "residuals" meaning the variations in All Stations OTP that are not explained by changes in HRD/10K; and α_r and β_r are parameters to be estimated for Route r . The regression chooses the α_r and β_r parameters that minimize the sum of the squares of the residuals.¹¹

29. To determine the 80% Point, I ran the regression for the entire Analysis Timeframe on each Amtrak Route, with the following exceptions:
- a. Permanent schedule changes: There were permanent schedule changes on the Blue Water and Wolverine routes in September 2012 that altered the relationship between

⁹ The statistical measure of explanatory power, R^2 , is 0.81.

¹⁰ There is a separate regression for each route to determine the 80% Point.

¹¹ For ease of notation, I suppress the r (route) subscripts in the remainder of the discussion. α and β refer to the parameters from a given route, and each route has its own set of parameters.

HRD/10K and All Stations OTP.¹² For those routes, I used only data after these permanent schedule changes.

- b. Temporary schedule changes due to track work: I did not include days in which any train on the relevant Amtrak Route had a schedule change due to track work.
 - c. Incomplete routes: I did not include a given Route on a given day if any of the trains on that Route on that day failed to reach the end-point station, or did not start at the first station normally scheduled for that Route. This affected only a small fraction of days.
 - d. Outliers: There are seven data points that appear to be outliers with exceptionally high HRD/10K. To be conservative, I remove these from the analysis. Had I included them, the 80% Points would be lower, meaning penalties would generally be higher.¹³
30. If there were 10 or more days affected by (b) or (c) on an Amtrak Route in a month, I omitted the Route for that month.¹⁴
31. Based on the α and β parameters estimated in the regression for Route r , denoted as $\hat{\alpha}$ and $\hat{\beta}$, the All Stations OTP expected for any given level of HRD/10K is given by equation (7):

$$E\{OTP\} = \hat{\alpha} + \hat{\beta} * HRD/10K \quad (7)$$

where $E\{OTP\}$ means the expected value of All Stations OTP.

¹² See Appendix B. There were also additional permanent schedule changes on these Routes and on other Routes during the Analysis Timeframe, but those did not significantly alter the relationship between HRD/10K and All Stations OTP.

¹³ A data point is a monthly {HRD/10K, All Stations OTP} observation on a Route. I remove these points as outliers for two related reasons. First, the linear relationship between All Stations OTP and HRD/10K which holds over the range of HRD/10K that I analyze and that is relevant for the Penalty System does not hold at very high values of HRD/10K. Second, these outliers have a large impact on the regressions. Since these points should not be included in a linear regression and have a large impact if they are included, I drop them.

¹⁴ See Appendix F for the list of Routes and days with temporary schedule changes due to track work. Note that this list does not include Routes and days dropped due to an incomplete Route not covered by a temporary schedule change due to track work.

32. For each Route, the 80% Point is the minutes of HRD/10K that yields an All Stations OTP of 80% when inserted into this equation. Simple algebra yields the following formula for the 80% Point, given in equation (8):

$$\text{HRD/10K at 80\% Point} = \frac{(80\% - \hat{\alpha})}{\hat{\beta}} \quad (8)$$

33. A summary of the 80% Points (and supporting regression results) is provided in Figure 4.

Figure 4: Regression Results and 80% Points by Amtrak Route¹⁵

Amtrak Route	Y-Intercept	Coefficient	R-Squared
	Estimate [1]	Estimate [2]	
Blue Water	1.18	-0.000406	0.63
City of New Orleans	1.15	-0.000499	0.81
Illini/Saluki	0.94	-0.000329	0.84
Lincoln	1.17	-0.000342	0.95
Texas Eagle	1.00	-0.000322	0.63
Wolverine	0.90	-0.000246	0.57

Source: Analysis of Amtrak Data

Notes:

[4]: (0.8 - [1]) / [2].

34. As shown in Figure 4, the 80% Point for the City of New Orleans route is 709 minutes of HRD/10K. The corresponding figures for the Blue Water, Illini/Saluki, Lincoln, Texas Eagle, and Wolverine routes are 936, 432, 1073, 615, and 411 respectively. In each case the proportion of the variation in All Stations OTP that is explained by variation in minutes of HRD/10K is significant, as indicated by the R². All of the parameters are statistically significant at the conventional 5% level.¹⁶

V.C. PENALTY SCHEDULE



¹⁵ Detailed regression results are in Appendix C.

¹⁶ See Appendix C.

36. The essence of the Penalty Schedule is explained in Figure 5. Note that penalties are represented as negative numbers, so that the line representing the penalty to CN goes down as the amount of the penalty increases. As shown in Figure 5, the essence of the Penalty Schedule is to:
- a. Apply a penalty to CN only if the minutes of HRD on CN track exceed the threshold of the 80% Point. If minutes of CN HRD/10K (defined above as minutes of CN HRD per 10,000 CN Train Miles) are less than or equal to those given by the 80% Point, there is no penalty. This corresponds to "Segment 1" in Figure 5.

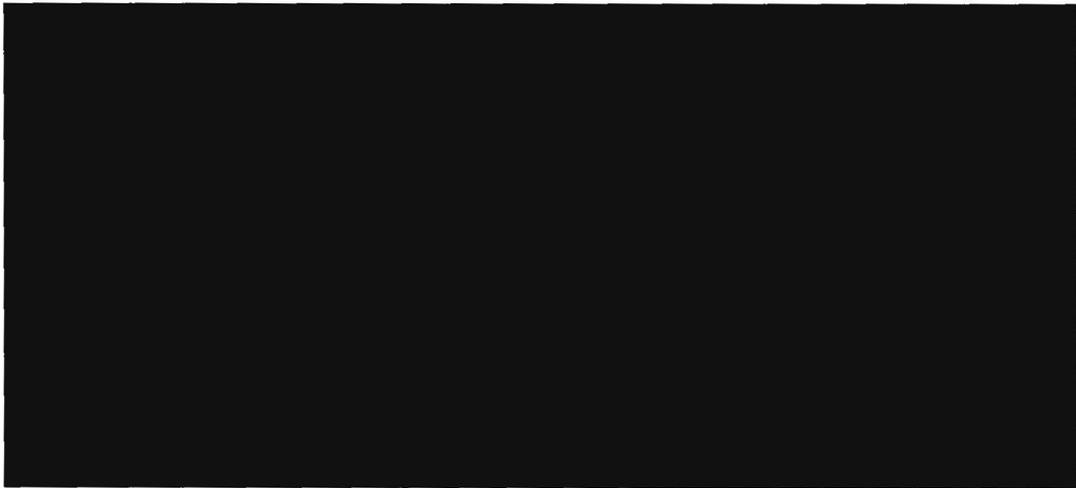
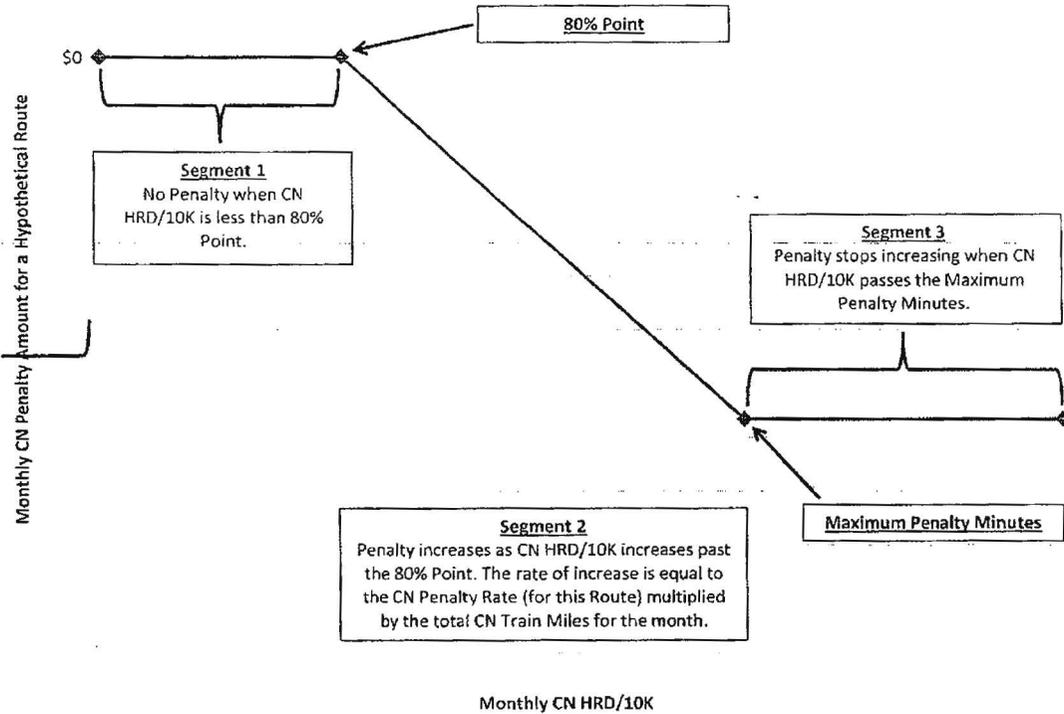
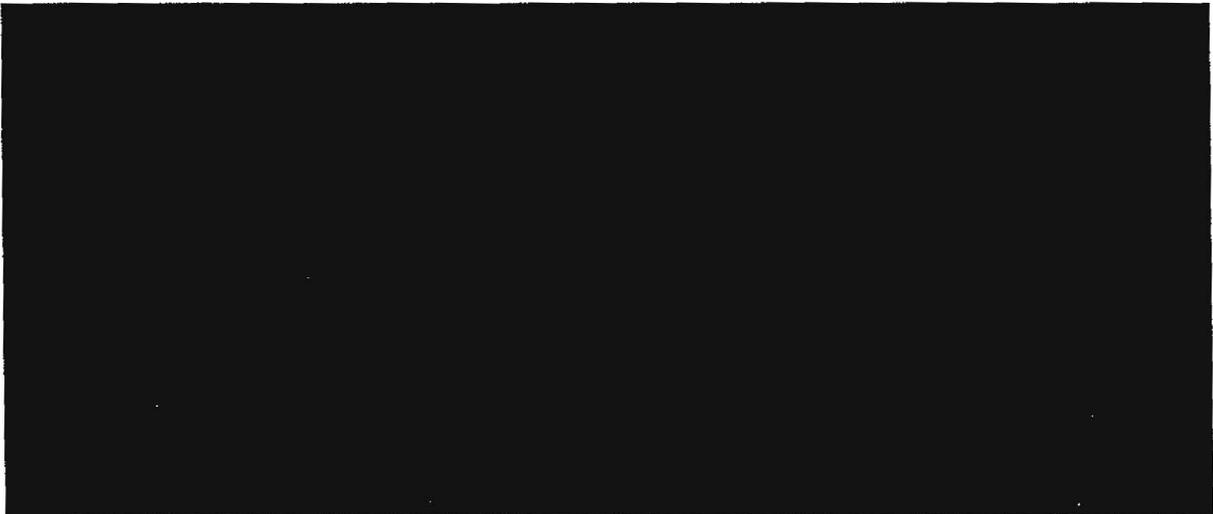
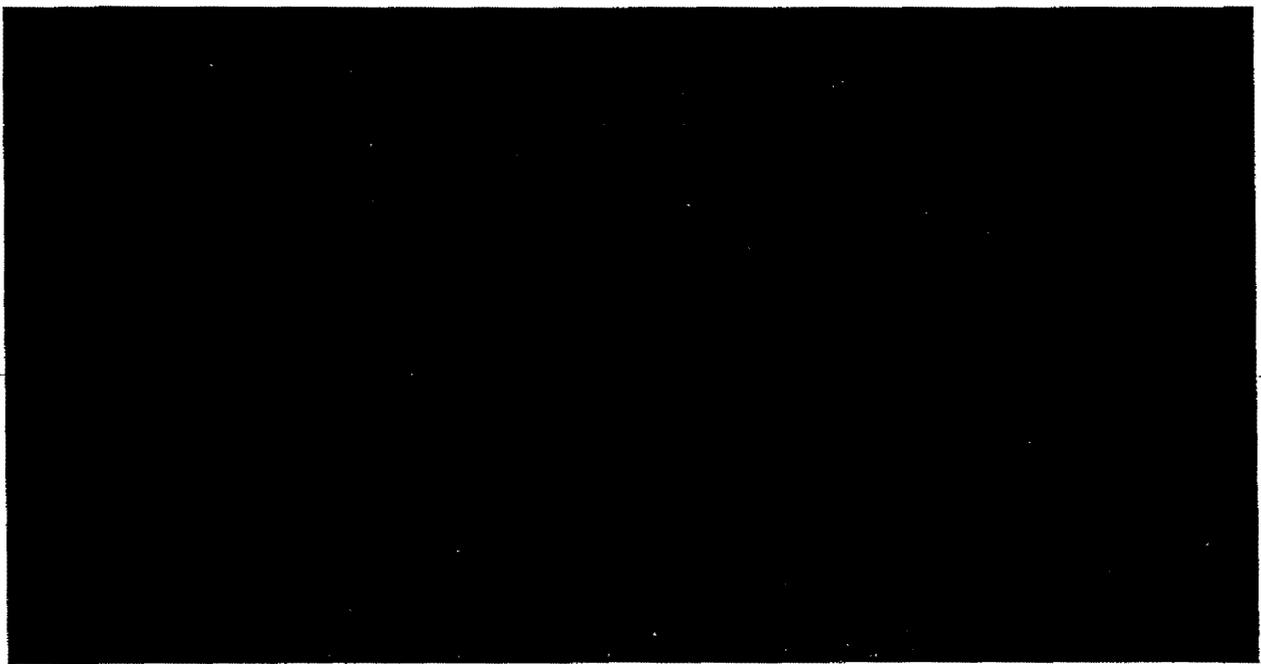


