

BEFORE THE
SURFACE TRANSPORTATION BOARD

Docket No. NOR 42175
COMPLAINT AND PETITION OF THE NATIONAL RAILROAD PASSENGER CORP.
UNDER 49 U.S.C. § 24308(f)—FOR SUBSTANDARD PERFORMANCE OF AMTRAK’S
SUNSET LIMITED TRAINS 1 AND 2

VERIFIED STATEMENT

of

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Executive Vice President

and

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President

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ECONOMIC CONSULTANTS

On Behalf Of

THE NATIONAL RAILROAD PASSENGER CORPORATION (“AMTRAK”)

Dated: October 7, 2024

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
I. Introduction.....	1
II. Summary of Findings	2
III. Amtrak’s Sunset Limited Route and Service.....	8
IV. Analytical Framework	13
V. Train Operations Summary and Discussion	14
A. Amtrak Provided Data	14
1. Sunset Limited Trains.....	14
a. Train Meet Delays.....	17
b. Train Follow Delays.....	18
c. Crossover Delays	20
d. Other FTI Delays.....	21
B. UP Provided Data	23
1. Train Volumes	24
2. Trains Causing Interference to Sunset Limited	33
3. Infrastructure.....	38
a. Train Size	40
b. Outages.....	44
4. Dispatching.....	47
5. Recurring Delays To Sunset Limited	51

LIST OF EXHIBITS

Exhibit No.	Exhibit Description
(1)	(2)
1	Robert D. Mulholland Statement of Qualifications
2	Timothy D. Crowley Statement of Qualifications
3	Schematics of The Amtrak Sunset Limited Route
4	Summary of Data Processing and Analysis
5	Trains Operating Over the UP-hosted Segments of the Sunset Limited Route That Were Identified as Cause of FTI Delays
6	Infrastructure and Train Operating Data for Stations Along the UP-hosted Segments on the Sunset Limited Route
7	Roster of UP Freight Trains that Were Too Long to Fit in 50 Percent or More of the Sidings They Passed on the Sunset Limited Route and Identified as Cause of FTI Delay
8	Amtrak Sunset Limited FTI Delay Minutes by Type for Each UP Subdivision
9	AMT-1 Reported FTI Delay Type for Stations Along the UP-hosted Segments on the Sunset Limited Route
10	AMT-2 Reported FTI Delay Type for Stations Along the UP-hosted Segments on the Sunset Limited Route

I. INTRODUCTION

We are Robert D. Mulholland and Timothy D. Crowley, Executive Vice President and President, respectively, of L. E. Peabody & Associates, Inc. L. E. Peabody & Associates, Inc. is an Economic Consulting Firm that specializes in addressing transportation, economic and operating issues, with an emphasis on passenger and freight railroad matters. We have spent most of our consulting careers of 29 and 23 years, respectively, evaluating railroad operations, capacity, costs and profitability and pricing issues for shippers, producers, railroads and government agencies. Our credentials are included as Exhibit Nos. 1 and 2 to this Verified Statement (“VS”).

Counsel for The National Railroad Passenger Corporation (“Amtrak”) asked us to evaluate the extent to which host railroad operating and dispatching practices contribute to Amtrak delay, for UP-hosted portions¹ of the Sunset Limited service. The study period encompassed four calendar quarters, beginning on October 1, 2021 and concluding on September 30, 2022 (“Study Period”).

The results of our analysis are included in this VS below under the following topical headings:

- II. Summary of Findings
- III. Amtrak’s Sunset Limited Route and Service
- IV. Analytical Framework
- V. Train Operations Summary and Discussion

¹ In this Verified Statement “UP-Hosted Segments” refers to the route between Iowa Jct., LA and Yuma Jct., CA.

II. SUMMARY OF FINDINGS

Amtrak's Sunset Limited train service operates between New Orleans Union Passenger Terminal ("NOLA") and Los Angeles Union Station ("LAUS") over rail lines owned, maintained, and dispatched by several railroads. Amtrak has identified specific railroads as the "Host" for each segment of the Sunset Limited route.² Host railroads' dispatchers are generally responsible for moving trains over the system in coordination with one another. Amtrak's Sunset Limited trains run three (3) times per week in each direction and make up a small fraction of the total volume of trains operating over the route.³ Nevertheless, when host railroads design and implement operating plans for the Sunset Limited route, conflicts between passenger and freight trains arise. We understand that when conflicts between passenger and freight trains occur, dispatchers are required by federal law to give dispatching priority to Amtrak trains.⁴

The scheduled one-way transit time for Sunset Limited trains is 46.6 hours for westbound trains ("AMT-1") and 45.7 hours for eastbound trains ("AMT-2").⁵ During the Study Period, Sunset Limited Trains frequently encountered delay and therefore operated behind schedule. For these reasons, Sunset Limited Trains did not achieve the on-time performance ("OTP") minimum standard established under federal law.⁶

² Table No. 1 includes a summary of the owner(s)/operator(s) identified for each segment, as well as the Amtrak designated host.

³ During the Study Period, we identified 309 Sunset Limited trains out of a total of {{[REDACTED]}} trains operating over portions of the route which reported events at two (2) or more locations on the route. 309 {{[REDACTED]}} percent. {{[REDACTED]}}. See: Opening Verified Statement Support_2024.10.07.xlsx, at "SQL for Numbers" at Rows 2 to 31.

⁴ See: STB NOR 42175 Complaint and Petition of the National Railroad Passenger Corp. Under 49 U.S.C. § 24308(f) – For Substandard Performance Of Amtrak's Sunset Limited Trains 1 and 2 ("Amtrak Complaint"), at pages 15-16, paragraphs 35-37.

⁵ See: Amtrak September 25, 2024 Response to Board Investigative Request No. TK (AMTRAK_STB_NATIVE_0014.2.xlsx). Train AMT-1 Scheduled Run Time of 2,795 minutes divided by 60 minutes = 46.6 hours. Train AMT-2 scheduled run time is 2,740 minutes or 45.7 hours.

⁶ See: Amtrak Complaint at pages 2-3, paragraphs 2-7.

Delays to Amtrak Trains are generally separated into three categories in the normal course of business. As explained in Amtrak's Complaint:

1. Host-responsible delays include, among other things, freight train interference, slow orders, signals, routing, and maintenance of way operations;
2. Amtrak-responsible delays include, among other things, passenger-related delays at stations, Amtrak equipment failures, holding for connections, and other types of delay; and
3. Third-party delays include, among other things, police activity, trespasser delays, drawbridge openings, and weather-related delays.⁷

Based on our review of Amtrak delay data, and other railroad operating data and information from the Study Period, we conclude that most delays to Sunset Limited Trains were host-responsible delays. Freight train interference ("FTI") makes up the largest group of host-responsible delays that affect Sunset Limited trains.⁸ Host railroads, including Union Pacific Railroad Company ("UP"), operate many scheduled intermodal and manifest trains over portions of the rail lines that make up the Sunset Limited route. The operating environment created by UP over the Sunset Limited route ensures that Sunset Limited Trains will encounter FTI as a result of:

{{ [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] } }.

First, our review of the data provided by Amtrak and the host railroads indicate that relatively longer freight trains are often identified (by lead locomotive) in the Amtrak dispatcher comments included in Amtrak delay data as the cause of FTI that Sunset Limited Trains

⁷ See: Amtrak Complaint at page 21, paragraph 53, footnote omitted.

⁸ See: Amtrak Complaint at page 21, paragraph 54.

experience. During the Study Period, the average length of the UP trains linked to FTI delays equaled {{[REDACTED]}} feet, compared to an average length of {{[REDACTED]}} feet for trains that were not linked to FTI delays.⁹ UP operating data further indicates that UP {{[REDACTED]}} operates trains that exceed the length of at least some of the sidings they pass on the Sunset Limited Route. On an average day, there are {{[REDACTED]}} instances in which freight trains pass sidings that are too short to fit the train on UP-hosted Segments,¹⁰ and {{[REDACTED]}} daily trains that {{[REDACTED]}}
[REDACTED]}}.¹¹

Second, review of the Amtrak and host railroad data indicates that certain train types regularly cause FTI to Sunset Limited Trains. Of the FTI delays that we were able to link to individual freight trains using Amtrak and host railroad data, {{[REDACTED]}}
[REDACTED] [REDACTED]
[REDACTED]
[REDACTED] {{[REDACTED]}} Intermodal traffic is the highest rated freight traffic on the UP network on a carload basis,¹⁴ and premium intermodal trains generally carry high-value, time-sensitive, truck-competitive traffic. Premium intermodal trains {{[REDACTED]}} as Amtrak passenger trains in UP's computer-aided dispatching system ("CADX").¹⁵ Manifest trains carry mixed freight moving in carloads that are often switched from one train to another at intermediate classification yards along the route.

While UP's operating plan and dispatching practices reflect the principles of PSR, which relies on schedule adherence and requires minimizing missed connections for freight traffic, {{[REDACTED]}}

⁹ See: Opening Verified Statement Support_2024.10.07.xlsx, at "SQL for Numbers" at Rows 34 to 41.

¹⁰ See: Exhibit No. 6 at Line 287, Column (14).

¹¹ Sum of Table No. 15, Lines 1-3, Column (2) divided by 365 days in the Study Period.

¹² See: Opening Verified Statement Support_2024.10.07.xlsx, at "SQL for Numbers" at Rows 44 to 66.

¹³ See: Table No. 14, Column (7).

¹⁴ See: Table No. 10, Column (6).

¹⁵ See: UP-SL-0012409_HC.

[REDACTED] [REDACTED] } }.

Third, many of the trains that regularly operate over the Sunset Limited route are { [REDACTED] [REDACTED] } } which causes crew expirations at unplanned recrew locations. When crews operating long trains expire because they cannot be placed in the sidings on the route, mainlines become blocked. UP seeks to avoid blocking mainlines, { [REDACTED] [REDACTED] } }.

Based on our analyses of Amtrak and host railroad operating data, there are points along the Sunset Limited Route where passenger trains incur a particularly large amount of delay. For example, City of Industry, CA on UP's [REDACTED] Subdivision is the single most problematic location, accounting for well over 100 FTI delays during the Study Period, during which approximately 35.9 hours of train delay were incurred.¹⁷ { [REDACTED] [REDACTED] } }.

[REDACTED] } }. Westbound AMT-1 and eastbound AMT-2 trains are both substantially delayed at City of Industry, { [REDACTED] } }¹⁸

UP's operating practices contribute to FTI delay at all locations along the route, but some segments cause more delay than others. The segment with the most reported FTI delay is the 210-mile segment between Houston, TX and San Antonio, TX traversing a small portion of UP's [REDACTED] [REDACTED] Subdivision, UP's [REDACTED] Subdivision and a portion of the UP's [REDACTED] Subdivision, where Amtrak Sunset Limited trains incurred over 13,000 FTI delay minutes during the Study

¹⁶ See: Table No. 17.

¹⁷ See: Exhibit No. 6 at Line 7, Columns (19) and (20) and Opening Verified Statement Support_2024.10.07.xlsx, at "SQL for Numbers" at Rows 69 to 81.

¹⁸ See: Exhibit No. 6 at Line 7, Column (8).

Period.¹⁹ Many of the UP trains identified as FTI-causing trains on this segment are manifest trains. A significant portion of the FTI delays incurred by Amtrak on this segment are on the portion of the segment between Randolph, TX and Harlem, TX. This is a 168-mile-long single-track segment with { [REDACTED] }²⁰ { [REDACTED] } sidings are located on the { { [REDACTED] } } portion of this line segment between Randolph, TX and Flatonia, TX, which hosts around { { [REDACTED] } } freight trains per day.²¹ During the one-year study period, Sunset Limited trains incurred { [REDACTED] } of FTI delay at the eight (8) freight stations along this short (76-mile) stretch.²² At four (4) of these eight (8) stations, { { [REDACTED] } }.²³

Amtrak Sunset Limited trains also report extensive delays caused by train meets at the passenger station platforms along the freight corridor between Los Angeles, CA and El Paso, TX.²⁴ Two (2) of these stations – Pomona, CA and Tucson, AZ – are located at places where { { [REDACTED] } } enter and exit the Sunset Limited Route.²⁵

There are several other junctions where { { [REDACTED] } } enter and exit the route and where we observed significant FTI delays, including Sierra Blanca, TX,²⁶ Spofford, TX,²⁷ San Antonio, TX,²⁸ Flatonia, TX,²⁹ Rosenberg, TX,³⁰ Dayton, TX,³¹ Beaumont, TX,³² Lake

¹⁹ See: Exhibit No. 6 at Lines 208-241, Column (20).

²⁰ See: Exhibit No. 6 at Lines 212-229, Columns (6) and (7).

²¹ See: Exhibit No. 6 at Lines 212-219, Columns (7) and (8).

²² See: Exhibit No. 6 at Lines 212-219, Column (20).

²³ See: Exhibit No. 6 at Lines 212, 214, 217, and 218, Column (13).

²⁴ See: Exhibit No. 6 at Lines 11, 50, 85, 92, and 125, Column (20).

²⁵ See: Exhibit No. 6 at Lines 11 and 85, Columns (9), (10), and (20).

²⁶ See: Exhibit No. 6 at Line 139, Columns (9), (10), and (20).

²⁷ See: Exhibit No. 6 at Line 183, Columns (9), (10), and (20).