Figure 5: Illustrative Example of Penalty Schedule



37. The CN Penalty Rate and the Maximum Penalty Minutes are calculated separately for each Route. I first describe the calculations for each, at a conceptual level, and then provide details. At a conceptual level, the CN Penalty Rates are calculated as follows:





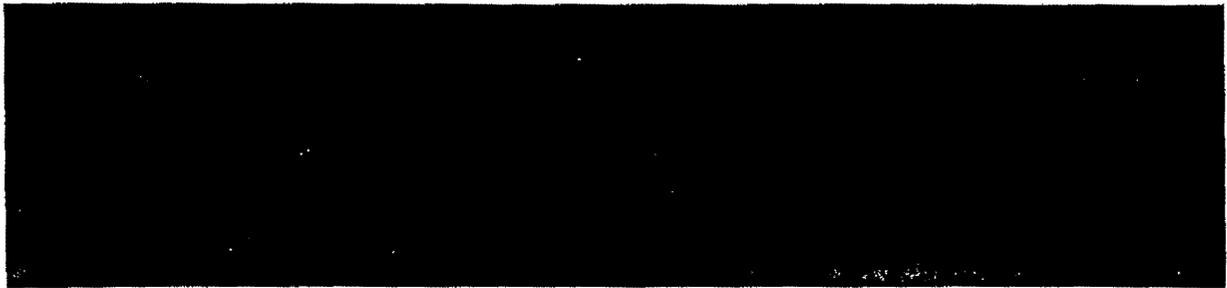
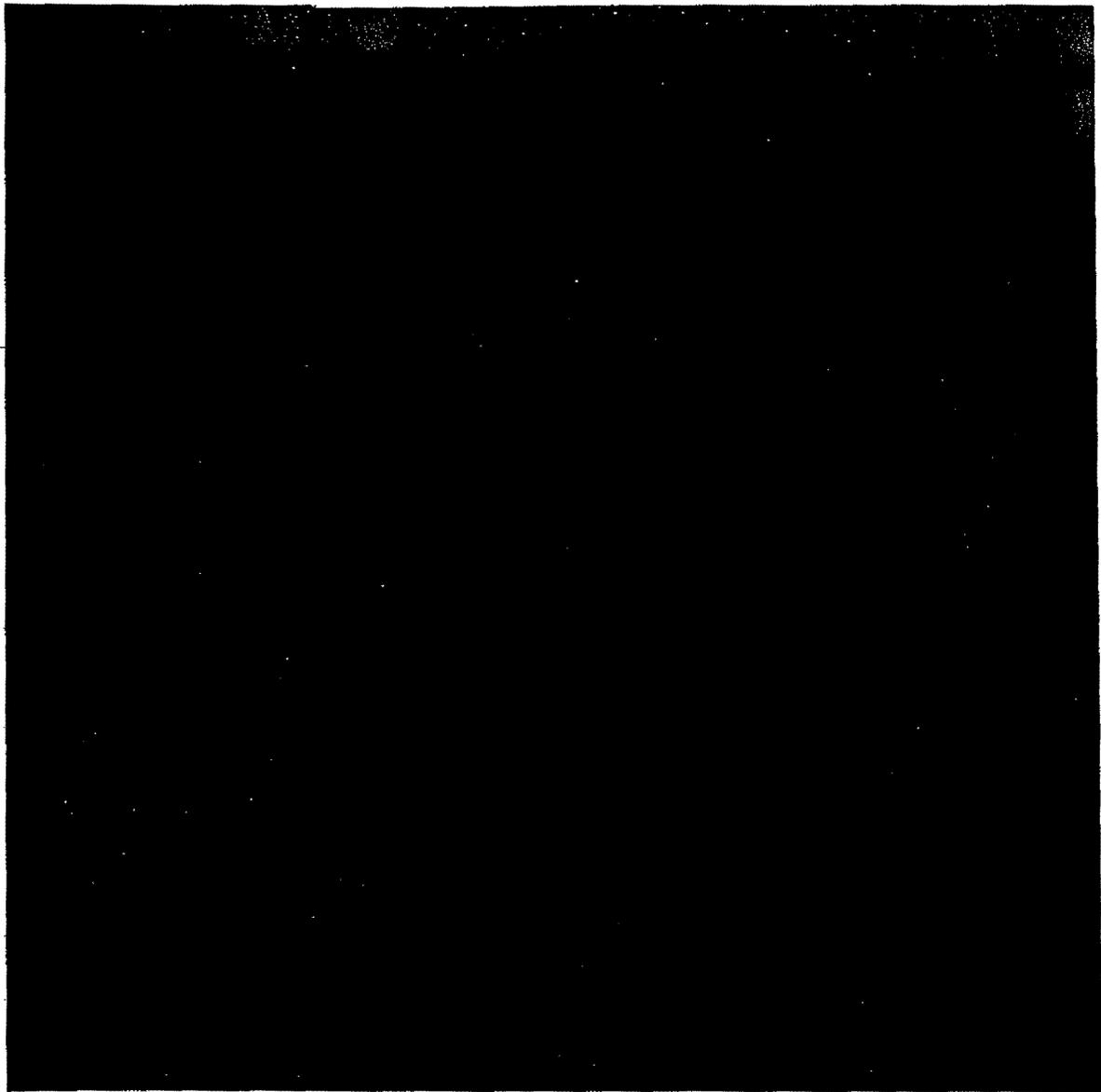
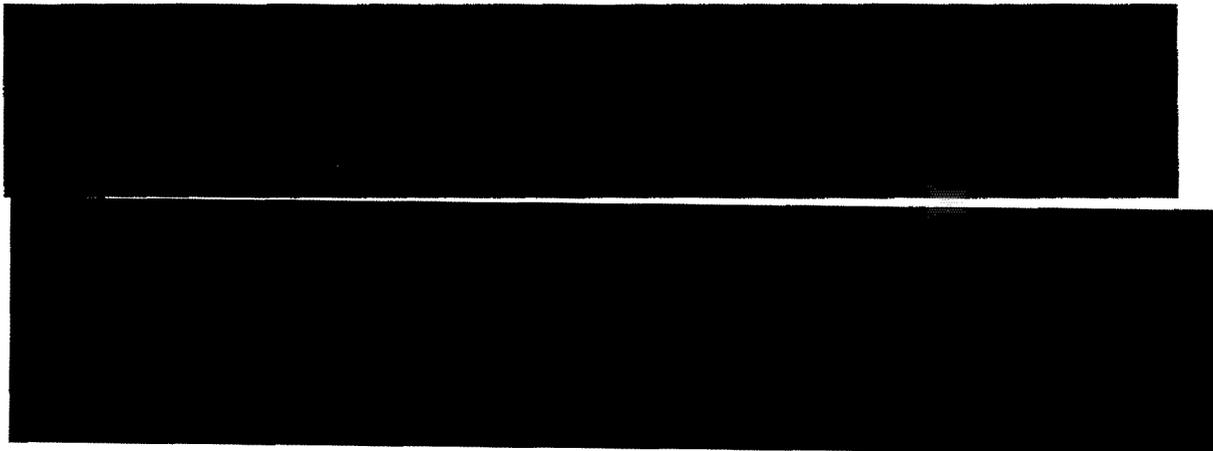