²⁸ See: Exhibit No. 6 at Lines 208 and 210, Columns (9), (10), and (20).

²⁹ See: Exhibit No. 6 at Line 219, Columns (9), (10), and (20).

³⁰ See: Exhibit No. 6 at Line 227, Columns (9), (10), and (20).

³¹ See: Exhibit No. 6 at Line 252, Columns (9), (10), and (20).

³² See: Exhibit No. 6 at Lines 270 and 271, Columns (9), (10), and (20).

Charles, LA,³³ and Iowa Jct., LA.³⁴ With the exception of Tucson, San Antonio, and Beaumont, { [REDACTED] }.³⁵

The segment between El Paso, TX and Alpine, TX is predominantly { [REDACTED] } Sunset Limited trains incur thousands of minutes of FTI delay here annually.³⁶

UP's { [REDACTED] } Subdivision is another consistently difficult segment for Sunset Limited trains to traverse.³⁷ Westbound AMT-1 trains are impeded by repeated meets with eastbound freight trains traveling over the segment.³⁸ In contrast, eastbound AMT-2 trains operating over this segment report frequent delays attributed to following eastbound freight trains.³⁹

Sunset Limited trains incur FTI delay on all segments that make-up the Sunset Limited route, on both higher- and lower-density lines, and over both single- and double-tracked territory, through the desert and through major metropolitan areas.⁴⁰

³³ See: Exhibit No. 6 at Line 283, Columns (9), (10), and (20).

³⁴ See: Exhibit No. 6 at Line 286, Columns (9), (10), and (20).

³⁵ See: Exhibit No. 6 at Column (5).

³⁶ See: Exhibit No. 6 at Lines 125 – 153, Columns (6), (7), and (20).

³⁷ See: Exhibit No. 8 at Line 45, Column (13).

³⁸ See: Exhibit No. 8 at Line 1, Column (13).

³⁹ See: Exhibit No. 8 at Line 17, Column (13).

⁴⁰ See: Exhibit No. 6 at Column (20) and Exhibit No. 8 at Line 45.

III. AMTRAK'S SUNSET LIMITED ROUTE AND SERVICE

Westbound AMT-1 trains originate at NOLA and terminate at LAUS, and eastbound AMT-2 trains operate in the reverse direction. The Sunset Limited route is nearly 2,000 miles long. Figure No. 1 below is a schematic overview of the Sunset Limited Route. Exhibit No. 3 to this VS contains a more detailed schematic with additional information about the route.

Figure No. 1
Schematic of Entire Sunset Limited Route



UP is the host railroad and dispatcher for the vast majority of the Sunset Limited route.⁴¹ BNSF Railway Company (“BNSF”), Illinois Central Railroad Company (“CN”), Canadian Pacific Kansas City Limited (“CPKC”),⁴² New Orleans Public Belt Railroad Commission for the Port of New Orleans (“NOPB”), and Southern California Regional Rail Authority (“SCRRA”) (also referred to as Metrolink) are responsible for maintaining and/or dispatching other small portions of the route. Table No. 1 below shows the segments and host railroads for every segment of the primary route which is followed by westbound AMT-1 trains.

⁴¹ See: Amtrak Complaint at page 36, paragraph 84. Since Amtrak filed, Amtrak, UP, and SCRRA have agreed that UP is also the host for the western segment from El Monte to Yuma Junction.

⁴² Operating as Kansas City Southern Railway Company (“KCS”) during the Study Period.

Table No. 1
Description of Sunset Limited Route (Train 1)

<u>Start</u>	<u>End</u>	<u>Host RR</u>	<u>Owner and/or Operator</u>	<u>Estimated Miles 1/</u>
(1)	(2)	(3)	(4)	(5)
1. New Orleans, LA 2/	Southport Junction, LA	Amtrak	Amtrak	4.2
2. Southport Junction, LA	East Bridge Junction, LA	CN	CN/NOPB	2.2
3. East Bridge Junction, LA	West Bridge Junction (Avondale)	UP	NOPB/UP	5.0
4. West Bridge Junction (Avondale)	Live Oak, LA	UP	UP	6.3
5. Live Oak, LA	Iowa Junction, LA	BNSF	BNSF/UP	192.6
6. Iowa Junction, LA	Tower 31 (near Beaumont, TX)	UP	UP/BNSF	71.7
7. Tower 31 (near Beaumont, TX)	Wall Street, TX	UP	CPKC	1.8
8. Wall Street, TX	Langham Road, TX	UP	UP/BNSF	3.4
9. Langham Road, TX	Dawes, TX (east of Houston, TX)	UP	UP/BNSF	70.7
10. Dawes, TX (east of Houston, TX)	Maury St. (Houston), TX	UP	UP	7.7
11. Maury St. (Houston), TX	West Jct., TX	UP	UP	378.5
12. West Jct., TX	Yuma Jct., CA	UP	UP	1,246.9
13. Yuma Jct., CA	Los Angeles, LA 3/	SCRRA	SCRRA 4/	1.1
14. Sunset Limited - Total Route				1,992.0 5/

1/ Miles calculations in e-workpaper "Sunset Limited Route with Host and Dispatching Railroads_Detail.xlsx."

2/ New Orleans Union Passenger Terminal.

3/ Los Angeles Union Station.

4/ Also referred to as "Metrolink."

5/ Amtrak's Complaint indicates this route is 1,997 miles (See: Complaint at paragraphs 25 and 28). The Column (5) totals in this table were developed from documents submitted by all non-Amtrak parties in this proceeding.

As shown in Table No. 1 above, most of the Sunset Limited route segments are hosted by UP, and UP has an ownership or other role in certain segments that it does not host. The Sunset Limited route traverses the UP Houston Subdivision line between Langham Road (Beaumont), TX, and Maury St. (Houston), TX (Table No. 1, Lines 9 and 10). This route is used by most westbound AMT-1 trains. Based on our review of UP operating data, and as Amtrak explained in Amtrak's Complaint, UP often re-routes eastbound AMT-2 trains operating in this area to its Beaumont Subdivision line between Langham Road (Beaumont), TX, and Maury St (Houston),

TX. UP routes eastbound AMT-2 trains via the Beaumont Subdivision for its own operating convenience, as explained in Amtrak's Complaint:

Although Amtrak's agreement with Union Pacific specifies that the Sunset Limited is to operate over the Houston Subdivision, and Union Pacific represented to the Board when it sought authority to acquire Southern Pacific that Amtrak's operations would not be adversely impacted by the acquisition, Union Pacific often routes Sunset Limited 2 over the Beaumont Subdivision to align with UP's preferred directional running patterns.⁴³

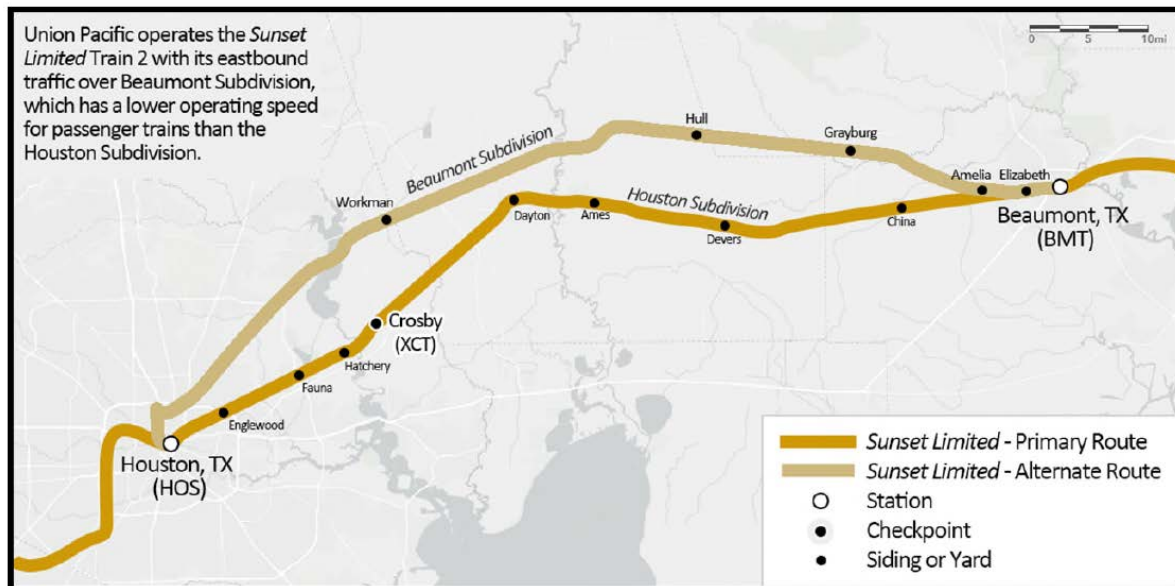
The alternate route is 2,011 miles long. In addition to being longer than the primary route, there are also speed restrictions on the Beaumont Subdivision that are not in place on the Houston Subdivision. Specifically, the maximum speed on the Beaumont Subdivision for all trains is { [REDACTED] }, while on the Houston subdivision { [REDACTED] } the maximum speed for passenger trains is { [REDACTED] }.⁴⁴

See Figure No. 2 below for a schematic of the two routes between Beaumont, TX and Houston, TX.

⁴³ Amtrak Complaint, Paragraph 137, pages 60-61.

⁴⁴ See: UP-SL-0008537 C { [REDACTED] } and UP-SL- 0008456_C { [REDACTED] }.

Figure No. 2
Schematic of Houston and Beaumont Subdivisions



The darker-shaded route in Figure No. 2 above is typically traversed by westbound AMT-1 and freight trains, and the lighter-shaded route is typically traversed by eastbound AMT-2 and freight trains.

The *Sunset Limited* route spans the following five (5) separate service units in UP's Southern Region: (1) Los Angeles between LAUS and Aden, NM; (2) Texoma between Aden and Alpine, TX; (3) South Texas between Alpine and Eagle Lake, TX; (4) Houston between Eagle Lake and Dayton, TX and; (5) Gulf Coast between Dayton and NOLA. Figure No. 3 below shows a breakdown by service unit.

Figure No. 3

UP Railroad Service Units & Regions



Source: [UP Service Units Regions 2024](#)

The Los Angeles and Texoma service units form the backbone of UP's intermodal rail network, connecting the Ports of Los Angeles/Long Beach and domestic intermodal hubs in Southern California to major rail gateways in Chicago, St. Louis, Memphis, and New Orleans. These service units also host international traffic moving through the Nogales, AZ, and El Paso, TX ports of entry. The South Texas service unit also hosts international traffic that moves through border crossings at Eagle Pass, TX and Laredo, TX.

IV. ANALYTICAL FRAMEWORK

Amtrak compiles delay data through its Electronic Delay Reporting (“eDR”) application in the normal course of business.⁴⁵ Specifically, Amtrak conductors enter delay codes and minutes of delay,⁴⁶ based on their observations in the field, train bulletins, radio communications, and other sources.⁴⁷ We used Amtrak delay data as the starting point for our analyses of train operations over the Sunset Limited route.

In addition to the Amtrak delay data, we also analyzed operating and infrastructure data produced by host railroads in response to Surface Transportation Board’s (“STB” or “Board”) requests for information, as well as supplemental UP data that Amtrak obtained through discovery. The UP data produced in discovery contains additional information related to infrastructure and train operations over the Sunset Limited route. We uploaded the Amtrak and host railroad data into a data warehouse and then developed data queries to produce report tables summarizing train operations over the Sunset Limited route.

Exhibit No. 4 to this VS identifies the data sources that we relied upon in our analyses and includes a summary of the procedures that we used to develop our database and analytical framework from the provided data. We also relied on dispatcher training materials, timetables, track profiles, and graphical location files,⁴⁸ which were produced by the host railroads.

⁴⁵ Total delay minutes for a given segment traversed by an Amtrak train are generated by the eDR program, which compares scheduled time (Pure Running Time plus Dwell Time) to actual transit time at the end of each operating segment.

⁴⁶ Conductors enter delay codes to identify the source of individual delays. Conductors manually allocate total delay minutes generated by the eDR program into subcategories only when multiple causes for the aggregate eDR delay reported for an Amtrak operating segment are observed. (See: Amtrak Complaint at page 22, paragraph 56).

⁴⁷ See: Amtrak Complaint at pages 21-22, paragraph 55.

⁴⁸ Produced as Keyhole Markup Language (.kmz) files and GIS shapefiles.

V. TRAIN OPERATIONS SUMMARY AND DISCUSSION

Below is a summary of train operations over the Sunset Limited route based on the train operating data that we analyzed. Specifically, our evaluation of train operating data is summarized below under the following topical headings:

A. Amtrak Provided Data

B. UP Provided Data

A. AMTRAK PROVIDED DATA

1. Sunset Limited Trains

Amtrak operated 148 westbound Sunset Limited trains (AMT-1) and 146 eastbound Sunset Limited trains (AMT-2) over the route during the Study Period.⁴⁹ Additionally, there were 7 AMT-1 trains and 8 AMT-2 trains that did not traverse the entire route because they were suspended mid-route or originated mid-route. In total, 309 Amtrak Sunset Limited trains operated over at least part of the route during the Study Period.⁵⁰

During the Study Period, Amtrak recorded 13,176 host-responsible delays totaling 125,013 delay minutes associated with the 309 trains.⁵¹ The majority of host-responsible delay minutes were attributed to FTI delays.⁵² Specifically, Amtrak reported 5,002 FTI⁵³ delays totaling 80,358 delay minutes⁵⁴ (1,339 hours or 56 days of delay) associated with the 309 trains. This means that

⁴⁹ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 103 to 131.