Figure 6: CN Savings Rate and CN Penalty Rate by Route²⁵

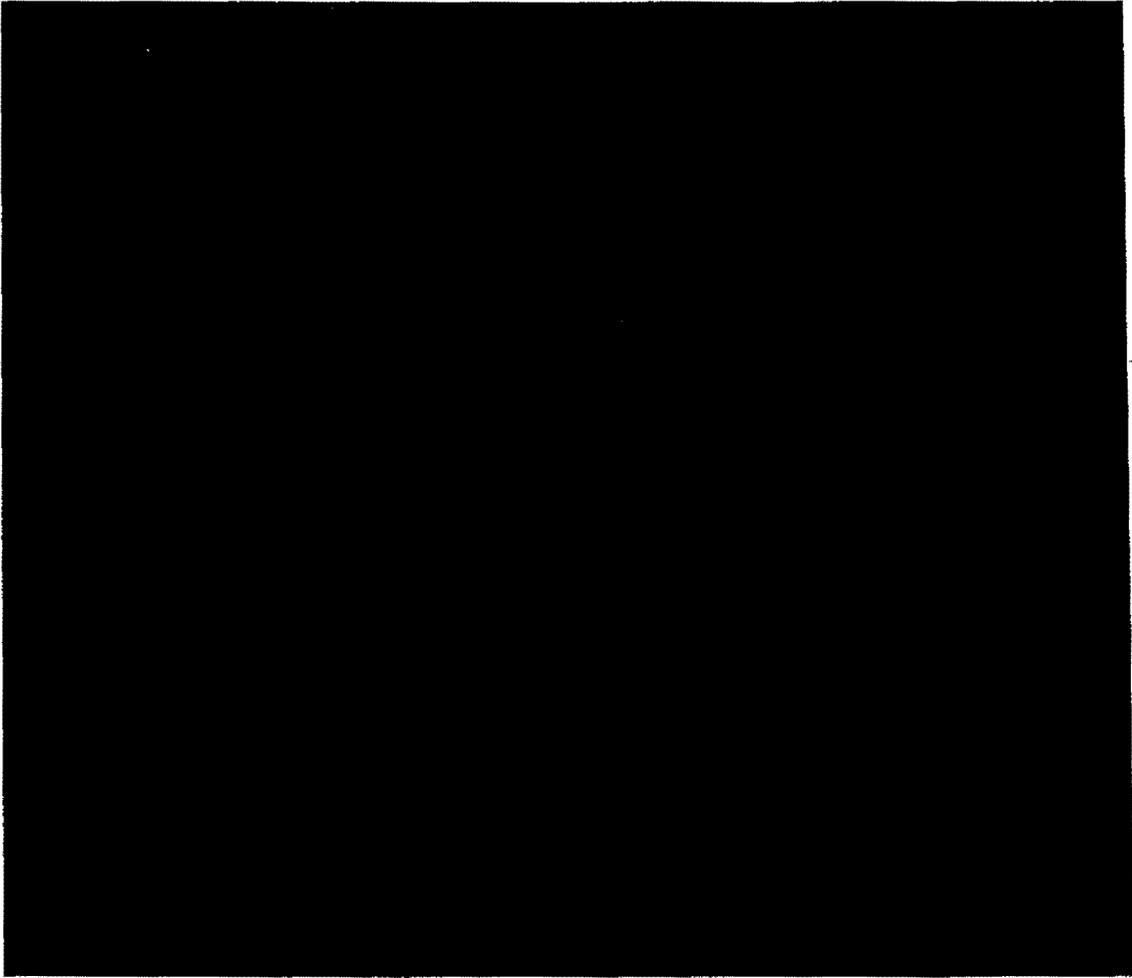


V.C.4. Maximum Penalty Minutes

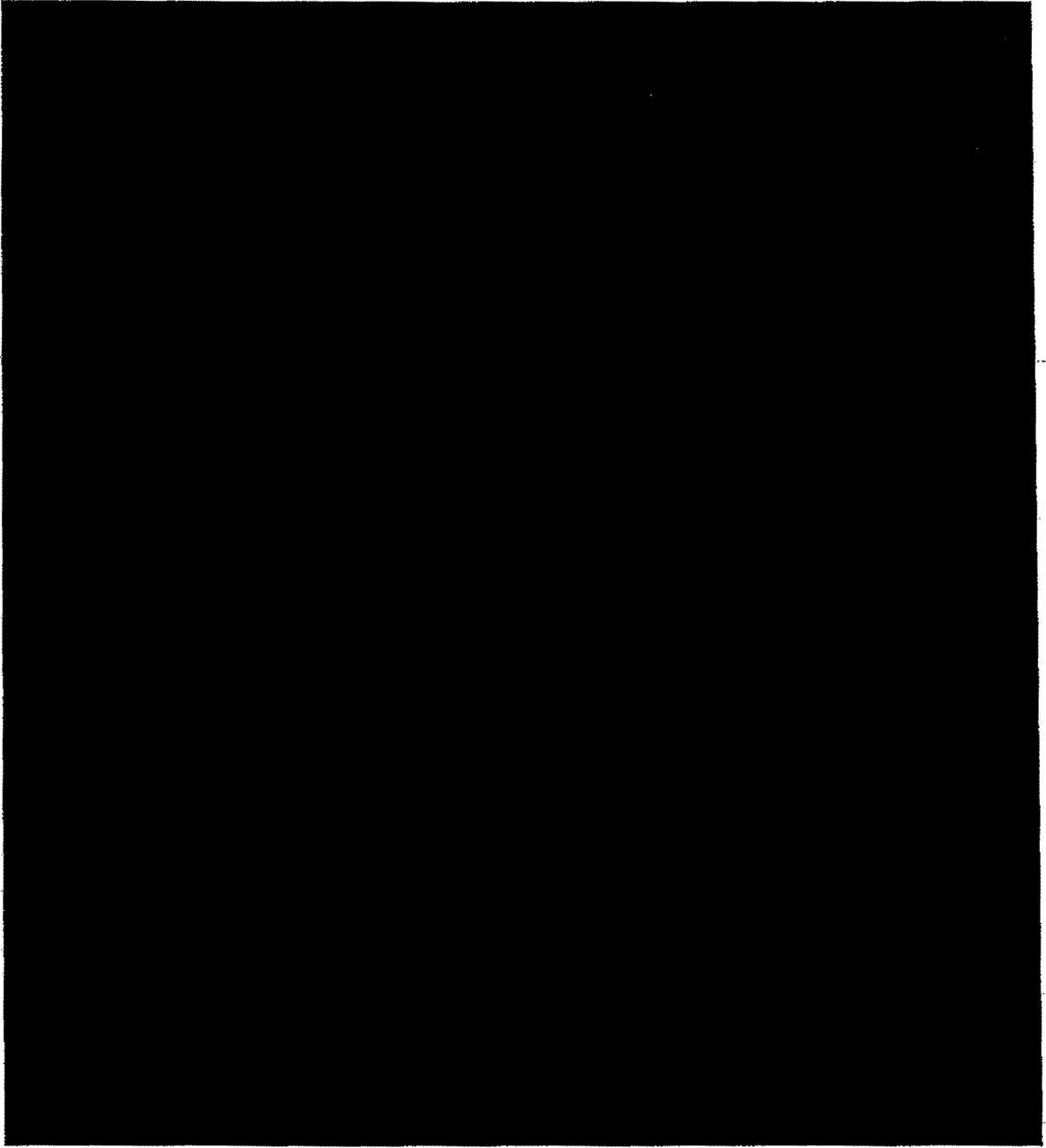


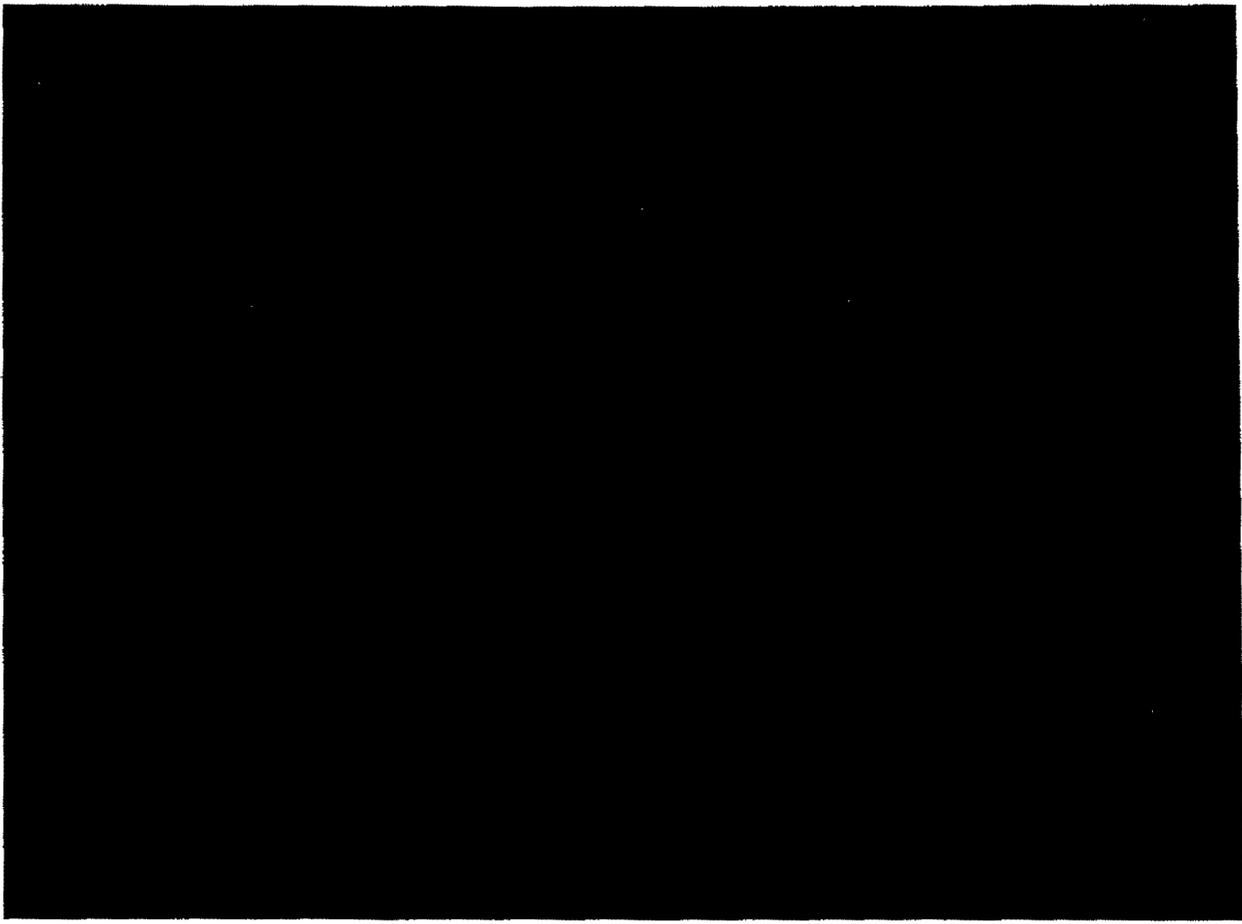
²⁵ These calculations are provided in more detail in Appendix E.

²⁶ See Appendix E for derivation of the Maximum Penalty Minutes.



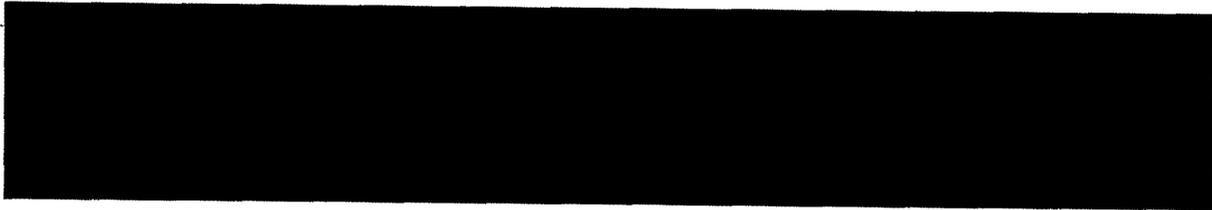
53.





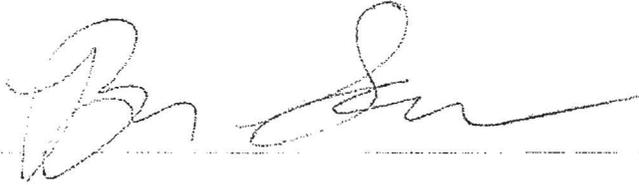
VI. Integrating Quality Payments

55. Amtrak asked me to demonstrate how their proposed Quality Payment system would integrate with the proposed Penalty System. The Quality Payment system provides quality payments to CN, on a Route by Route and month by month basis, for service that is better than the 80% Point -- that is, when CN HRD is less than the level of CN HRD at the 80% Point on a given Route.





Signed,

A handwritten signature in black ink, appearing to read "Ben Sacks", written over a horizontal line.

Benjamin Sacks

September 4, 2015

Appendix A: Resume of Benjamin Sacks

BENJAMIN A. SACKS

Principal

Washington, DC

+1.202.419.3366

Benjamin.Sacks@brattle.com

Mr. Benjamin A. Sacks has over fifteen years of experience providing expert advice and testimony on the application of economics, finance, and statistics to valuations, damages and determination of liability. Mr. Sacks has assisted corporations, investors, U.S. government agencies (such as the Department of Justice), and foreign governments, in developing and presenting economic and financial testimony in complex litigation and arbitrations. Notable engagements include deposition testimony on the complex relations between Hank Greenberg, AIG and the Starr Corporation; and supporting testifying experts in several RMBS related actions, voting rights litigation in Texas, and several Yukos-related international arbitrations.