⁵⁰ $148 + 146 + 8 + 7 = 309$.

⁵¹ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 153 to 161.

⁵² Host railroads review the Amtrak FTI delay data and have the opportunity to dispute them. This “Host Delay Change Request” process is detailed in Amtrak’s response to the Board’s Investigative Question No. 14 filing in STB NOR 42175 Amtrak’s Response to The Board’s Interrogatories and Document Requirements; Appendix A – Part III at pages 34-37. The FTI delays included in our analyses were verified through that process.

⁵³ Our analysis focused on delays coded as FTI, which is defined as Freight Train Interference. Amtrak trains also incurred 14,025 delays totaling 95,769 minutes attributed to non-FTI causes during the study period. See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 163 to 169.

⁵⁴ This total is across the entire route. There were 4,769 FTI delays that resulted in 75,439 FTI delay minutes on UP-hosted Segments during the Study Period. See: Table No. 2 below.

on average, Sunset Limited trains accrued 16.19 FTI delays⁵⁵ totaling 260.06 delay minutes (4.3 hours) per one-way trip.⁵⁶ This represents nearly ten (10) percent of the scheduled transit time for Sunset Limited trains.⁵⁷

Amtrak delay data records include a data field titled “Delay Reason,” which may contain Amtrak conductor observations regarding the type of train conflict (or action) that caused the delay, the lead locomotive(s) for the other train(s) involved in the conflict, and the location(s) where the conflict occurred.

Table No. 2 below classifies the Amtrak FTI delay data into subcategories based on the Amtrak conductors’ descriptions of the operations that caused the delay.

⁵⁵ $5,002 \div 309 = 16.19$. See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 134 to 140.

⁵⁶ $80,358 \div 309 = 260.06$. Sunset Limited trains accrued 15.44 FTI delays totaling 244.15 delay minutes (4.1 hours) per one-way trip on UP-hosted segments. See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 134 to 150.

⁵⁷ Average of westbound (2,795) and eastbound (2,740) scheduled run time is 2,767.5 minutes. See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 134 to 140. $260.06 \div 2,767.5 = 9.4\%$.

Table No. 2
FTI Delays by Action Taken During the Study Period

Action Taken (1)	All Host RR		UP		Other RR	
	Total Delays (2)	Delay Minutes (3)	Total Delays (4)	Delay Minutes (5)	Total Delays (6)	Delay Minutes (7)
1. Meet Freight	2,640	39,764	2,516	36,927	124	2,837
2. Follow Freight	1,222	24,444	1,197	23,846	25	598
3. Cross over or go around Freight	767	6,318	723	5,550	44	768
4. Cross traffic	146	2,833	134	2,572	12	261
5. Freight Train Interference - Other	76	2,372	70	2,275	6	97
6. Blocked from station track	66	2,141	62	2,060	4	81
7. Held for disabled freight	14	841	13	706	1	135
8. Pick up / drop off freight crew	35	471	34	468	1	3
9. Freight derailment	5	465	5	465	0	0
10. Freight congestion	9	307	9	307	0	0
11. Dead freight crew	2	177	2	177	0	0
12. Lined switch behind freight train	13	111	0	0	13	111
13. Disabled Freight	1	42	1	42	0	0
14. Power Switch Failure	1	37	1	37	0	0
15. Wait on track warrant	2	21	1	4	1	17
16. PTC slow-down / penalty stop / braking	1	9	0	0	1	9
17. Crossover	1	3	1	3	0	0
18. Total	5,001	80,356	4,769	75,439	232	4,917

Source: e-workpaper Opening Verified Statement Support 2024.10.07.xlsx.

As shown in Table No. 2 above, UP was identified as the host railroad for 4,769 of the 5,001 total FTI delays (95.4%),⁵⁸ accounting for 75,439 of the total FTI 80,356 delay minutes (93.9%)⁵⁹ reported by Amtrak during the Study Period. (See Table No. 2, Line 18, Columns (2) through (5)).

The majority of FTI delays overall and on UP-hosted segments are caused by train meets and train follows (See Table No. 2, Lines 1 and 2, Columns (2) through (5)).

⁵⁸ $4,769 \div 5,001 = 95.4$ percent.

⁵⁹ $75,439 \div 80,356 = 93.9$ percent.

A summary discussion of the different categories of FTI delays based on Amtrak provided data for the Study Period is included under the following topical headings:

- a. Train Meet Delays
- b. Train Follow Delays
- c. Crossover Delays
- d. Other FTI Delays

a. Train Meet Delays

The most frequently reported FTI conflict type is a train meet. Train meets occur when trains are traveling in opposite directions on the same track. When this happens in single track territory, one train must be placed on a passing siding adjacent to the mainline track, so the other train can pass it on the mainline track.⁶⁰

Table No. 3 below contains example Amtrak delay data for a train meet conflict resulting in 53 minutes of delay time to the Amtrak train that was attributed to FTI.

Table No. 3 ⁶¹ Example of Train Meet Delay As Included in Amtrak Delay Data										
Service	Train	Origin Date	Note	Div	From	To	Host RR	Type	Mins	Delay Reason
Sunset Ltd	2	8/03/2022	1	SWD	XEL	POS	UP	FTI	53	Meet UP2521, Milepost, 493, 495, 2521

The Amtrak delay reason field in Table No. 3 identifies a lead locomotive (unit UP2521), and two locations (Milepost 493 and 495). The delay reason entry indicates that the Amtrak train was sided between Mileposts 493 and 495 (which are located at El Monte, CA on the Alhambra Subdivision) to allow a freight train to pass before the Amtrak train could continue on its journey. The Amtrak delay reason field does not include information regarding the length of the freight train involved in the train meet or the length of the siding where the meet occurred. We understand

⁶⁰ Sometimes the pass is on the siding but that operation is not typical.

⁶¹ Table No. 3 and the ensuing tables that contain Amtrak Delay Data report information in the “Delay Reason” field without modification.

that information about the length of freight trains is not available to Amtrak conductors in the field.⁶²

To evaluate the above delay, we used UP infrastructure and operating data to identify the conflict train and siding length data at reported delay locations. UP operating data shows that

{{ [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] }}.

Another example of a meet delay was {{ [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] [REDACTED]
[REDACTED]
[REDACTED] }}

b. Train Follow Delays

The second most frequently reported conflict type is a follow event, which occurs when trains are traveling in the same direction on the same track, and the train in front is a slower moving train than the one behind it. When train follows occur in single-track territory, the faster following

⁶² Reporting in the Amtrak delay reason field is sometimes incomplete. Amtrak conductors attempt to collect information from a variety of sources when evaluating the cause of a delay. Some information is collected through direct observation. Other information is obtained from third parties. Where Amtrak conductors do not identify certain information related to the cause of delay, or the information identified is imprecise, we are unable to determine the reason for that issue. Amtrak Complaint at page 22, paragraph 55.

⁶³ See: HC Host-Responsible Delays AMT1 11-09-21 to 09-02-22 - Highly Confidential.pdf, page 399.

⁶⁴ See: Opening Verified Statement Support_2024.10.07.xlsx, at “Additional Delay Examples” at cell N18.

train ordinarily must trail the slower lead train at reduced speed until the lead train encounters a passing siding that is unoccupied and that can accommodate the lead train. The lead train is then sided, and the follow train is allowed to overtake it on the main track.⁶⁵ Follows also occur in double-track territory, when one of the tracks is blocked by a stationary or approaching train or where the tracks are used for directional running.⁶⁶

Table No. 4 below shows Amtrak delay data for an example train follow delay resulting in 51 minutes of FTI delay time. In this case, the delay spanned two Amtrak operating segments: (1) XEA (Eagle Lake, TX) to XFA (Flatonia, TX); and (2) XFA to XKG (Glidden, TX). It was reported as two consecutive delays rather than a single delay in Amtrak's delay data.

Table No. 4 Example of Follow Delay as Included in Amtrak Delay Data										
Service	Train	Origin Date	Note	Div	From	To	Host RR	Type	Mins	Delay Reason
Sunset Ltd	1	5/24/2022	25	SWD	XEA	XFA	UP	FTI	23	Follow UP 5581, Control Point, Engle, Control Point, Flatonia
Sunset Ltd	1	5/24/2022	27	SWD	XFA	XKG	UP	FTI	28	Follow Continue Following UP 5581, Control Point, Flatonia, Siding, Luling, UP5581

The delay reason field in Table No. 4 above identifies a single lead locomotive (unit UP5581) and two (2) sets of delay locations on the two (2) Amtrak operating segments (Engle, TX and Flatonia, TX in the first delay record, and Flatonia and Luling, TX in the second delay record.) All four (4) named locations are on UP's Glidden Subdivision. UP operating data indicates that

{{ [REDACTED] }}

⁶⁵ Sometimes the overtake is on the siding but this operation is not typical.

⁶⁶ For example, the train in Table No. 4 above recorded a follow delay on the double track segment from

{{ [REDACTED] }}.

[REDACTED]

[REDACTED]

[REDACTED] }}. Both the location where the Amtrak train was first slowed down by the lead train and the siding where the overtake eventually occurred are identified in Amtrak delay data.

Two additional examples of follow delays involved the September 2, 2022 and September 25, 2022 AMT-1 trains. AMT1-9/2/22 was delayed when {{ [REDACTED]

[REDACTED] }}⁶⁸ Similarly, AMT1-9/25/22 was delayed when

{{ [REDACTED]

[REDACTED] }}⁷⁰

c. Crossover Delays

Another common FTI conflict is classified as a crossover. Crossover delays often occur on double tracked segments,⁷¹ and entail the Amtrak train crossing over from one main track to another in order to move past a train that is occupying the main line. This type of conflict can

⁶⁷ See: HC Host-Responsible Delays AMT1 11-09-21 to 09-02-22 - Highly Confidential.pdf, page 436.

⁶⁸ See: Opening Verified Statement Support_2024.10.07.xlsx, at “Additional Delay Examples” at Rows 84 to 109.

⁶⁹ See: HC Host-Responsible Delays AMT1 09-20-22 to 10-11-22 - Highly Confidential.pdf, page 70.

⁷⁰ See: Opening Verified Statement Support_2024.10.07.xlsx, at “Additional Delay Examples” at Rows 170 to 191.

⁷¹ Crossover delays can also occur in yards and in single track territory where the passing train must cross over into a siding to overtake a train sitting on the mainline.

involve trains moving in the same direction, in opposite directions, or when one train is immobile and occupying a mainline.

Table No. 5 below contains an example train crossover delay conflict resulting in 13 minutes of delay time attributed to FTI.

Table No. 5 <u>Example of Crossover Delay as Included in Amtrak Delay Data</u>										
Service	Train	Origin Date	Note	Div	From	To	Host RR	Type	Mins	Delay Reason
Sunset Ltd	2	8/03/2022	20	SWD	XVL	ALP	UP	FTI	13	Cross over or go around up5983, Control Point, ryan

The delay reason field in Table No. 5 identifies a single lead locomotive (unit UP5983) and a single location (Control Point Ryan, TX, which is located on UP’s Valentine Subdivision). This data indicates that the Amtrak train was forced to cross over from one track to another to get by the freight train. {{ [REDACTED] }}

d. Other FTI Delays

As shown in Table No. 2 above, Amtrak conductors attributed FTI delays to other operating issues, such as being blocked from passenger stations, freight congestion, and holding trains for freight crews.

A “blocked from station track” event occurs when Amtrak is blocked from entering a passenger station track. Table No. 6 below shows Amtrak delay data for an example train blocked from station track delay resulting in 30 minutes of FTI delay time.

Table No. 6 Example of Blocked From Station Track as Included in Amtrak Delay Data										
Service	Train	Origin Date	Note	Div	From	To	Host RR	Type	Mins	Delay Reason
Sunset Ltd	1	12/10/2021	38	SWD	BEN	TUS	UP	FTI	30	Blocked from station track up7807, Control Point, cherry

The delay reason field in Table No. 6 above identifies a single lead locomotive (unit UP7807) and a single delay location Cherry (which is Cherry Avenue in Tucson, AZ on UP's Gila Subdivision). UP operating data indicates that {{ [REDACTED] }}

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]}

A “freight congestion” delay event occurs when Amtrak is held for multiple freight trains. Table No. 7 below shows Amtrak delay data for an example freight congestion delay resulting in 67 minutes of FTI delay time.

⁷² See: Opening Verified Statement Support 2024.10.07.xlsx, at “AMTDelayTables”.

⁷³ Union Pacific defines CIRC7 as “points along the route” where the Train Schedule Builder populates scheduled information. See UP’s Response to the Board’s Appendix A, Part IV filed on September 25, 2023 in STB NOR 42175 at page 10. See: Opening Verified Statement Support 2024.10.07.xlsx, at “AMTDelayTables”.

⁷⁴ See: Opening Verified Statement Support 2024.10.07.xlsx, at “AMTDelayTables” at cells AU23 to AU25.

{

[REDACTED]

}

Table No. 7 Example of Freight Congestion Delay as Included in Amtrak Delay Data										
Service	Train	Origin Date	Note	Div	From	To	Host RR	Type	Mins	Delay Reason
Sunset Ltd	1	3/08/2022	71	SWD	POS	XEL	UP	FTI	67	Hold at CP AL504 due to freight congestion and no route ahead. UP8374e, UP4477e, UP6010w, UP8201w, Control Point, AL504 E Marne

The delay reason field in Table No. 7 above identifies four (4) lead locomotives (units UP8374, UP4477, UP6010, and UP8201) and a single delay location (Control Point AL504, which is Marne, CA near City of Industry, CA on the Alhambra Subdivision). UP operating data indicates that {{[REDACTED]}}

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]}

B. UP PROVIDED DATA

We evaluated train operations over the UP-hosted Amtrak Sunset Limited route segments using data provided by UP,⁷⁶ including identifying causes of FTI delays incurred by Amtrak during the Study Period. Based on our review of the UP operating data, we determined that {{[REDACTED]}}

⁷⁵ See: Opening Verified Statement Support_2024.10.07.xlsx, at “AMTDelayTables”.

⁷⁶ In this Verified Statement, analysis of UP operating data on “UP-Hosted Segments” includes the route between Iowa Jct., LA and Yuma Jct., CA (Table No. 1, Lines 6 through 12). It does not include the East Bridge Jct., LA to Live Oak, LA segment (Table No. 1, Lines 3 and 4) or the Yuma Junction, CA to Los Angeles, CA segment (Table No. 1, Line 19).

[REDACTED]

[REDACTED]}}

Our discussion and findings based on UP provided data are included below under the following topical headings:

1. Train Volumes
2. Trains Causing Interference to Sunset Limited
3. Infrastructure
4. Dispatching
5. Recurring Delays to Sunset Limited

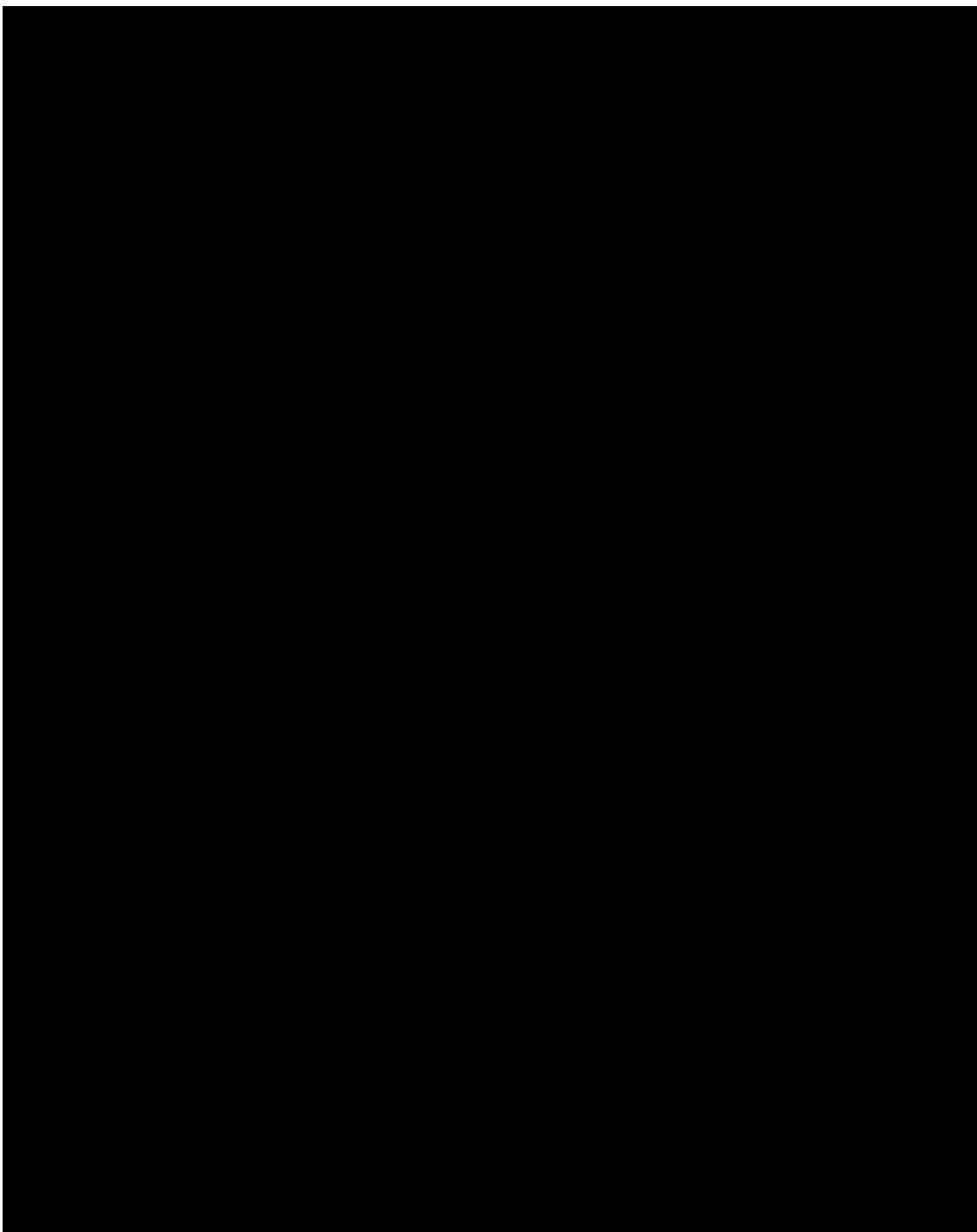
1. Train Volumes

Amtrak Sunset Limited route segments hosted by UP include higher- and lower-density rail lines. In total, Railroad-provided operating data identified {{[REDACTED]}} non-Amtrak trains operating over portions of the Sunset Limited route, including {{[REDACTED]}} on UP-Hosted Segments, during the Study Period. This group primarily includes UP freight trains, but it also includes trains of other (foreign) railroads operating over UP tracks.

Table No. 8 below identifies the train count by train type for the trains operating over the Sunset Limited route segments.

⁷⁷ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 171 to 176.

{{



}}

As shown in Table No. 8 above, the $\{\{$

[REDACTED] }}. In total, there were { [REDACTED] }
 [REDACTED] }}, as shown in Table
 No. 9 below.

⁷⁸ Line-haul trains include intermodal, manifest, auto, and unit (grain, rock, coal, ore, beets, and other unit) trains.

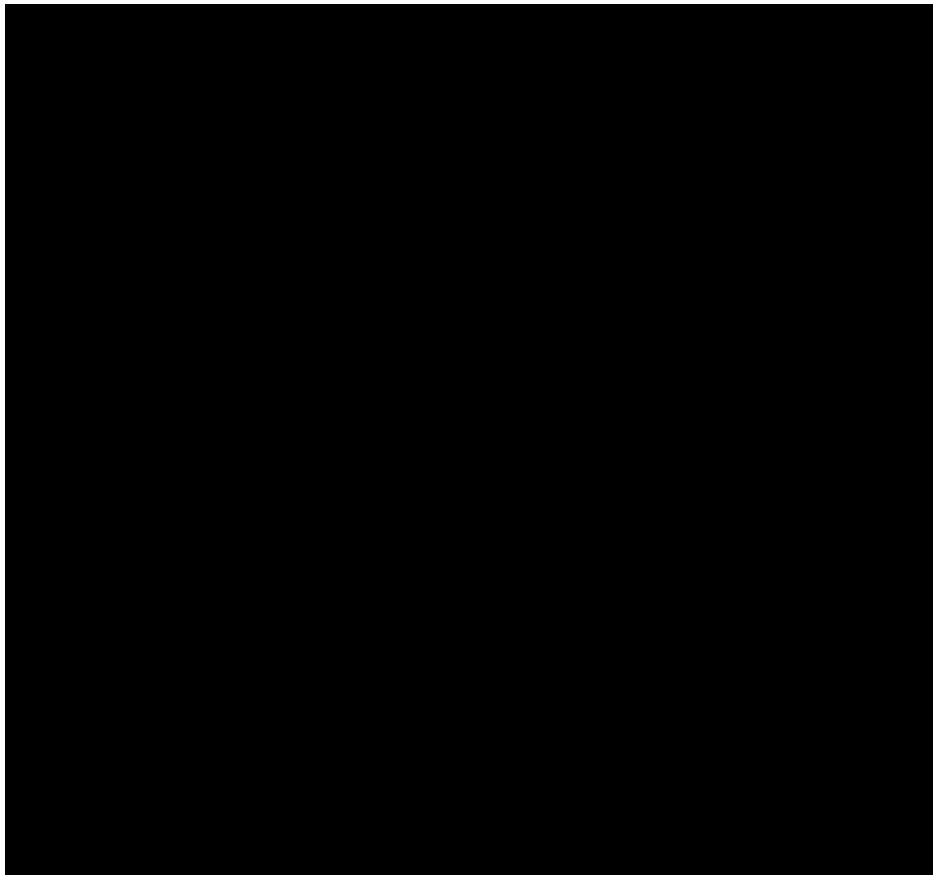
⁷⁹ Sum of Table No. 8, Column (2), Lines 1, 4, 5, and 8 = {{[REDACTED]}} trains.

⁸⁰ See: Exhibit No. 6 at Line 287, Column (9).

81 [REDACTED] } See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for
Numbers” at Rows 649 to 661.

⁸² AMT-1 trains report an average of {{[REDACTED]}} events at distinct Control Points and trackside scanners on the Sunset Limited route. See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 103 to 108.

{{



}}

As shown in Table No. 9 above, Intermodal trains {{

As shown in Table No. 9 above, Intermodal trains {{
As shown in Table No. 9 above, Intermodal trains {{
As shown in Table No. 9 above, Intermodal trains {{
As shown in Table No. 9 above, Intermodal trains {{
As shown in Table No. 9 above, Intermodal trains {{
As shown in Table No. 9 above, Intermodal trains {{}}

Many intermodal trains also move on {{

Many intermodal trains also move on {{
Many intermodal trains also move on {{
Many intermodal trains also move on {{

⁸³ Sum of Column (2), Lines 1 and 3 = {{}} trains ÷ Column (2), Line 12.

⁸⁴ See: Opening Verified Statement Support_2024.10.07.xlsx, at “Example Trains”.

[REDACTED]
 [REDACTED]
 [REDACTED]

On average, UP operated {{[REDACTED]}} intermodal trains per day during the Study Period. Within the intermodal group, {{[REDACTED]}} trains per day were premium intermodal trains, and {{[REDACTED]}} were standard intermodal trains.⁸⁶ Intermodal traffic is the highest rated freight traffic on UP's network on a per-carload basis, as shown at Line 4, Column (6) in Table No. 10 below.

Table No. 10
UP 2023 Revenue per Carload by Traffic Group

Traffic Group	Revenue 1/	Units 1/	Units Per Carload 2/	Carloads 3/	Revenue Per Carload 4/
(1)	(2)	(3)	(4)	(5)	(6)
1. Bulk 5/	\$7,358,000,000	2,031,000	1	2,031,000	\$3,623
2. Industrial 6/	\$8,238,000,000	2,233,000	1	2,233,000	\$3,689
3. Auto 7/	\$2,421,000,000	820,000	1	820,000	\$2,952
4. Intermodal 7/	\$4,554,000,000	3,028,000	4.3	704,186	\$6,467
5. Total/Average 8/	\$22,571,000,000	8,112,000	xxx	5,788,186	\$3,899

1/ Source: UP 2023 10-K Report, page 27.

2/ Source: UP 2023 R-1 Report, Schedule 755, Line 134, Column b, page 81.

3/ Column (3) ÷ Column (4).

4/ Column (2) ÷ Column (5).

5/ Bulk includes Grain, Fertilizer, Food, and Coal.

6/ Industrial includes Chemicals & Plastics, Metals & Minerals, Forest Products, and Energy.

7/ Auto and Intermodal make up the Premium Traffic Group

8/ Sum of lines 1 through 4, except Column (6) – See: footnote 4/.

{{[REDACTED]}}

[REDACTED] }⁸⁷ Exhibit No.

⁸⁵ See: Opening Verified Statement Support_2024.10.07.xlsx, at "Example Trains".

⁸⁶ See: Opening Verified Statement Support_2024.10.07.xlsx, at "SQL for Numbers" at Rows 179 to 206.

⁸⁷ See: { [REDACTED] }
[REDACTED] }

5 summarizes train operating statistics by train symbol for UP trains that operated over the UP-Hosted Segments during the Study Period, and that were linked to Amtrak Sunset Limited FTI delays. The Exhibit identifies the predominant route of movement (locations where the train entered and exited the Sunset Limited route) during the Study Period.

Figure No. 4 below depicts train densities as measured by average trains per day over the route.



As shown in Figure No. 4 above, the {{

88 {{

89 {{

}

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]}}

As shown in Figure No. 4, the lowest volume segments {{ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]}}.

Despite relatively low volumes, {{ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]}}

These findings demonstrate that lower density line segments were not less prone to FTI delays than higher-density line segments during the Study Period.

⁹⁰ See: Exhibit No. 6 at columns (5) through (8).

⁹¹ {{ [REDACTED] }}

Figure No. 5
Google Earth Image of UP City of Industry Intermodal Terminal



Train conflicts and resulting delays are a function of many factors, such as freight scheduling practices, personnel management, train length and volume, available infrastructure on a given segment, and the dispatching priority given to trains.

In addition to the line-haul freight trains discussed above, many freight trains operate over short sections of the Sunset Limited route. A large number of these trains are yard and local trains.