Mr. Sacks is a principal in The Brattle Group's finance and litigation practice, having previously served as a vice-president at CRA and a partner at Bates White where he helped to found the firm's Corporate Finance and Environmental and Product Liability practices. Mr. Sacks has presented at the Securities and Exchange Commission on corporate governance and self-dealing, and at Credit Suisse First Boston and the Lex Mundi International Conference in Rome on asbestos liability, particularly in the context of mergers and divestitures. He has also taught CLE courses on damages at various law firms.

Mr. Sacks received his B.A. in mathematical economics from Columbia University and his M.A. in economics from the University of Chicago. At the University of Chicago he has also passed all of the exams and completed all of the coursework required for a Ph.D.

AREAS OF EXPERTISE

- International Arbitration
- Finance, Valuation & Securities Analysis
- Commercial Damages & Lost Profits
- Statistical Analysis

EXPERIENCE

International Arbitration

- Consulting expert in ICC arbitration involving construction of oil platforms in Brazil.
- Consulting expert in ICDR arbitration involving allegations of breach of contract, theft of trade secrets and tortious interference in the telecom / mobile applications industry.

- Consulting expert on behalf of foreign investors in a Uranium mine located in the former Soviet Union (London Court of International Arbitration).
- Consulting expert for private equity investors in a Korean bank (Bilateral Investment Treaty, ICSID)
- Consulting expert on behalf of the Russian Federation in three parallel arbitrations under UNCITRAL Rules in The Hague brought by former majority shareholders of Yukos Oil Company. The claims allege unfair treatment and expropriation in violation of the investment provisions of the Energy Charter Treaty.
- Valuation of mining concessions in Latin America (Bilateral Investment Treaty heard under UNICTRAL rules, Permanent Court of Arbitration).
- Valuation of oil transshipment facility in Commonwealth of Independent States (London Court of International Arbitration).
- Valuation of an investment bank in the Commonwealth of Independent States (former Soviet Union).
- Lost profits and hypothetical licensing fee involving a Chinese chemical company (Bilateral Investment Treaty Dispute, Stockholm Chamber of Commerce).
- Valuations of shares in publically traded oil Russian company (Bilateral Investment Treaty Dispute, Stockholm Chamber of Commerce).
- Valuation of firm assets and lost profits of a Russian oil company (European Court of Human Rights).
- Valuation of shares in a Russian oil company (Bilateral Investment Treaty Dispute, Stockholm Chamber of Commerce).

Finance and Valuation

- State ex rel. McGraw v. Wells Fargo Insurance Services of West Virginia Inc, Circuit Court of Hancock County, West Virginia, Civil Action No. 05-C-115. Expert witness regarding damages from contingent commissions offered to insurance broker.
- Assured Guaranty (UK) LTD., in its own right and in the right of Orkney Re II PLC, v. J.P. Morgan Investment Management Inc, Index No. 603755/2008, Consulting expert. Portfolio management standards and damages from alleged lack of suitability of investments.
- Ambac Assurance UK LTD., in the name of Ballantyne Re PLC, v. v. J.P. Morgan Investment Management Inc, Index No. 650259/2009, Consulting expert. Portfolio management standards and damages from alleged lack of suitability of investments.

- National Credit Union Administration Board, as Liquidating Agent of Southwest Corporate Federal Credit Union and Members United Corporate Federal Credit Union, v. Credit Suisse Securities (USA) LLC, Credit Suisse First Boston Mortgage Securities Corp., Case No. 13-CV-6736 (DLC), Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- National Credit Union Administration Board, as Liquidating Agent of Southwest Corporate Federal Credit Union and Members United Corporate Federal Credit Union, v. UBS Securities LLC, Case No. 13-CV-6731 (DLC). Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- U.S. Securities and Exchange Commission v. Richard F. Syron, Patricia L. Cook and Donald J. Bisenius, Civil Action No 11-CV-9201 (RJS). Testifying expert. Quantitative analysis of the loans in Freddie Mac's single family guarantee portfolio, loans underlying non-agency mortgage-backed securities, analysis of various Freddie Mac models.
- Federal Home Loan Bank of Seattle v. Goldman Sachs & Co, et al., Case No. 09-2-46349-2 SEA. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- Federal Home Loan Bank of Seattle v. RBS Securities Inc., f/k/a Greenwich Capital Markets, Inc., et al., Case No. 09-2-46347-6 SEA. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities
- Federal Home Loan Bank of Seattle v. Bank of America securities LLC, et al., Case No. 09-2-46319-1 SEA. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- Federal Home Loan Bank of Seattle v. Merrill Lynch, Pierce, Fenner & Smith, Inc. et al., Case No. 09-2-46352-2 SEA. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- Federal Home Loan Bank of Seattle v. Morgan Stanley & Co, Inc., et al., Case No. 09-2-46348-1 SEA. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- Federal Home Loan Bank of Seattle v. Credit Suisse Securities USA LLC, et al., Case No. 09-2-46353-1 SEA. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.

- In Re: Countrywide Financial Corp. Mortgage-Backed Securities Litigation, MDL No. 11-ML-02265-MRP (MANx), Federal Deposit Insurance Corporation As Receiver For Franklin Bank v. Countrywide Financial Corp., et al., Case No. 12-CV-03279-MRP (MANx). Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- In Re: Countrywide Financial Corp. Mortgage-Backed Securities Litigation, MDL No. 11-ML-02265-MRP (MANx), Federal Deposit Insurance Corporation As Receiver For United Western Bank v. Countrywide Financial Corp., et al., Case No. 11-CV-10400-MRP (MANx). Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- The Western and Southern Life Insurance Company, et al. Plaintiffs, v. DLJ Mortgage Capital, Inc., et al., Defendants, Court of Common Pleas, Hamilton County, Ohio, Case No. A05352. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- National Integrity Life Insurance Company, Plaintiff v. Countrywide Financial Corp. et al, Defendants, United States District Court for the Southern District of new York, case No 11-CIV-8011. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- The Western and Southern Life Insurance Company, et al. Plaintiffs, v. Morgan Stanley Mortgage Capital, Inc., et al., Defendants, Court of Common Pleas, Hamilton County, Ohio, Case No. A1105563. Consulting expert. Statistical analysis of due diligence and underwriting regarding residential mortgages and mortgage backed securities.
- Curbow Family LLC v. Morgan Stanley Investment Advisors Inc., Index No. 651059/2010 (Sup. Ct. NY) and Rotz v. Van Kampen Asset Management, Index No. 651060/2010 (Sup. Ct. NY). Expert witness regarding damages stemming from the redemption of Auction Rate Preferred Securities.
- Navy Federal Credit Union v. Fiserv Solutions and XL Specialty Insurance Company, Index No. 09-601217-2009. Expert witness. Statistical analysis of automated valuation model usage.
- Howard M. Ehrenberg, Chapter 7 Trustee for the Estate of Ruderman Capital Partners, LLC v. Kevin L. Washington, James King and Knight Capital Group, et al., Superior Court of the State of California for the County of Orange, Case No. 30-2011 00450602. Expert witness. Statistical analysis of trading patterns in an alleged pump and dump scheme.
- ACS Shareholder Litigation, Delaware Court of Chancery, Consolidated C.A. No. 4940-VCP. Expert witness on differential merger consideration offered to different classes of stock in a merger.

- Teachers Retirement System of Louisiana v. Maurice R. Greenberg, Edward E. Matthews, Howard I. Smith, Thomas R. Tizzio, and C. V. Starr & Co. Inc, Delaware Court of Chancery, C.A. No 20106-VCS. Expert witness on economic evaluation of entire fairness.
- Delphi Financial Group Shareholder Litigation, Delaware Court of Chancery, Consolidated C.A. No. 7144-VCG. Expert witness on differential merger consideration offered to different classes of stock in a merger.
- Coleman (Parent) Holdings, Inc. v. Morgan Stanley & Co. Incorporated, Palm Beach County, Florida, Case No. 2003 CA 005045 AI. Economic and financial analysis of damages.
- Expert witness on lost profits and lost business value due to fraud (Chinese drywall). Matter is confidential.
- Consulting expert on impact of ratings downgrade and loss of reputation for Saudi real estate firm.
- Consulting expert on the impact of alleged non-disclosure of material information on the sale price of European pharmaceutical subdivision. Matter is confidential.
- Consulting expert on valuation of oil rigs. Matter is confidential.
- Evaluation of economic content in multiple alleged tax-shelter transactions.
- Estimation of the value of residual value of auto leases with claimed losses totaling more than \$500 million for a coalition of insurance carriers.

Damages and Lost Profits

- United States of America, ex rel., Michael Saunders, v. Unisys, Inc., United States District Court for the Eastern District of Virginia, Alexandria Division, Civil Action No 1:12 CV 379 GBL/TCB. Expert witness on damages from alleged billing fraud on a government contract.
- Wolfson-Verrichia Group, et al., v. Metro Commercial Real Estate, Inc., et al., United States District Court for the Eastern District of Pennsylvania, No. 08-CV-4997. Expert witness on damages, retail shopping center development and anchor site selection.
- Eastbanc, Inc. v. Georgetown Park Associates II Limited Partnership, Georgetown Park Partners, LLC, and Herbert S. Miller, Superior Court of the District of Columbia, 2006 CA 002291 B. Expert witness on lost profits from failure / delay in developing a retail mall.
- Norfolk Southern Railway Company v. Drummond Coal Sales, Inc., U.S. District Court, Western District of Virginia. Civil Action No. 7:08CV00340. Consulting Expert.

- PBM Products LLC v. Mead Johnson Nutrition Company and Mead Johnson & Company, Eastern District of Virginia, C.A. No. 3:09CV269. Consulting expert on lost profits from false advertising.
- National Railroad Passenger Corporation vs. ExpressTrak, LLC, United States District Court for the District of Columbia, Index No. 02-CV-1773. Consulting expert on lost profits and operational performance.
- Consulting expert on damages due to infringement of database security patents. Matter is confidential.
- Expert witness on compensable costs in multiple FIFRA data compensation arbitrations.
- Expert opinion on reasonable costs in PW 5672, Harrison County fee dispute with FEMA.
- Expert witness on liability and damages in a confidential arbitration (three judge panel AAA arbitration proceedings) regarding breach of contract.
- Modeled damages in a breach-of-contract dispute for a large supermarket chain.

Mass Tort and Environmental Liability

- W.R. Grace & Co., et. al., United States District Court for the District of Delaware, Case Nos. 11-1139 through 01-1200. Estimation of foreseeable contingent liability for Sealed Air.
- Estimation of asbestos liability for a large asbestos-product manufacturing firm in a fraudulent conveyance matter.
- Estimation of silica-related liability for a major auto parts manufacturer.
- Financial reporting requirements, insurance and access to capital markets for several major companies with asbestos liability, including a large asbestos defendant, a \$15 billion (sales) manufacturer, and a \$4 billion (sales) manufacturer.
- Kaiser Aluminum Corporation, United States Bankruptcy for the District of Delaware, Case No: 02-10429. Estimation of asbestos liability on behalf of official committee of unsecured creditors.
- Directed due diligence on asbestos liability issues for multiple M&A transactions ranging from \$50 million to \$7 billion in value.
- Porter-Hayden Company, United States Bankruptcy for the District of Maryland, Case No: 02-54152 and related insurance coverage litigation. Estimation of asbestos liability for a major insurance carrier.
- Owens Corning, a Delaware Corporation, United States Bankruptcy for the District of Delaware, Case No: 00-03837 and related insurance coverage litigation. Estimation of asbestos liability for coalition of insurance carriers.