{{ [REDACTED] }}
[REDACTED] }} during the Study Period.⁹²

⁹² {{ [REDACTED] }}
[REDACTED] }}

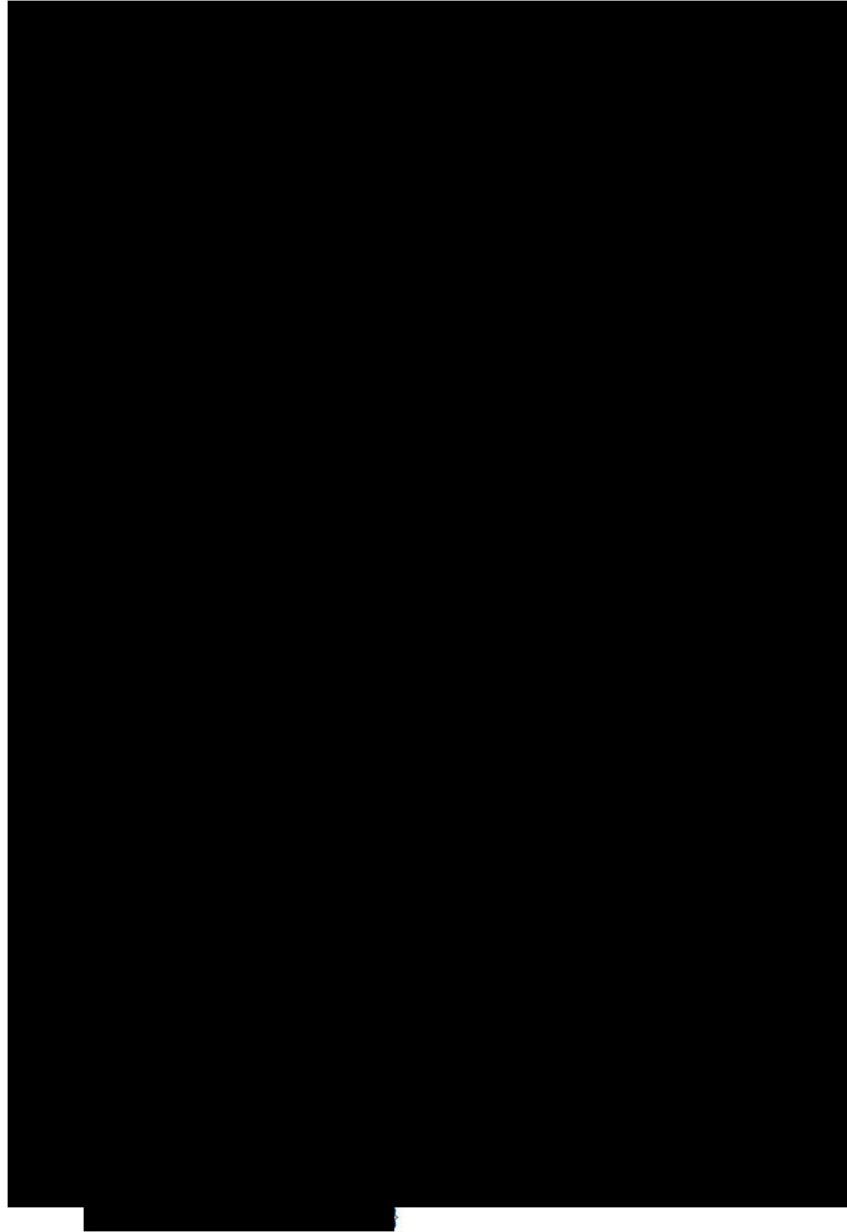
These daily train volumes include trains that reported two (2) or more events at control points on the Sunset Limited Route. There were an additional {{[REDACTED]}} trains which reported a single event at control points located at junctions where other line segments connect to the UP-Hosted Segments,⁹³ but that did not operate over the route. Many trains operated out of yards adjacent to the Sunset Limited route with lead tracks that cross over the Sunset Limited route to access other mainlines. This operation caused interference even though the trains never traverse the route.

For example, {{[REDACTED]}}
[REDACTED] [REDACTED]
[REDACTED]}}. As shown in
Figure No. 6 below, the {{[REDACTED]}}
[REDACTED]

⁹³ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 251 to 253.

⁹⁴ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 256 to 266.

⁹⁵ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 269 to 288.



2. Trains Causing Interference to Sunset Limited

Before we could analyze the operations of the trains identified by Amtrak conductors as the source of FTI delays, we had to link the delays to freight trains using locomotive data provided by UP. We were able to identify the involved train in the UP data for {{[REDACTED]}} out of the {{[REDACTED]}} locomotives identified by Amtrak crews during 4,769 unique FTI delays reported on

UP-Hosted Segments, accounting for {{[REDACTED]}}⁹⁶ of the total 75,439 FTI delay minutes associated with those delays.⁹⁷

Table No. 11 below shows the breakdown of the freight trains operating over UP-Hosted Segments by train type, along with the average number of events reported on the Sunset Limited route, and the number of individual FTI delays we were able to link to trains in each category.

⁹⁶ See: Exhibit No. 5 at Line 412, Column (14).

⁹⁷ Using the delay location and lead locomotive initial and number data included in the Amtrak delay comments and the event timestamps for Amtrak and UP trains at the reported delay locations, we successfully linked {{[REDACTED]}} percent of the reported UP FTI locomotives to specific UP trains in the UP operating data (See: Opening Verified Statement Support_2024.10.07.xlsx, at “TrainType Summary”). However, we were not able to link the entire universe of FTI delays reported by Amtrak conductors to specific UP trains. For example, lead locomotive or location data was incomplete in some Amtrak conductor comments. We do not know why Amtrak conductors may not have had enough information to identify certain details related to the cause of delay in the field.

$$\}} \quad$$

average, $\{\{\text{[redacted]}\}\}$ report events at $\{\{\text{[redacted]}\}\}$ stations on the Sunset Limited route

(Line 1, Column (5)), although there is significant variability in segment length for these trains.⁹⁸ {{[REDACTED]}} are also the trains most often identified by Amtrak as the conflict train for reported FTI events (Line 1, Column (6)). Amtrak conductors identified those trains as responsible for {{[REDACTED]}}⁹⁹ of the total FTI delays and delay minutes that we were able to link to specific UP freight trains.

{{[REDACTED]}} are also identified as major sources of FTI (Table No. 11, Lines 2, 3, 4, and 6, Column (7)). As shown in Columns (4) and (5), many of these freight trains report more events on the UP-Hosted Segments (on average) than trains in other categories, and several report hundreds of events on the Sunset Limited route.

Below are examples of a few individual trains that we identified as conflict trains in multiple FTI delays, based on the locomotive initials and numbers included in the Amtrak conductors' delay reason comments.¹⁰⁰ {{[REDACTED]}}

[REDACTED]

[REDACTED]

⁹⁸ See examples below.

⁹⁹ Table No. 11, Line 1, Column (7) ÷ Line 21, Column (7)

¹⁰⁰ See: Opening Verified Statement Support_2024.10.07.xlsx, at "Example Trains".

¹⁰¹ $1,488.5 \div 2,960 = 50\%$

[REDACTED]

[REDACTED]

[REDACTED]}

Exhibit No. 5 contains a summary of train operations by train symbol for all trains operating over UP-Hosted Segments during the Study Period which we were able to link to FTI delays, and identifies the total FTI delays and delay minutes that we were able to link to individual trains with available data.

As the above examples demonstrate, {[REDACTED]

[REDACTED]

[REDACTED]}}.¹⁰² The average length for all UP trains linked to FTI delays was {[REDACTED]} feet, while the average length for all UP trains that were not linked to an FTI delay was {[REDACTED]} feet.¹⁰³

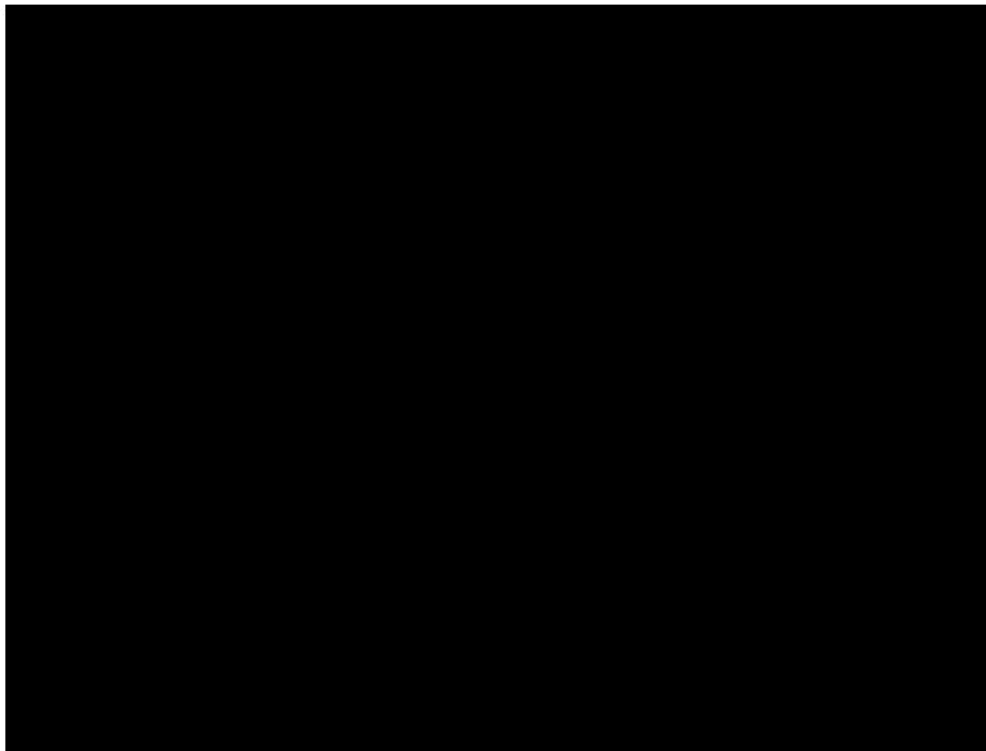
¹⁰² Many UP trains pass multiple sidings while on the route, while other UP trains do not pass by any sidings as they only traverse a short segment of the approximately 2,000 mile route.

¹⁰³ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 34 to 41.

3. Infrastructure

There are {█} passing sidings along the single-track segments of the UP-Hosted Segments on the Sunset Limited route. Table No. 12 below shows the number of sidings by UP subdivision, and identifies the number of sidings that can and cannot accommodate trains greater than 10,000 feet in length.

{



}

As shown in Table No. 12 above, of the {█} sidings along the UP-hosted segments, {█
█} are less than 10,000 feet in length. Exhibit No. 6 shows the length of all sidings on the Sunset Limited route, and indicates whether they are on single-track or double-track line segments.¹⁰⁴ Exhibit No. 6 also shows the average length of UP freight trains that passed each siding during the Study Period.¹⁰⁵

¹⁰⁴ In Exhibit No. 6, we classified all segments that are more than a single-tracked as double-track. {█
█}

¹⁰⁵ See: Exhibit No. 6 at Column (12).

There are some very long single-track segments along the route. In particular, { [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] }

There is a similar operating scenario { [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED] } { { [REDACTED]
[REDACTED] }}

{ [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] }

A similar situation exists at the western end of the Sunset Limited route on UP's Alhambra subdivision. { [REDACTED]

[REDACTED] [REDACTED]
[REDACTED]
[REDACTED] } Amtrak trains are in the minority of trains that
can fit into these sidings. { { [REDACTED]
[REDACTED] }}

¹⁰⁶ See: Exhibit No. 6 at Lines 211 – 232, Column (20).

¹⁰⁷ See: Exhibit No. 6 at Lines 5 – 16, Column (7).

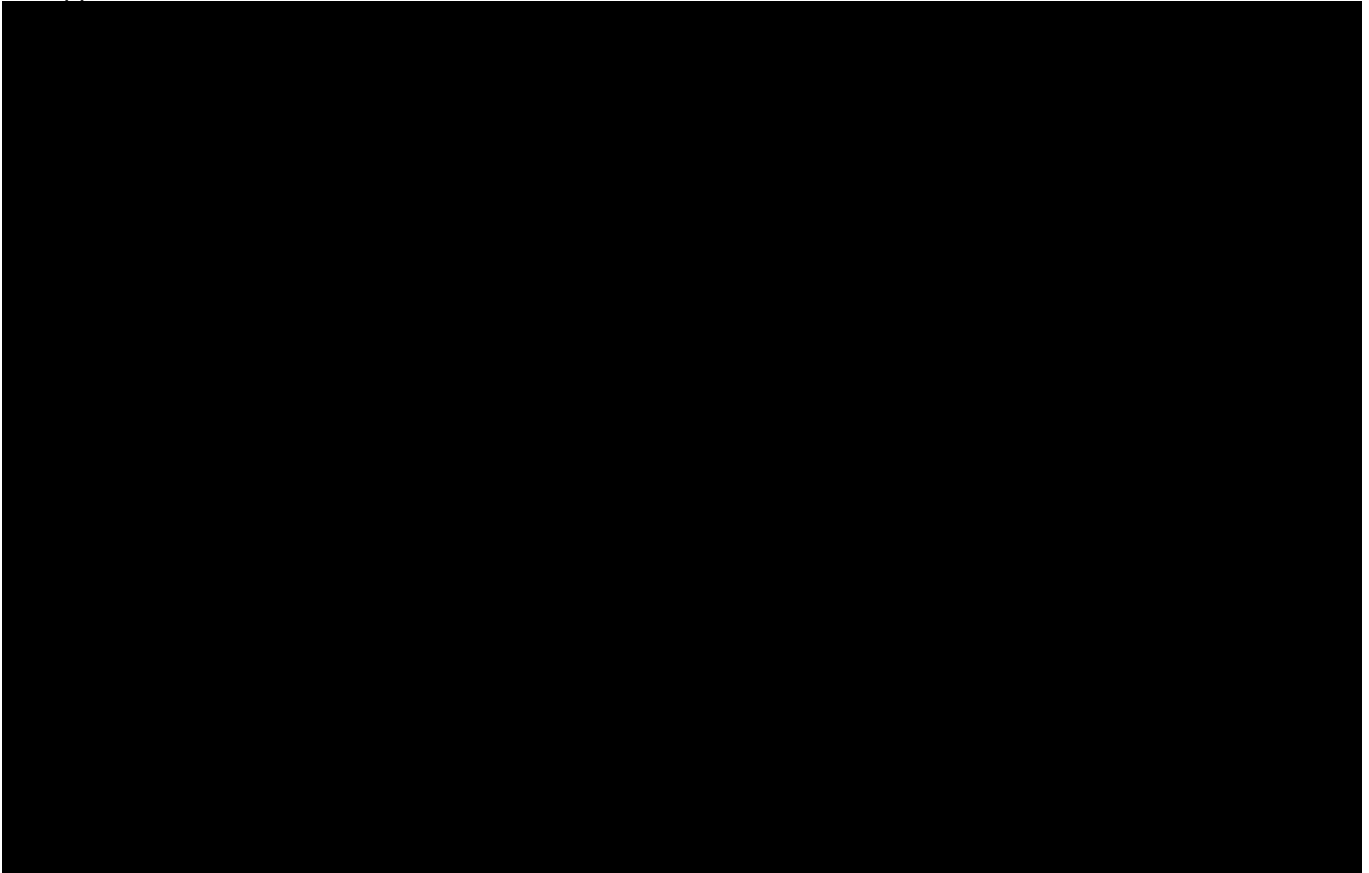
¹⁰⁸ See: Exhibit No. 6 at Lines 1 – 20, Columns (7) and (13).

¹⁰⁹ See: Exhibit No. 6 at Line 7, Column (20).

a. Train Size

We calculated the average train length for all UP freight trains at all siding locations along the Sunset Limited route. As shown in Table No. 13 below, the average train length exceeded the length of {{[REDACTED]}} in single track territory on the route.

{{



}}

As shown in Table No. 13 above, {{[REDACTED]}} that were too short to accommodate the average passing UP freight train in single-track territory are {{[REDACTED]}} (Table No. 13, Lines 1 through 14). More than {{[REDACTED]}} of passing freight trains could not fit into these sidings (Table No. 13, Lines 1-14, Column (8)). Trains average more than {{[REDACTED]}} feet in length along the {{[REDACTED]}} (Table No. 13, Lines 5-14, Column (6))

UP routinely operates even longer trains. In fact, there were an average of {{[REDACTED]}} trains per day that were {{[REDACTED]}} during the study period, {{[REDACTED]}}. ¹¹⁰ When an Amtrak train encounters a freight train that is too long to fit in available sidings, the Amtrak train is often forced to a siding to accommodate a meet or pass, and may be required to follow the non-fitting train for some time before an overtake can be accomplished.

{{[REDACTED]}}

[REDACTED] [REDACTED]

[REDACTED]}}

Table No. 14 below summarizes the UP operating data for trains in those categories that passed at least one siding along UP-Hosted Segments of the Sunset Limited Route, and calculates the average percentage of passed sidings that could not accommodate the individual trains.

{{[REDACTED]}}

}}

¹¹⁰ See: Opening Verified Statement Support 2024.10.07.xlsx, at “SQL for Numbers” at Rows 366 to 391.

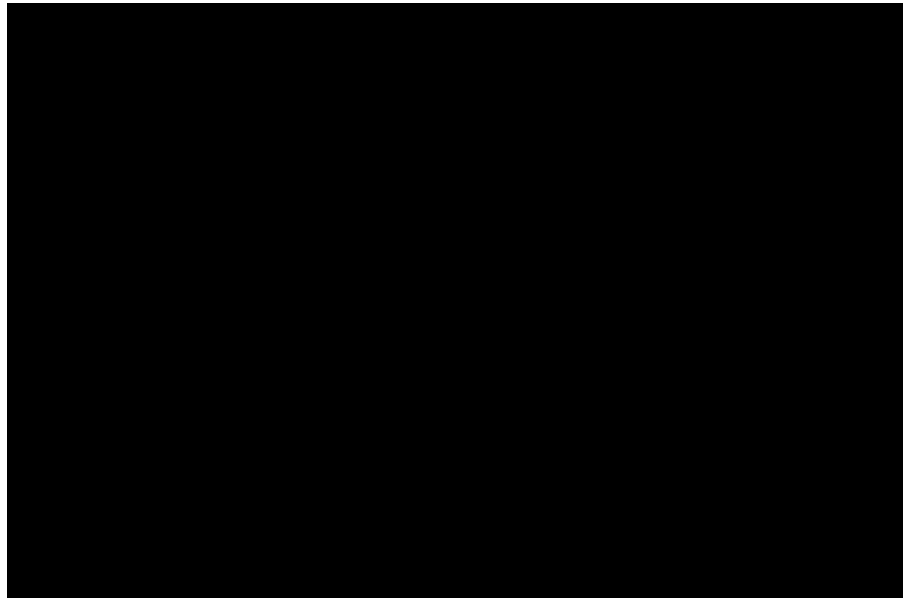
¹¹¹ UP operating data shows that {{[REDACTED]}}.

¹¹² See: UP-SL-0012409 HC, {{[REDACTED]}}.

As shown in Table No. 14, both {{[REDACTED]}} trains were too long to fit into more than half of the sidings they encountered, on average (See Table No. 14, Lines 1 and 2, Column (7)). {{[REDACTED]}}, were too long to fit into roughly {{[REDACTED]}} of the sidings they passed (See Table No. 14, Line 3, Column (7)).

Table No. 15 below contains a summary of UP freight trains that were too long for sidings that the trains passed along the route, grouped by the percentage of inadequate sidings the trains passed.

{{



}}

As shown in Table No. 15 above, UP operated {{[REDACTED]}} trains during the Study Period that were too long for at least some of the available sidings (Table No. 15, Line 6, Column (2)).¹¹³ This group of trains accounted for {{[REDACTED]}} (Table No. 15, Line 6, Column (5)) of the total

¹¹³ We excluded the 1,280-foot siding at the El Paso Amtrak Station on the Lordsburg subdivision from our analysis of non-fitting freight trains because it is not a passing siding for freight trains.

{{[REDACTED]}}¹¹⁴ FTI delay minutes that we were able to link to individual trains ({{[REDACTED]}} percent).¹¹⁵

There were {{[REDACTED]}} trains that were too long to fit into at least half of the sidings they passed on the Sunset Limited Route (Table No. 15, Line 1 + Line 2 + Line 3, Column (2)). The group of {{[REDACTED]}} trains that were too long for at least half of the sidings that they passed was primarily made up of {{[REDACTED]}}. Although these long trains make up only 12.0 percent of the total trains that traversed the Sunset Limited route during the study period, they accounted for {{[REDACTED]}}¹¹⁶ of the {{[REDACTED]}}¹¹⁷ FTI delay minutes we were able to link to individual trains ({{[REDACTED]}} percent).¹¹⁸

Many of these trains operate over the segment between Southern California and El Paso, TX. Specifically, UP operated {{[REDACTED]}} trains with an average of the longest consist per train of {{[REDACTED]}} feet in the eastbound direction over this segment during the study period ({{[REDACTED]}} trains per day) and another {{[REDACTED]}} trains with an average of the longest consist per train of {{[REDACTED]}} feet in length in the westbound direction ({{[REDACTED]}} trains per day).¹¹⁹ On average, these trains pass {{[REDACTED]}} sidings and exceed the length of {{[REDACTED]}} percent of those sidings.¹²⁰ The vast majority ({{[REDACTED]}} percent) of these trains were {{[REDACTED]}} trains ({{[REDACTED]}} per day), and fully {{[REDACTED]}} of the trains were {{[REDACTED]}} trains – {{[REDACTED]}}

¹¹⁴ See Exhibit No. 5, Line 412, Column (14).

¹¹⁵ $34,368 \div 47,587 \times 100 = 72.2$ percent.

¹¹⁶ See Exhibit No. 7, Line 1061, Column (15).

¹¹⁷ See Exhibit No. 5, Line 412, Column (14).

¹¹⁸ $22,732 \div 47,587 \times 100 = 47.8$ percent.

¹¹⁹ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 465 to 517.

¹²⁰ Ibid.

¹²¹ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 520 to 577.

¹²² {{[REDACTED]}} in the Study Period. See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 412 to 428.

[REDACTED]

[REDACTED] } }.

Some very long trains also traverse longer stretches of the Sunset Limited route east of El Paso. For example: { {

[REDACTED]

[REDACTED] } }

3. Exhibit No. 7 contains a list of the trains that exceeded the length of 50 percent or more of the sidings they encountered on the route which caused FTI delays to Amtrak Sunset Limited trains.

b. Outages

In addition to the operating problems caused by sidings that are too short to accommodate the trains UP operates, blocked sidings also reduce available capacity and reduce the number of meet and overtake opportunities for Amtrak trains. Using UP data, we determined that on average, { [REDACTED] } of the total { [REDACTED] } passing sidings on the Sunset Limited route were blocked on a daily basis, which equates to { [REDACTED] } of the available sidings.¹²⁵ { [REDACTED] }

¹²³ See: Exhibit No. 7 at Line 92 and Opening Verified Statement Support_2024.10.07.xlsx, at “Train Too Big Examples”.

¹²⁴ See: Exhibit No. 7 at Line 191 and Opening Verified Statement Support_2024.10.07.xlsx, at “Train Too Big Examples”.

¹²⁵ See: Opening Verified Statement Support_2024.10.07.xlsx, at “Blocked Sidings Per Day”.

[REDACTED]

[REDACTED]}}

Table No. 16 below shows a breakdown of Sunset limited trains and the number of blocked passing sidings they encountered on the route.

¹²⁶ Blocked siding data for UP begins on 11/5/2021, leaving 35 days in the Study Period (from 10/1/2021 to 11/4/2021) for which blocked siding data was not provided. (See database table “[AmtrakSunsetLimitedProcessed].[dbo].[UP_BlockedSidings]”)

In many cases, reported FTI conflicts occurred in close proximity to sidings that were blocked for extended periods. For example, the { } siding at Sanderson, TX on the Sanderson Subdivision was reported as blocked for { } days in the Study Period from

{[REDACTED]}. In the period before the blockage {[REDACTED]}, {[REDACTED]} Amtrak trains passed by Sanderson and/or the adjacent Stations on either side.¹²⁷ Of those {[REDACTED]} trains, {[REDACTED]} experienced FTI delays in this area, a {[REDACTED]} delay rate. In the period during the blockage, {[REDACTED]} Amtrak trains traversed the area, and {[REDACTED]} of those experienced FTI delays, an {[REDACTED]} delay rate.¹²⁸

A similar result occurred for another siding in UP's Sanderson Subdivision that was blocked for over {[REDACTED]} days. The {[REDACTED]} siding at Marathon, TX was reported as blocked for {[REDACTED]} days in the Study Period from {[REDACTED]}. In the period before the blockage, {[REDACTED]} Amtrak trains passed in the vicinity of Marathon¹²⁹ and {[REDACTED]} experienced delays, an {[REDACTED]} delay rate. In the period during the blockage, {[REDACTED]} Amtrak trains traversed the area, and {[REDACTED]} of those experienced FTI delays, a {[REDACTED]} delay rate.¹³⁰

4. Dispatching

UP's Harriman Dispatching Center ("HDC") Amtrak Guide states that {[REDACTED]}

[REDACTED]

[REDACTED]

We also understand that federal law requires freight dispatchers to give dispatching preference to Amtrak trains over freight trains, when conflicts arise.¹³²

¹²⁷ This includes Sanderson (SO513), Feodora (SO507) and Emerson (SO522).

¹²⁸ See: Opening Verified Statement Support_2024.10.07.xlsx, at "SQL for Numbers" at Rows 580 to 608.

¹²⁹ This includes Marathon (SO575), Warwick (SO565) and Lenox (SO582).

¹³⁰ See: Opening Verified Statement Support_2024.10.07.xlsx, at "SQL for Numbers" at Rows 612 to 641.

¹³¹ See: UP-SL-0012389 C through UP-SL-0012397_C.

¹³² See: 49 U.S.C §24308(c).

As Amtrak stated in its complaint, UP implemented a railroad operating strategy called Precision Scheduled Railroading (“PSR”). As the name implies, PSR requires dispatching scheduled manifest and intermodal trains from their origin yard or terminal on schedule. Under PSR, railroads ordinarily prioritize dispatching trains from the origin yard on schedule even if it means the trains are carrying fewer carloads than planned.