- Estimation of asbestos liability for a major insurance carrier on asbestos liability in the Western MacArthur Bankruptcy.
- The Babcock and Wilcox Company, Diamond Power International, Inc., Babcock and Wilcox Construction Company, Inc., Americon Inc., United States Bankruptcy Court, Eastern District of Louisiana, New Orleans, Case No: 00-10992. Estimation of asbestos liability on behalf of insurance carriers.
- Plibrico Company and David Gerity, United States Bankruptcy for the Northern District of Illinois, Case No: 02-BK-09952 and related insurance coverage litigation. Estimation of asbestos liability for a major insurance carrier.
- Armstrong World Industries, Inc., United States Bankruptcy for the District of Delaware, Case No: 00-04471 and related insurance coverage litigation. Estimation of asbestos liability for a major insurance carrier.
- Estimation of asbestos liability for insurance buy-out and coverage acquisition negotiation support for a \$15 billion (sales) manufacturer, CSX, a \$4 billion (sales) manufacturer, and a \$2 billion (sales) chemical company.
- Armstrong World Industries, Inc., United States Bankruptcy for the District of Delaware, Case No: 00-04471 and related insurance coverage litigation. Estimation of asbestos liability for a major insurance carrier.

Other

- United States of America, Plaintiff and Texas League of Young Voters Education Fund; and Imani Clark, Plaintiff-Intervenors v. State of Texas, et al., United States District Court for the Southern District of Texas Corpus Christi Division, Civ. No. 2:13-vc-00263. Consulting expert supporting Dr. Coleman Bazelon on behalf of the NAACP Legal Defense Fund in Texas voter ID litigation.
- Consulting expert on matter involving claims under Section 1 and 2 of the Sherman Act.
- Developed a method, which was accepted by a regulatory agency, for monitoring the regulatory compliance of a large telecommunications company.
- Supported expert analysis and report in multiple '337 proceedings before the ITC

ACADEMIC PAPERS

- Sacks, B.A., J.V. Hotz, C. Mulligan, and A. Zellner: "Three Essays on Bayesian Methods for Analyzing Limited Dependent Variable and Multinomial Choice Models with Measurement Error and Missing Data."
- Sacks, B.A., and A. Zellner: "Bayesian Method of Moments (BMOM) Analysis of the Multiple Regression Model with Autocorrelated Errors." Presented paper at the 1996 summer conference of the International Society for Bayesian Analysis.

PRESENTATIONS

- Seminar on DCF valuation presented to Debevoise and Plimpton, New York City, March 19, 2015.
- CLE Presentation "Lessons for Attorneys from Damages War-Stories" at WilmerHale, Washington, D.C., June 22, 2011, Venable, Washington, D.C., October 18, 2011, Kramer Levin Naftalis & Frankel, New York City, November 10, 2011, White & Case, Washington, D.C., November 15, 2011, Cadwalader Wickersham & Taft, New York City, November 17, 2011; Dilworth Paxson, Philadelphia, November 30, 2011; Baker Botts, Washington, D.C., December 19, 2011; ~~Bernstein-Litowitz Berger & Grossmann, New York City, February 16, 2012;~~ New York County Lawyers Association, February 28, 2012; Cleary Gottlieb Steen & Hamilton, Washington, D.C., June 6, 2013; Day Pitney, Newark, NJ, December 6, 2013.
- Securities and Exchange Commission, Washington, D.C., June 17, 2010. Presented on corporate governance and self-dealing.
- Lex Mundi Conference, Rome, Italy, March 5, 2004. Presented "Economic experts and asbestos liability."
- Asbestos Alliance Teach-In (joint with Jefferies & Company, Inc., and Sonnenschein Nath and Rosenthal), via teleconference, December 16, 2002. Lecturer.
- Credit Suisse First Boston, New York, New York, April 2001. Presented "Asbestos liability and M&A and divestitures."

TESTIMONY and REPORTS

- United States of America, ex rel., Michael Saunders, v. Unisys, Inc., United States District Court for the Eastern District of Virginia, Alexandria Division, Civil Action No 1:12 CV 379 GBL/TCB. Expert report on damages. July 2014, September 2014; Deposition September 2014.
- Curbow Family LLC v. Morgan Stanley Investment Advisors Inc., Index No. 651059/2010 (Sup. Ct. NY) and Rotz v. Van Kampen Asset Management, Index No. 651060/2010 (Sup. Ct. NY). Expert report in support of Plaintiff's opposition to a motion for summary judgment, September 2012.
- Howard M. Ehrenberg, Chapter 7 Trustee for the Estate of Ruderman Capital Partners, LLC v. Kevin L. Washington, James King and Knight Capital Group, et al., Superior Court of the State of California for the County of Orange, Case No. 30-2011 00450602. Declaration filed in support of defendant's motion for summary judgment or adjudication of claims, July 2012.

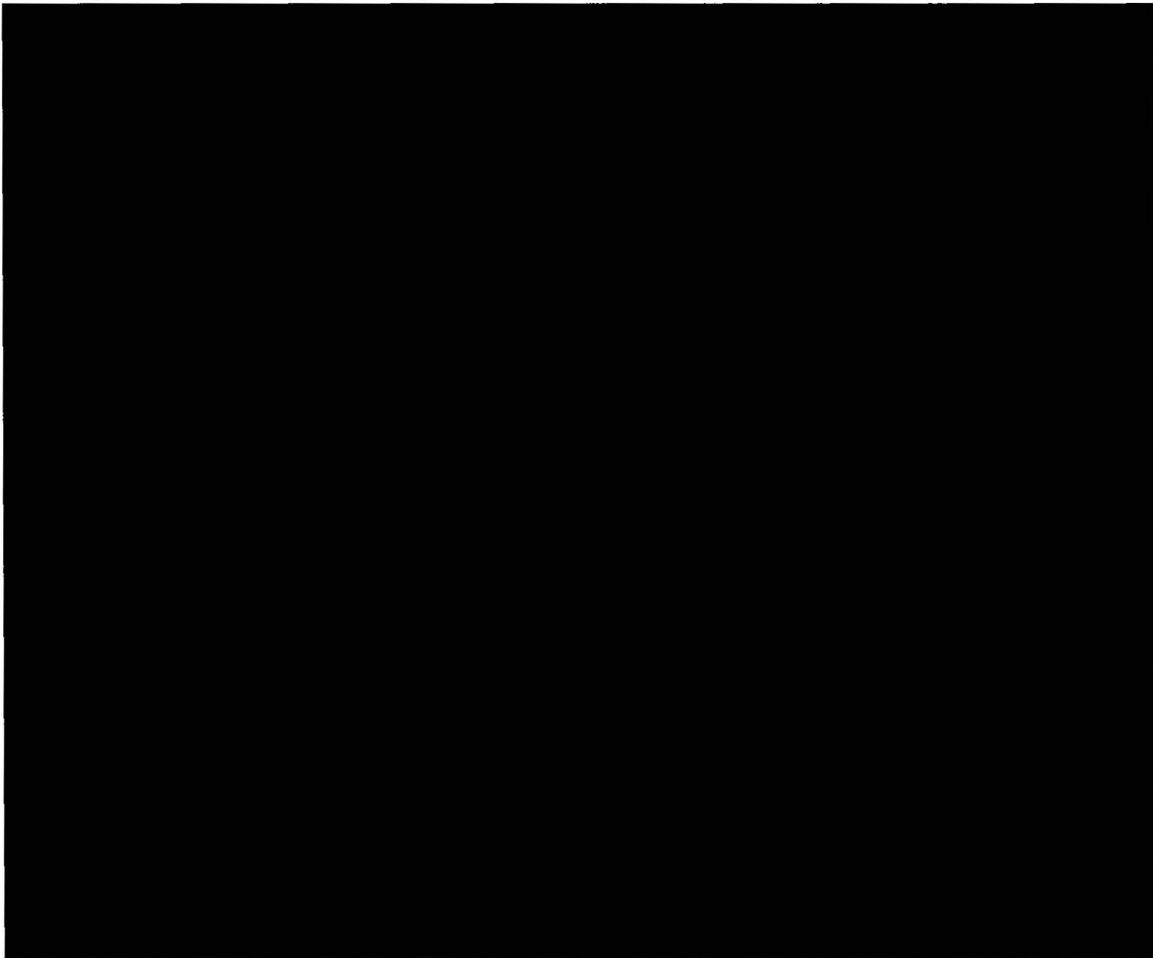
- In re Delphi Financial Group Shareholder Litigation, Delaware Court of Chancery, Consolidated C.A. No. 7144-VCG. Expert report and deposition, February 2012.
- Wolfson-Verrichia Group, et al., v. Metro Commercial Real Estate, Inc., et al., United States District Court for the Eastern District of Pennsylvania, No. 08-CV-4997. Expert report October 2011, deposition November 2011.
- FIFRA data compensation matter, Testified at arbitration November 2010, Summary of Expert Opinions disclosed October 2010.
- Eastbanc, Inc. and Anthony M. Lanier v. Georgetown Park Associates II Limited Partnership, et al., Superior Court of the District of Columbia, 2006 CA 002291 B. Supplemental Expert Statement and Rule 26(b)(4) Statement filed October 2010, deposition December 2008, Rule 26(b)(4) Statement filed October 2008.
- Navy Federal Credit Union v. Fiserv Solutions and XL Specialty Insurance Company, Index No. 09-601217-2009. Affidavit Of Benjamin Sacks in Support of Plaintiff Navy Federal Credit Union's Motion for Partial Summary Judgment filed October 2010, Expert Witness Disclosure filed pursuant to New York State CPLR § 3101(d) filed September 2010.
- In re ACS Shareholder Litigation, Delaware Court of Chancery, Consolidated C.A. No. 4940-VCP. Deposition April 2010, Expert reports March and April 2010.
- FIFRA data compensation arbitration: Summary of Expert Opinions disclosed in August 2009.
- Teachers Retirement System of Louisiana v. Maurice R. Greenberg, Edward E. Matthews, Howard I. Smith, Thomas R. Tizzio, and C. V. Starr & Co. Inc, Delaware Court of Chancery, C.A. No 20106-VCS. Deposition June 2008, Expert reports January and May 2008.
- Provided expert written opinion in PW 5672, Harrison County fee dispute with FEMA regarding reasonable costs. July 2007.
- Testimony before a three judge panel in AAA arbitration proceedings in a breach of contract matter. October 2006.

Appendix B: Relation of All Stations OTP to HRD for Amtrak Routes

B.1 LINCOLN AND TEXAS EAGLE ROUTES

58. The relationship between HRD/10K and All Stations OTP is straightforward to analyze for the Amtrak Routes that did not have permanent schedule changes during the Analysis Timeframe, such as the City of New Orleans, Lincoln, and Texas Eagle routes. Temporary schedule changes due to track work on these routes (and the other routes) are listed in Figure 27, Figure 28, and Figure 29. Figure 13 shows this relationship for the Lincoln route, and Figure 14 shows this relationship for the Texas Eagle route. The interpretation of the data points and the lines of best fit in those graphs are identical to the interpretation that were given in Figure 3, which showed the relationship for the City of New Orleans route. Detailed regression results are provided in Appendix C.





B.2 BLUE WATER

59. There were two permanent schedule changes on the Blue Water route—September 2012 and March 2013. I divide the Analysis Timeframe for the Blue Water route into three periods, A, B, and C corresponding to before September 2012, September 2012 to March 2013, and after March 2013 respectively. I test if the relationship between HRD/10K and All Stations OTP is different in various combinations of these periods, with results shown in Figure 15.