UP claims that it applies this principle. Its website states: “instead of waiting for a long train to be built, trains are always moving and cars are picked up on schedule, regardless of train length.”¹³³ As further explanation, UP states: “What railroads found is that the focus on moving trains was actually slowing down the network overall and causing cars to sit for long periods of time in yards (a measurement railroaders call “dwell”) — and that’s inefficient for both railroads and their customers.”¹³⁴

Under PSR, late-arriving cars are reclassified and placed on the next departing train. However, missed connections result in increased yard dwell for those reclassified cars, so there is a corresponding emphasis on minimizing missed connections. The competing goals of dispatching trains from origin yards on schedule and minimizing missed connections are often resolved in the field, and can result in delay to Amtrak Trains. { [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

¹³³ See: UP website at: [UP: What Is Precision Scheduled Railroading?](#)

¹³⁴ Ibid.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]}}

UP's public statements also state that the PSR operating model "yields another important advantage... the right resources, like crews, cars and locomotives, are in place when they are needed. For railroads, that means more effective use of resources."¹³⁵ However, {{ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

¹³⁵ See: Opening Verified Statement Support_2024.10.07.xlsx, at "Additional Delay Examples" at Column (T).

¹³⁶ 6,000 feet is the length cited in UP's root cause analysis support. However, train length data provided by UP in Discovery indicates the train was {{ [REDACTED] }} feet long. Opening Verified Statement Support_2024.10.07.xlsx, at "Train Too Big Examples".

¹³⁷ See: UP root cause analysis, AMT-1, Volume 1, page 400.

¹³⁸ See: UP website at: [UP: What Is Precision Scheduled Railroading?](#)

¹³⁹ Table No. 17 is based on available UP data. UP schedule data were not provided for all stations en route, and for certain UP trains, the schedule data was missing the train section data required to link the scheduled event times to the actual event times.

$$\}} \quad$$

As shown in Table No. 17 above, UP's { {

$$\} \}.^{141}$$

When UP freight trains are operating behind schedule, whether it is by an hour-and-a-half or by seven (7) hours, UP runs the risk of its crews expiring before the trains reach their scheduled

¹⁴⁰ See: Table No. 17, Lines 1, 3, and 4.

¹⁴¹ See: Table No. 17, Lines 6, 7, and 10 through 13. Statistics in Table No. 17 reflect all trains, at all stations for which UP provided both schedule data and event timestamps. For example, a given train {{ [REDACTED] }} Table No. 17 also excludes some multi-section trains for which we could not determine which train section the schedule data corresponds with due to missing train section data.

crew change stations. In its discussion of the delay to {{[REDACTED]}}
{{[REDACTED]}} UP states that {{[REDACTED]}}

[REDACTED]

UP training materials instruct dispatchers to {{[REDACTED]}}

[REDACTED]

143 We have not identified within the training materials any instruction with respect to considering the status of Amtrak's crews.

The STB instructed UP to review 736 FTI delays¹⁴⁴ and explain the causes of each individual delay. UP discussed hours of service limits as a factor contributing to Amtrak FTI delay in {{[REDACTED]}} of the 38 host-responsible FTI delays of 90 minutes or more ({{[REDACTED]}} percent).

5. Recurring Delays To Sunset Limited

Review of cumulative Amtrak delays by type and location over UP-Hosted Segments reveals different recurring delay patterns for the eastbound and westbound Amtrak Sunset Limited trains. During the Study Period, Amtrak data demonstrated that westbound AMT-1 trains incurred more FTI delay minutes (43,560 minutes, or 726 delay hours) than eastbound AMT-2 trains (36,798 minutes, or 613 delay hours).¹⁴⁵ Train meets were the leading cause of delay for both Sunset Limited trains, however, {{[REDACTED]}}
{{[REDACTED]}}

¹⁴² See: HC UP Select Delays of 90 Minutes or More - Highly Confidential.pdf, page 12.

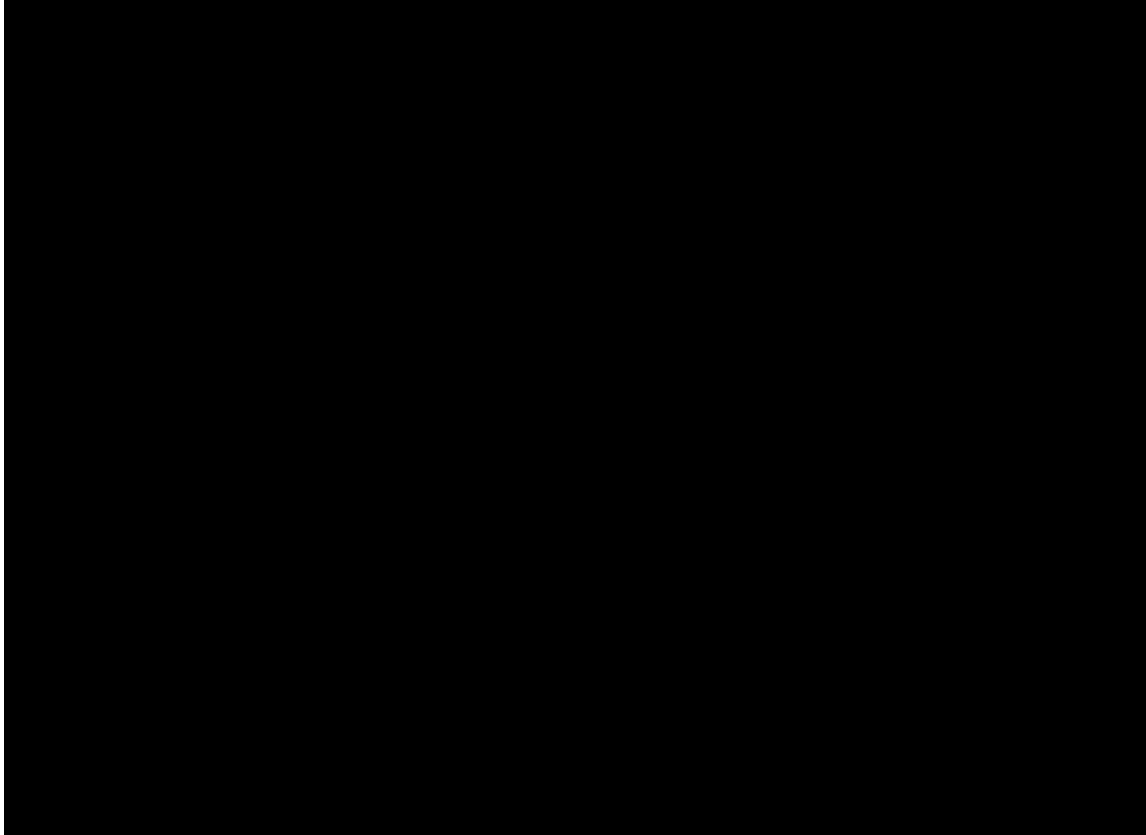
¹⁴³ See: UP-SL-0012931_C.

¹⁴⁴ UP was listed as the Host Railroad in 698 FTI delays included in Appendix – Part 1 Host-responsible Delays on a Run-by-Run Basis and 38 FTI delays included in Appendix—Part II Select Host-Responsible Delays of 90 Minutes or More. Appendix – Part 1 included 948 total delays and Appendix – Part II included 43 total delays.

¹⁴⁵ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 431 to 439.

Exhibit No. 8 summarizes Amtrak Sunset Limited FTI delay minutes by Amtrak train and delay type for each UP subdivision. Table No. 18 below contains an abbreviated summary of Exhibit No. 8.

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As shown in Table No. 18 above, Sunset Limited trains incur FTI delays across the entire length of the route. In total, more FTI delay is attributed to train meets than any other delay type (Table No. 18, Line 13, Columns (3) and (5)). {{

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Although both Amtrak Trains experience significant FTI on most segments, trains traveling in one direction sometimes experience even more pronounced delays. For example, as shown in Table No. 18, Line 12, over the Lafayette Subdivision which runs from Iowa Jct., LA to Beaumont, TX, westbound AMT-1 trains incurred 3,889 minutes of FTI delays (primarily attributed to train meets) while eastbound AMT-2 trains incurred 1,990 minutes of FTI delay (primarily attributed to train follows).¹⁴⁶

Between Houston and Beaumont, UP employs directional running and routes eastbound AMT-2 trains over the Beaumont Subdivision. This route is longer than the route over the Houston Subdivision, with lower speed limits.¹⁴⁷ In addition to the FTI delays that are summarized in Table No. 18 above, Amtrak conductors classify some host-responsible delays as routing (“RTE”) delays. In total over the study period, AMT-1 trains incurred 5,436 minutes attributed to RTE delays, while AMT-2 trains incurred 7,763 minutes attributed to RTE delays, 3,230 minutes of which were incurred by AMT-2 trains recording RTE delays between Beaumont, TX and Houston, TX.¹⁴⁸

AMT-1 and AMT-2 trains also incur a large amount of delay on the Glidden Subdivision between Houston, TX and San Antonio, TX. AMT-1 trains incurred 6,338 minutes of FTI delays (primarily attributed to train follows) while eastbound AMT-2 trains incurred 4,691 minutes of FTI delay (primarily attributed to train meets). As shown in Exhibit No. 6, the single-tracked stretch between Harlem, TX and Randolph, TX imposes significant FTI delay on Sunset Limited

¹⁴⁶ Although UP does not have primary responsibility for dispatching the segment immediately east of Live Oak, it jointly owns that segment and appears to have some visibility into how it is dispatched. See BNSF Resp. to Board’s Requests – App’x A, Part IV at 34-35 (Sept. 25, 2024); See Resp. to Board’s Requests – App’x A, Part IV at 40 (Sept. 25, 2024). Moreover, UP is the designated host for portions of the route between East Bridge Junction and Live Oak. See Table 1, *supra*.

¹⁴⁷ See: UP-SL-0008537_C (Houston Subdivision Maximum Speed Table) and UP-SL- 0008456_C (Beaumont Subdivision Maximum Speed Table).

¹⁴⁸ See: Opening Verified Statement Support_2024.10.07.xlsx, at “SQL for Numbers” at Rows 442 to 462.

trains. That segment has {█} passing sidings, half of which are over 10,000 feet in length.¹⁴⁹ This is a higher-density segment, particularly the western portion between Flatonia, TX and San Antonio, TX.¹⁵⁰ UP routinely requires that {{█}}, and routinely requires that {{█}}. █}}.

Between Texas and California, Sunset Limited trains incur substantial delays at three (3) passenger stations: El Paso, TX, Tucson, AZ, and Yuma, AZ.¹⁵¹ In addition to train meets and train follows, Sunset Limited trains incur significant FTI because they are blocked from accessing these stations.

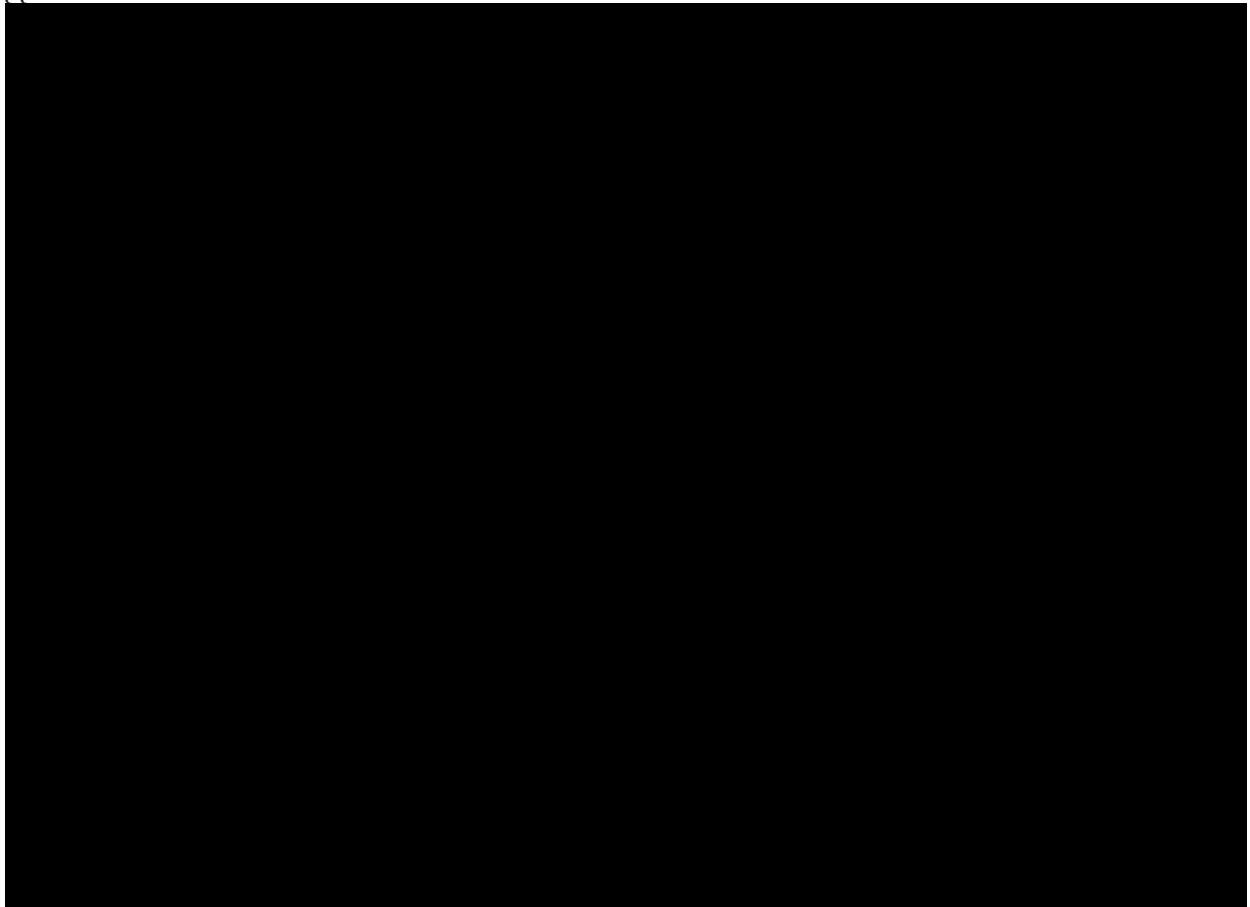
On the westernmost Alhambra Subdivision, both AMT-1 and AMT-2 trains incur repeated and long delays at the City of Industry facility. Table No. 19 below shows the delay type by train at City of Industry over the Study Period.