Figure 15: Tests for the Effect of Permanent Schedule Changes in the Blue Water Route³⁰

Schedule Change Periods	F-Stat	P-Value
A Period vs. B Period	2.49	0.1168
A Period vs. (B and C Periods)	20.72	< 0.001
B Period vs. C Period	1.90	0.1764
(A and B Periods) vs. C Period	20.87	< 0.001

Source: Analysis of Amtrak Data

Notes:

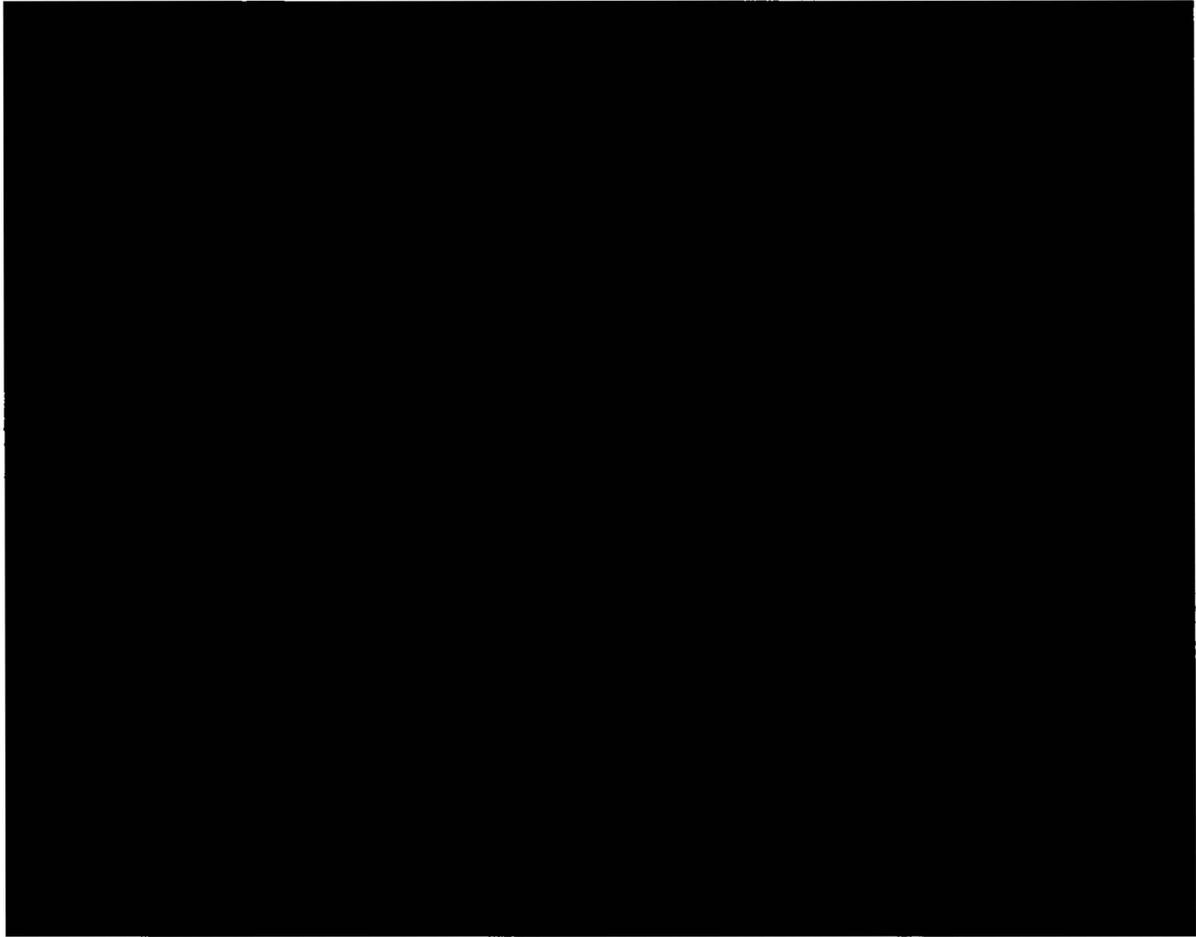
A Period = Before September 2012

B Period = After September 2012, Before March 2013

C Period = After March 2013

60. These results show that the B Period is too short to reliably determine if the relationship between HRD/10K and All Stations OTP is the same in B as it is in A or C. They also show that the A Period is different than the B and C Periods combined, and that the C Period is different than the A and B Periods combined. I use the B and C Periods combined for the 80% Point regression, which is conservative in that it results in an 80% Point that is higher than using C alone, as shown in Figure 16.

³⁰ I test the joint null hypothesis that the regression parameters are unchanged between regressions using data from the time periods indicated.



B.3 WOLVERINE

61. There were two permanent schedule changes on the Wolverine—September 2012 and October 2014. I divide the Analysis Timeframe for the Wolverine route into three periods, A, B, and C corresponding to before September 2012, September 2012 to October 2014, and after October 2014 respectively. I test if the relationship between HRD/10K and All Stations OTP is different in various combinations of these periods, with results shown in Figure 17.

Figure 17: Tests for the Effect of Permanent Schedule Changes in the Wolverine Route³¹

Schedule Change Periods	F-Stat	P-Value
A Period vs. B Period	6.17	0.0075
A Period vs. (B and C Periods)	5.62	0.0091
B Period vs. C Period	0.93	0.4148
{A and B Periods} vs. C Period	0.17	0.8450

Source: Analysis of Amtrak Data

Notes:

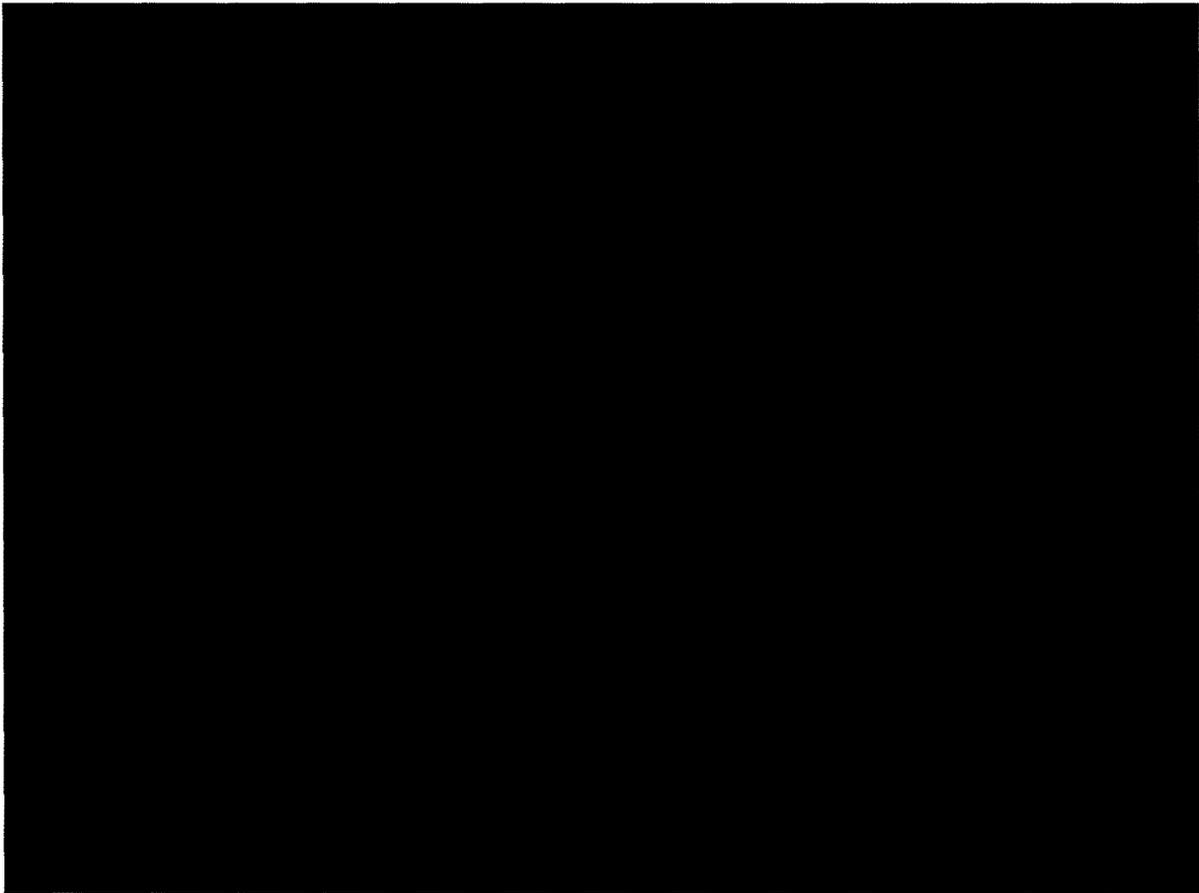
A Period = Before September 2012

B Period = After September 2012, Before October 2014

C Period = After October 2014

62. These results show that the A Period is significantly different from both the B Period and the B and C Periods combined, but that the C Period is not significantly different than the B Period. I therefore use the B and C Periods to calculate the 80% Point, as shown in Figure 18.

³¹ I test the joint null hypothesis that the regression parameters are unchanged between regressions using data from the time periods indicated.



B.4 ILLINI/SALUKI

63. There were two permanent schedule changes on the Illini/Saluki route—November 2011 and August 2013. I divide the Analysis Timeframe for the Illini/Saluki route into three periods, A, B, and C corresponding to before November 2011, after November 2011 but before August 2013, and after August 2013 respectively. None of these schedule changes significantly altered the relationship between HRD/10K and All Stations OTP, as shown in Figure 19.

Figure 19: Tests for the Effect of Permanent Schedule Changes in the Illini/Saluki Route³²

Schedule Change Periods	F-Stat	P-Value
A Period vs. B Period	0.11	0.8963
A Period vs. (B and C Periods)	0.23	0.7968
B Period vs. C Period	1.02	0.3713
(A and B Periods) vs. C Period	0.94	0.3989

Source: Analysis of Amtrak Data

Notes:

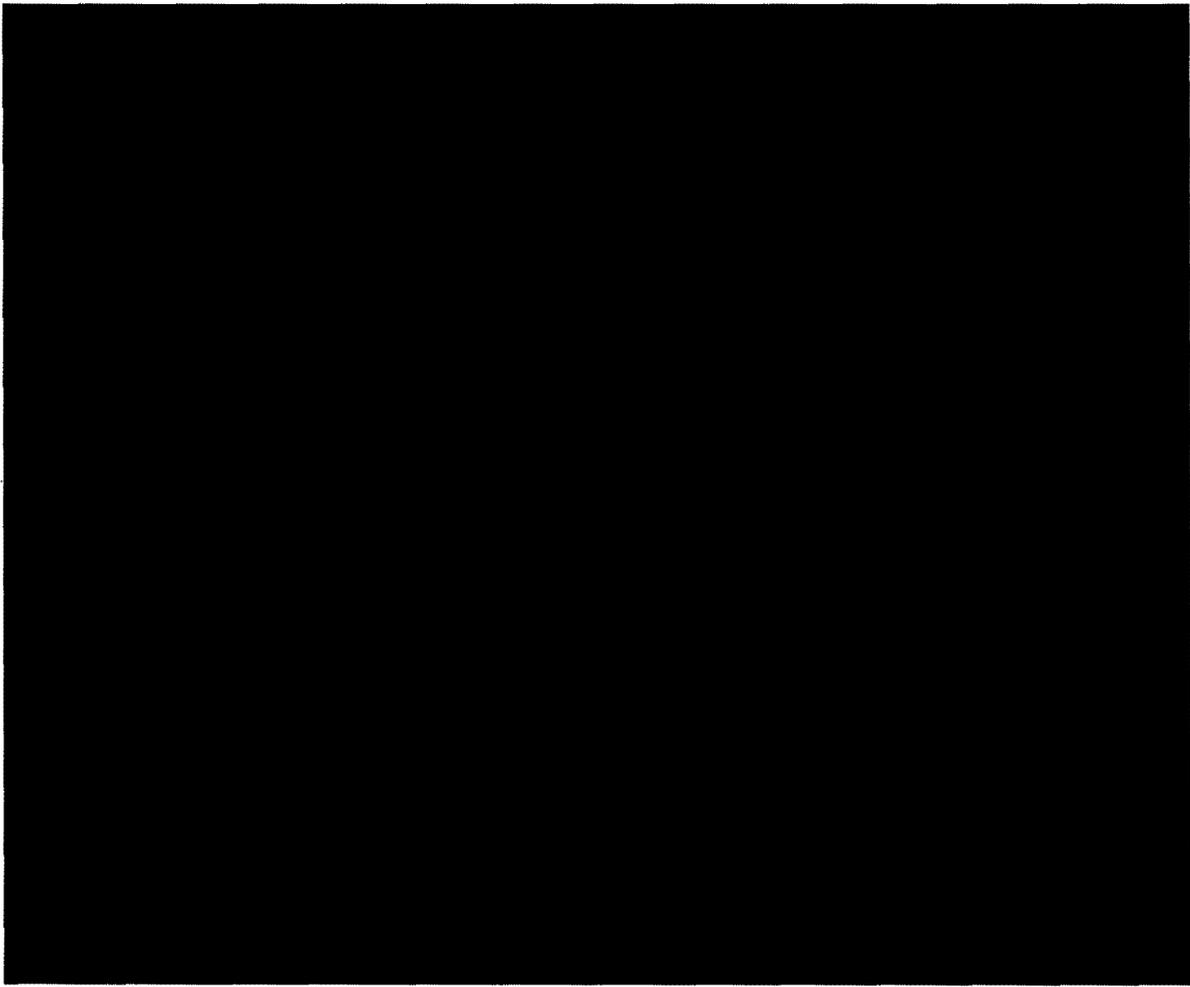
A Period = Before November 2011

B Period = After November 2011, Before August 2013

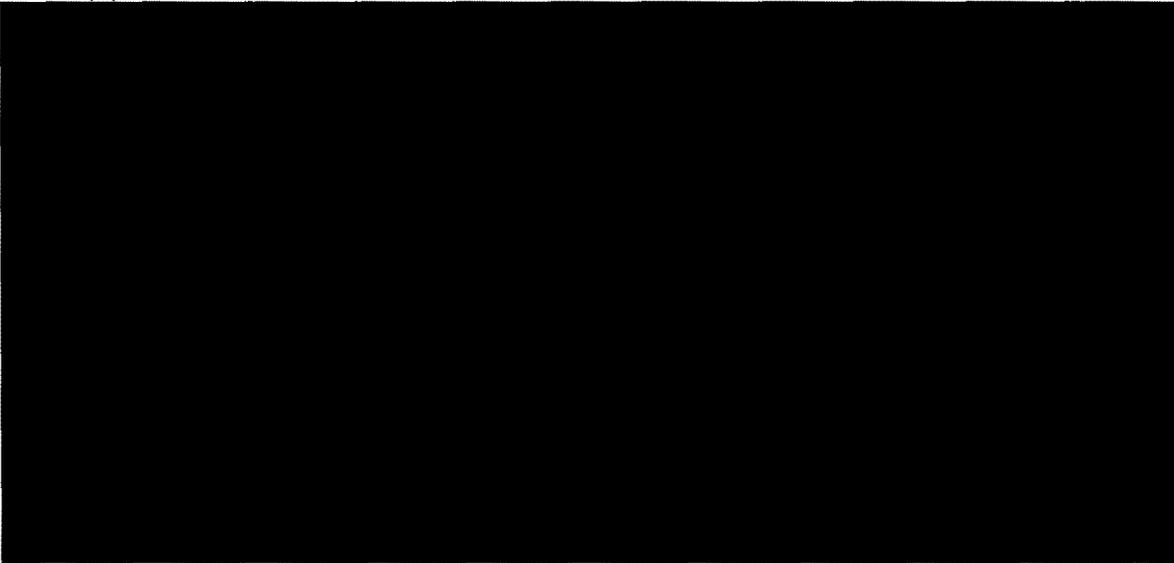
C Period = After August 2013

64. Since there were no statistically significant changes in the regression relationship, I use data for the entire Analysis Timeframe in my calculation of the 80% Point for the Illini/Saluki route, as shown in Figure 20.

³² I test the joint null hypothesis that the regression parameters are unchanged between regressions using data from the time periods indicated.



Appendix C: Detailed Regression Results



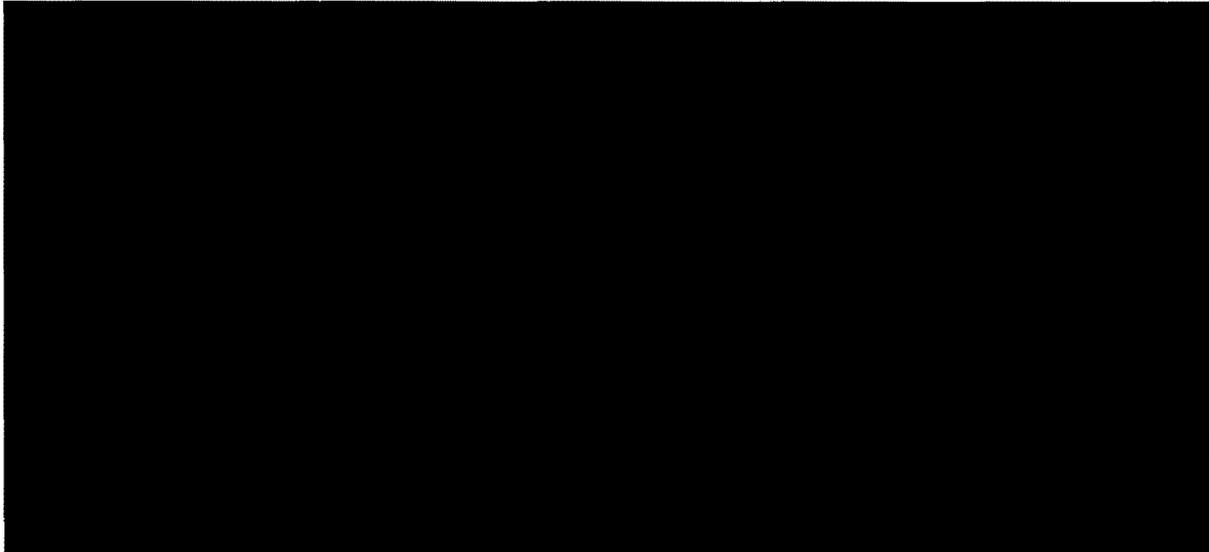
65. I have verified that these results are not due to potential outliers in addition to those that I had already dropped, as shown in Figure 22.



66. I have also verified that excluding the outliers with high HRD on the Amtrak Routes results in higher 80% Points, as shown below. Thus, excluding these outliers result in more conservative 80% Points, and therefore smaller penalty payments.

³³ I report normal t-stats. I have verified that heteroskedastic-consistent t-stats are also significant.

³⁴ Robust regression performed using the "rreg" command in STATA.

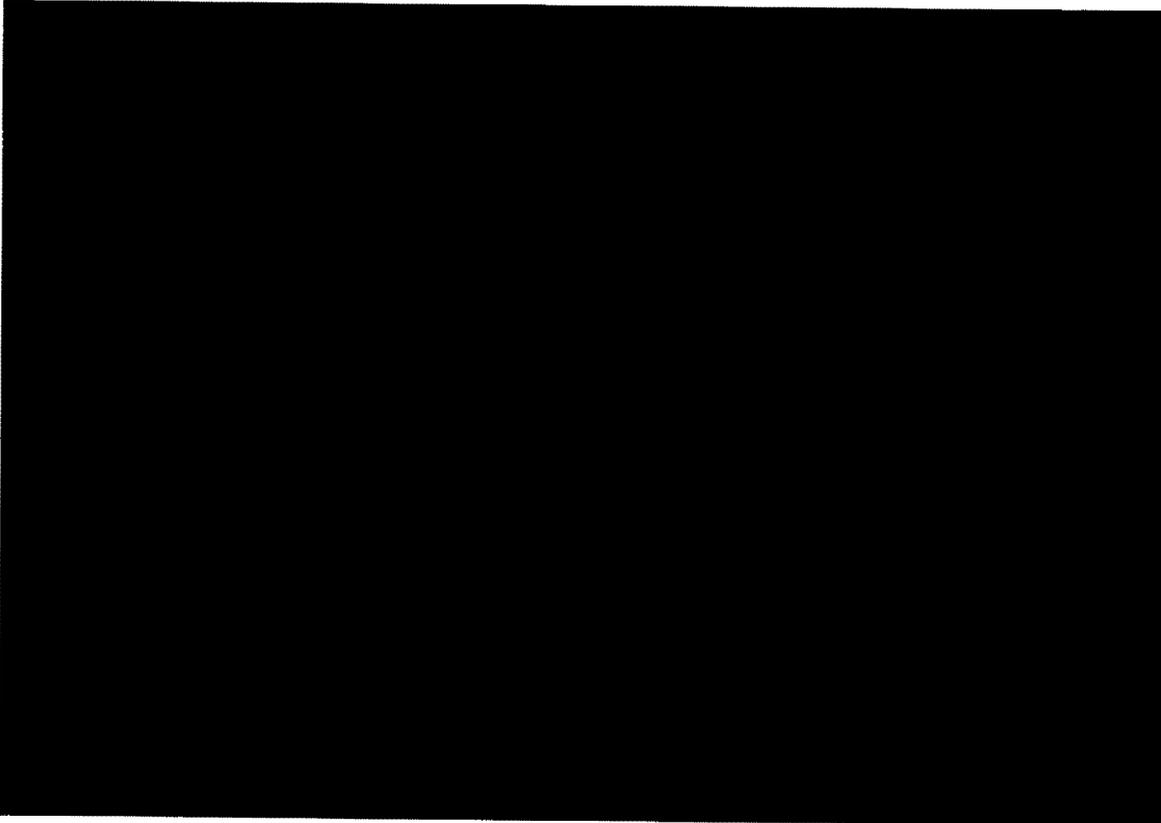


67. I have also verified that including all other delays (i.e., non-HRD delays) as an additional independent variable in the regression does not substantially change the regression results for the impact of HRD/10K on All Stations OTP. I have also verified that the 80% Points calculated based on a regression including all other delays are either substantially the same as, or in one case substantially lower than, the 80% Points from the regressions without that additional variable. In my opinion, the best analysis for purposes of the Penalty System is not to include all other delays in the regression.