¹⁴⁹ See: Exhibit No. 6 at Lines 212-229, Columns (6), (7), (18) and (19).

¹⁵⁰ See: Exhibit No. 6 at Lines 212-219, Column (8).

¹⁵¹ See: Exhibit No. 6 at Lines 50, 85, and 125, Columns (18) and (19).

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As shown in Table No. 19 above, AMT-1 trains incurred 1,147 minutes of FTI delay, and AMT-2 trains incurred 1,036 minutes of FTI delay at City of Industry during the one-year Study Period.

Summaries of FTI delays and delay minutes by delay type at each station along the UP-hosted segments of the Sunset Limited route are included in Exhibit No. 9 (AMT-1 trains) and Exhibit No. 10 (AMT-2 trains).

VERIFICATIONS

I, Timothy D. Crowley, verify under penalty of perjury that I have read this Verified Statement on behalf of the National Railroad Passenger Corporation, that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.



Timothy D. Crowley

Executed on 10/7/24

* * *

I, Robert D. Mulholland, verify under penalty of perjury that I have read this Verified Statement on behalf of the National Railroad Passenger Corporation, that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this statement.



Robert D. Mulholland

Executed on 10/7/24

LIST OF EXHIBITS

Exhibit No.	Exhibit Description
(1)	(2)
1	Robert D. Mulholland Statement of Qualifications
2	Timothy D. Crowley Statement of Qualifications
3	Schematics of The Amtrak Sunset Limited Route
4	Summary of Data Processing and Analysis
5	Trains Operating Over the UP-hosted Segments of the Sunset Limited Route That Were Identified as Cause of FTI Delays
6	Infrastructure and Train Operating Data for Stations Along the UP-hosted Segments on the Sunset Limited Route
7	Roster of UP Freight Trains that Were Too Long to Fit in 50 Percent or More of the Sidings They Passed on the Sunset Limited Route and Identified as Cause of FTI Delay
8	Amtrak Sunset Limited FTI Delay Minutes by Type for Each UP Subdivision
9	AMT-1 Reported FTI Delay Type for Stations Along the UP-hosted Segments on the Sunset Limited Route
10	AMT-2 Reported FTI Delay Type for Stations Along the UP-hosted Segments on the Sunset Limited Route

ROBERT D. MULHOLLAND
STATEMENT OF QUALIFICATIONS

My name is Robert D. Mulholland. I am the Executive Vice President of the economic consulting firm of L. E. Peabody & Associates, Inc. The firm's offices are located at 1501 Duke Street, Suite 200, Alexandria, Virginia 22314 and 760 E. Pusch View Lane, Suite 150, Tucson, Arizona 85737.

I am a graduate of George Mason University's School of Public Policy, from which I obtained a Master's degree in Transportation Policy, Operations & Logistics, and Bowdoin College, from which I obtained a Bachelor of Arts degree in Government and Legal Studies. I have been employed by L. E. Peabody & Associates, Inc. since 2008 and from 1995 to 2004. From 2004 to 2006, I was the staff economist for the Office of Freight Management and Operations of the Federal Highway Administration ("FHWA") of the United States Department of Transportation ("USDOT"). From 2006 to 2008, I worked for ICF International as a consultant in the transportation group.

L. E. Peabody & Associates, Inc. specializes in analyzing matters related to the rail transportation of passengers and freight. As a result of my extensive consulting experience since 1995 and my participation in and support of maximum-rate, rail merger, service dispute, reasonable practices, and rule-making proceedings before the Surface Transportation Board ("STB"), I have become thoroughly familiar with the major freight and passenger rail carriers in the United States. This familiarity extends to subjects of railroad operations, traffic prioritization, capacity, service, costs and revenues, maintenance, and contract and tariff terms that govern the movement of commodities by rail.

As a consultant, I have directed and conducted economic and operations studies and prepared reports for passenger and freight carriers, shippers, federal agencies, the United States

ROBERT D. MULHOLLAND
STATEMENT OF QUALIFICATIONS

Congress, associations, and other stakeholders dealing with transportation and related economic issues. Examples of studies I have participated in include organizing and directing rail facilities analyses, quantifying the impact of service disruptions for shippers, shared use of rail facilities by passenger and freight traffic, evaluation of traffic and operating factors in connection with single and multiple car movements and unit train operations for various commodities, rate and revenue division analyses, fuel consumption and cost analyses, and other studies dealing with transportation markets for many commodities over various surface modes throughout the United States. Through these studies I have become familiar with railroad costing and operating practices.

I testified in the recent STB proceeding regarding the merger between Canadian Pacific Railway Limited (“CP”) and the Kansas City Southern Railway Company (“KCS”) that formed the Canadian Pacific Kansas City Limited (“CPKC”). I have presented written testimony before the STB related to rail traffic volume and revenue forecasts, cross-over traffic revenue divisions, and train operations in several maximum reasonable rate proceedings on behalf of coal and chemicals shippers. I developed evidence related to rail fuel consumption and cost determinations in an STB unreasonable practice proceeding. I presented written testimony before the STB in Ex Parte proceedings related to proposed changes to the Uniform Railroad Costing System (“URCS”), Class I railroad capital and operating expenditure reporting requirements related to Positive Train Control (“PTC”) implementation, the revenue allocation formula applied to “crossover” traffic in STB maximum reasonable rate proceedings, and other matters.

I have conducted field studies of short line rail systems and rail spurs, and industry-owned rail facilities, and developed Verified Statements and other reports assessing their capacity to accommodate various projected operating scenarios and traffic levels. I have inspected and studied

ROBERT D. MULHOLLAND
STATEMENT OF QUALIFICATIONS

railroad terminal facilities used in handling various commodities to collect data that were used as a basis for the determination of traffic and operating characteristics for specific movements handled by rail.

I have supported the negotiation of transportation contracts between shippers and railroads. Specifically, I have conducted studies concerning transportation rates based on market conditions and carrier competition, movement-specific service commitments, and various cost-based rate adjustment provisions. I have developed numerous variable cost calculations utilizing the formulas employed by the STB for the development of variable costs for common carriers, with particular emphasis on the basis and use of URCS. I have utilized URCS costing principles in studies since the beginning of my career with L. E. Peabody & Associates Inc. in 1995.

I have conducted economic analyses regarding rail transportation matters for dozens of electric utility companies located in all parts of the United States, and for major associations, including the Chlorine Institute, the American Chemistry Council, the Chemical Manufacturers Association, the National Industrial Transportation League, and the Western Coal Traffic League. In addition, I have assisted numerous government agencies in analyzing and solving various transportation-related problems.

In the Western rail merger that resulted in the creation of the present Union Pacific Railroad Company ("UP"), I reviewed the railroads' applications including their supporting traffic, cost and operating data and developed detailed evidence supporting requests for conditions designed to maintain the competitive rail environment that existed before the proposed merger.

While employed at FHWA, I was a member of the USDOT inter-agency working group that drafted the National Freight Policy. In addition, I served on the USDOT Freight Gateway

ROBERT D. MULHOLLAND
STATEMENT OF QUALIFICATIONS

Team, a group headed by the Undersecretary for Policy and composed of one representative from each of the surface modal agencies.

While employed at ICF International, I directed and conducted numerous analyses of the rail and trucking industries for federal transportation agencies including the Federal Railroad Administration ("FRA"), the Federal Motor Carrier Safety Administration ("FMCSA"), and the FHWA, including analyses of then-current rail and trucking industry data and forecasts of future trends in both industries.

TIMOTHY D. CROWLEY
STATEMENT OF QUALIFICATIONS

My name is Timothy D. Crowley. I am the President of the economic consulting firm of L. E. Peabody & Associates, Inc. The firm's offices are located at 1501 Duke Street, Suite 200, Alexandria, Virginia 22314, and 760 E. Pusch View Lane, Suite 150, Tucson, Arizona 85737.

I received a Bachelor of Science degree in Management with a concentration in Finance from Boston College in 2001 and graduated cum laude. I have been employed by L. E. Peabody & Associates, Inc. since 2002.

I am a member of the American Economic Association and the American Railway Engineering and Maintenance-of-Way Association ("AREMA").

I have extensive experience with the various formulas employed by the Surface Transportation Board ("STB"), including the Uniform Railroad Costing System ("URCS"), which is the STB's general purpose costing system that estimates unit costs and total variable costs for U.S. Class I railroads. I have reviewed and submitted evidence in numerous proceedings before the STB regarding the implementation and update to various components of the URCS process. I was instrumental in the development of L. E. Peabody & Associates, Inc.'s proprietary URCS program. I have utilized the URCS program to develop countless variable cost calculations for rail shipments across North America, including Canada on all class I railroads and various shortline railroads.

I have sponsored evidence for and participated in numerous maximum rate case proceedings at the STB. The evidence that I sponsored in these proceedings included, but was not limited to: qualitative and quantitative market dominance determinations, which utilizes the STB's URCS Phase III costing program; review of traffic and revenues; development of the rail network and operating plan; development of operating expenses and road property investment; and

TIMOTHY D. CROWLEY
STATEMENT OF QUALIFICATIONS

analyzing results of these analyses in a discounted cash flow model. I have also assisted in developing the return on road property investment realized by major western railroads for specific sections of rail. These studies were used in variable, avoidable, and stand-alone cost analyses.

I have experience with the STB's *Simplified Standards For Rail Rate Cases* issued in Ex Parte 646 (Sub No. 1). I have performed extensive work with the revised guidelines for non-coal proceedings, which incorporates a three-benchmark methodology. The three-benchmark methodology includes calculations using revenue shortfall allocation method ("RSAM"), in which I was trained by members of the STB.

I have been involved and am familiar with procedures used in developing support for Anti-Trust litigation.

I have been involved with Feeder Line Applications presented to the STB, which included evaluating the net liquidation value ("NLV") and going concern value ("GCV") of the subject rail line. I have also conducted numerous NLV and GCV calculations on behalf of our clients for use in the sale or discontinuance of a rail line.

I have been actively involved in negotiating transportation contracts on behalf of shippers. Specifically, I have advised shippers concerning transportation rates based on market conditions and carrier competition, movement specific service commitments, volume commitments, contract reopeners that recognize changes in productivity and cost-based ancillary charges. I have forecasted transportation revenues included in transportation contracts entered into by major companies, taking into account the escalation factors used in specific contracts. Additionally, I have reviewed virtually all major transportation coal contracts between eastern and western railroads and the major consumers of coal in the United States.

TIMOTHY D. CROWLEY
STATEMENT OF QUALIFICATIONS

I have experience evaluating numerous requests for proposal (“RFP”) from both Class I and shortline railroads for the transportation of various commodities via rail, i.e. coal, chemicals, etc. These RFP evaluations included economic, operational, and contractual obligations of the railroads with the goal of obtaining the best and fairest overall transportation package for our clients.

I analyzed and developed cost based rate/price adjustment mechanisms used in long term and short term supply and transportation contracts. I have extensive knowledge of the various rate escalation procedures developed for and employed in transportation and supply contracts. My review of rate escalation procedures demonstrates that application of 100 percent of the change in a price index to existing rate/price levels overcompensates carriers/suppliers for changes in costs.

I have conducted numerous rail transportation marketplace studies to determine the differential between captive and competitive rail shipments for various commodities across all major class I railroads and shortlines.

I have designed and continually monitor economic models which forecast the change in inflation, prices and costs. These economic models forecast general economic indices, certain transportation related indices, certain coal production indices, railroads’ cost of providing service and producers’ cost of mining coal.

I have managed and assisted in the development of rail car tracking software that is utilized to track the location and status of a client’s railcars in real time. This information can be utilized in pursuing service issues with a rail carrier, maintenance costs associated with use of the railcar, and to calculate various transportation statistics including on-time performance.

TIMOTHY D. CROWLEY
STATEMENT OF QUALIFICATIONS

I have established and managed many large databases used to monitor and track railroad related data, including railroad infrastructure, railroad car and train movements and railroad costs and revenues.

I have provided analytical support for both market place and litigation projects sponsored by L. E. Peabody & Associates, Inc. The analytical support included the gathering, review and manipulation of data from the major Class I railroads, the STB and various other government and public sources. Specifically, the analyses that I have conducted include the development of the transportation costs associated with the movement of chemicals, coal and other products to different destinations located throughout the country.

These exhibits are Confidential and Highly Confidential and are therefore omitted in their entirety from this Public version.