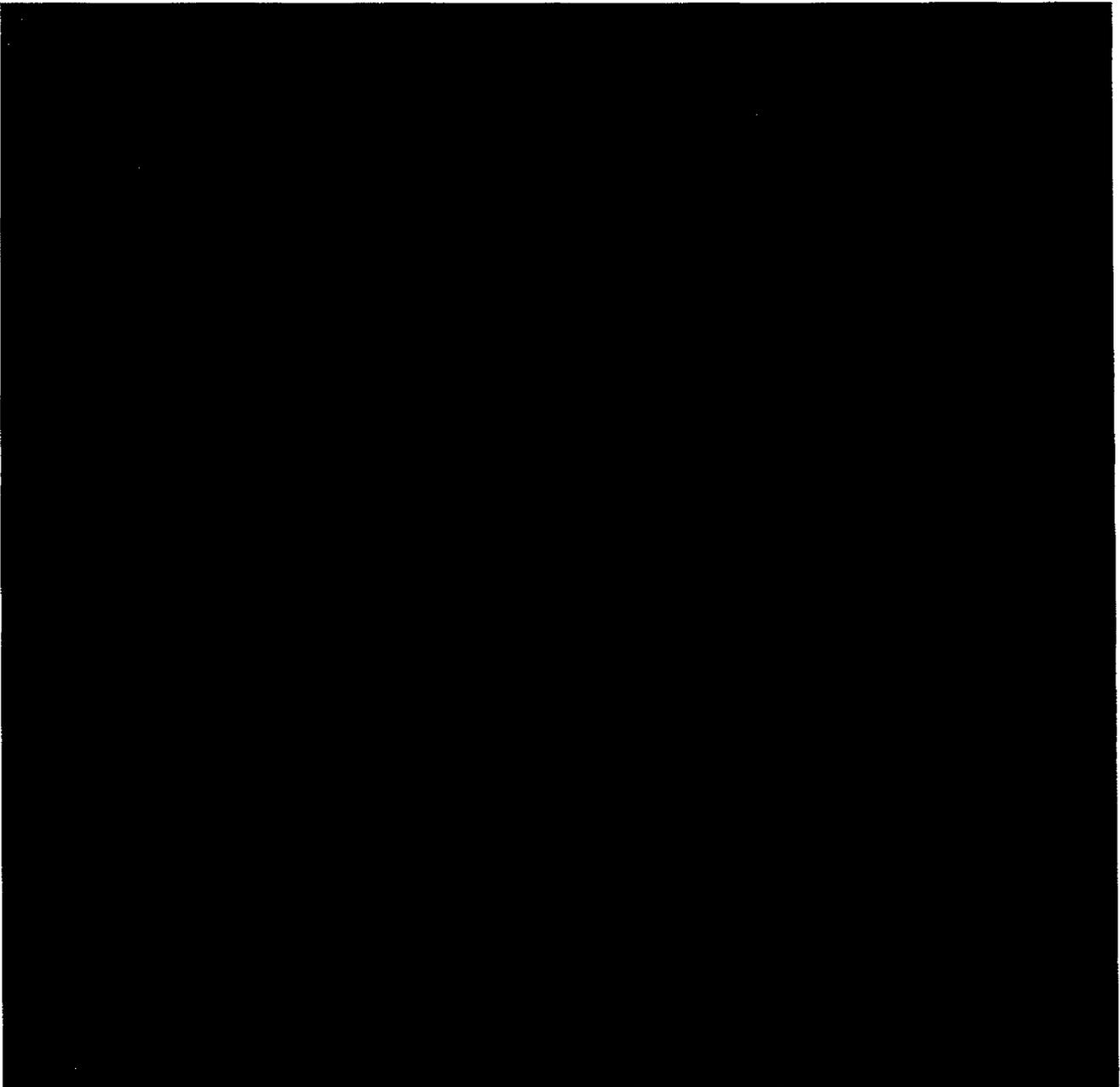
³⁵ These are only the outliers that appear in the time periods selected for the calculation of the 80% Points for each Amtrak Route after analyzing schedule changes. There were two months on the Wolverine route with at least 2,400 HRD in the A Period, but this period was not used in calculating the Wolverine's 80% Point.

Appendix D: Sensitivity Tests for the Time Period for the 2013 Level of Service

68. Figure 24 shows the Penalty Rates resulting from four alternative assumptions that could define CN's 2013 Level of Service: February to April 2013 inclusive (the current assumption) or February to May, June or July 2013 inclusive (the alternative assumptions), as well as their derivation. A positive percentage in rows [10] through [12] indicates that Penalty Rates would go up if I assumed one of the alternatives instead of February to April.



69. There is little change on the Blue Water, City of New Orleans or Lincoln routes. The only significant negative change is on the Texas Eagle. Amtrak trains run relatively few miles on CN track on this Route, so the impact of this change on CN's total penalties would be small. Penalties on Illini/Saluki and Wolverine would increase substantially. Both of these Routes have far more CN Train Miles than the Texas Eagle, and the Illini/Saluki accounts for a large fraction of total CN Train Miles, so the impact of this change would be material. Overall, the net effect on CN from switching to the alternative assumptions would be to increase total penalties, so my use of the February–April assumption is conservative.



Appendix F: Data Received

71. I received datasets from Amtrak covering the Analysis Timeframe containing the information used in my analysis. I describe each below.
72. The Delay Report Dataset contained information on delays recorded in the eDRs.
73. The Arrival Against Schedule Dataset contained data on the minutes each train was off-schedule at each station on each Amtrak Route (with a negative value indicating early arrival and a positive value indicating late arrival) for each trip of the 24 Amtrak Trains on the Amtrak Routes. This dataset covered the trains and routes shown in Figure 26.

Figure 26: Train Numbers and Amtrak Routes Analyzed

Train Number	Amtrak Route
21	Texas Eagle
22	Texas Eagle
58	City of New Orleans
59	City of New Orleans
300	Lincoln
301	Lincoln
302	Lincoln
303	Lincoln
304	Lincoln
305	Lincoln
306	Lincoln
307	Lincoln
350	Wolverine
351	Wolverine
352	Wolverine
353	Wolverine
354	Wolverine
355	Wolverine
364	Blue Water
365	Blue Water
390	Illini/Saluki
391	Illini/Saluki
392	Illini/Saluki
393	Illini/Saluki

Source: Provided by Amtrak

74. The Train Miles Dataset contained information on the miles each Amtrak Train traveled on each day during the Analysis Timeframe.
75. Temporary schedule changes and dates of associated track work are listed in Figure 27, Figure 28, and Figure 29. These dates are extracted from "Track Work Advisories" that I received from Amtrak that cover the Amtrak Routes during the Analysis Timeframe.³⁶

³⁶ The dates of the track work can be found in each advisory and the year of the track work can be inferred using the "issue date" at the top of the advisory. There was one advisory for track work on the Blue Water route on July 18-19 in which this was not the case. The issue date on the advisory was in 2010, suggesting that the track work dates were July 18-19, 2010. However, conversations with Amtrak revealed that this advisory was recycled and the issue date was not changed. The actual dates of the track work were July 18-19, 2011.

Figure 27: Temporary Schedule Changes Due to Track Work on Lincoln and Texas Eagle Routes

Route(s) Affected	Origin Date(s) Affected
Lincoln & Texas Eagle	July 1-8, 2011
Lincoln	July 9, 2011
Texas Eagle	July 15, 2011
Lincoln & Texas Eagle	July 16-24, 2011
Lincoln	July 25, 2011
Texas Eagle	August 20, 2011
Lincoln & Texas Eagle	August 21-23, 2011
Lincoln	August 24, 2011
Texas Eagle	April 15, 2012
Lincoln & Texas Eagle	April 16-24, 2012
Lincoln	April 25, 2012
Texas Eagle	April 30, 2012
Lincoln & Texas Eagle	May 1-9, 2012
Lincoln	May 10, 2012
Texas Eagle	May 15, 2012
Lincoln & Texas Eagle	May 16-24, 2012
Lincoln	May 25, 2012
Texas Eagle	August 15, 2013
Lincoln & Texas Eagle	August 16-23, 2013
Texas Eagle	September 15, 2013
Lincoln & Texas Eagle	September 16-22, 2013
Lincoln	September 23, 2013
Texas Eagle	October 14, 2013 - November 22, 2013
Texas Eagle	October 15, 2013
Lincoln & Texas Eagle	October 16-23, 2013
Lincoln	October 24, 2013
Texas Eagle	April 7-10, 2014
Texas Eagle	April 26-29, 2014
Texas Eagle	May 11-14, 2014
Texas Eagle	May 18-21, 2014
Texas Eagle	May 25-27, 2014
Texas Eagle	July 3, 2014 - September 2, 2014
Lincoln & Texas Eagle	July 20, 2014
Lincoln	July 21, 2014
Texas Eagle	August 3, 2014
Lincoln	August 4, 2014
Lincoln	August 17-19, 2014
Lincoln	September 16-24, 2014
Lincoln	September 30, 2014 - October 10, 2014
Lincoln	October 16-24, 2014
Lincoln & Texas Eagle	November 16-17, 2014
Lincoln	November 18, 2014
Texas Eagle	March 17, 2015
Lincoln & Texas Eagle	March 18-21, 2015
Lincoln & Texas Eagle	April 3-6, 2015
Texas Eagle	April 16, 2015
Lincoln & Texas Eagle	April 17-20, 2015
Texas Eagle	May 16, 2015
Lincoln & Texas Eagle	May 17, 2015
Lincoln & Texas Eagle	June 17-22, 2015

Source: Amtrak Track Work Advisories

Figure 28: Temporary Schedule Changes Due to Track Work on Illini/Saluki Route

Route(s) Affected	Origin Date(s) Affected
Illini/Saluki	September 10-14, 2012
Illini/Saluki	August 12, 2014
Illini/Saluki	December 15, 2014
Illini/Saluki	April 6-15, 2015
Illini/Saluki	April 20-22, 2015

Source: Amtrak Track Work Advisories

Figure 29: Temporary Schedule Changes Due to Track Work on Wolverine and Blue Water Routes

Route(s) Affected	Origin Date(s) Affected
Blue Water	July 18-19, 2011
Wolverine	August 18, 2011
Wolverine	August 22-25, 2011
Wolverine	August 29, 2011 - September 1, 2011
Wolverine	September 6-7, 2011
Wolverine	September 12-15, 2011
Wolverine	December 9, 2011
Wolverine & Blue Water	December 10, 2011
Wolverine & Blue Water	April 16-19, 2012
Wolverine	April 23-26, 2012
Wolverine & Blue Water	April 8, 2013
Wolverine	September 9-12, 2013
Wolverine	September 16-19, 2013
Wolverine	September 23-26, 2013
Wolverine	September 30, 2013 - October 3, 2013
Wolverine	October 7-10, 2013
Wolverine	October 14-17, 2013
Wolverine	October 21-24, 2013
Wolverine	October 28-31, 2013
Wolverine	November 4-7, 2013
Wolverine	November 11-14, 2013
Wolverine	November 18-21, 2013
Wolverine & Blue Water	May 19, 2014 - September 30, 2014
Wolverine	April 11, 2015
Wolverine & Blue Water	April 20, 2015 - October 30, 2015

Source: Amtrak Track Work Advisories

76. The list of permanent schedule changes I was provided are shown in Figure 30.

Figure 30: Permanent Schedule Changes

Route Affected	Schedule Change Date(s)
Blue Water	September 10, 2012 & March 18, 2013
Illini/Saluki	November 7, 2011 & August 19, 2013
Wolverine	September 10, 2012 & October 14, 2014

Source: Provided by Amtrak

Appendix G:



REDACTED

AMTRAK PROPOSED AGREEMENT

REDACTED

CERTIFICATE OF SERVICE

I hereby certify that on September 4, 2015, I served the foregoing **Opening Statement of the National Railroad Passenger Corporation, the Verified Statement of Paul Vilter, the Verified Statement of Benjamin Sacks, and Amtrak's proposed Operating Agreement** upon Canadian National Railway Company and the other parties on the service list in Finance Docket No. 35743.



Justin J. Marks

Counsel for National Railroad Passenger Corporation