March 18, 2024

To: Members of the Board of Directors

From: Jason Jewell, Managing Director

Subject: Fiscal Year 2023-24 First Quarter Amtrak Pacific Surfliner
On-Time Performance Analysis

Overview

On-time performance reflects the quality and dependability of the Pacific Surfliner service, and has a considerable effect on repeat ridership, based on the customer travel experience. This report summarizes the on-time performance of the Amtrak Pacific Surfliner service during the first quarter of state fiscal year 2023-24, covering the months of July, August, and September 2023.

Recommendation

Receive and file as an information item.

Background

The Amtrak Pacific Surfliner route operates in a complex environment, along the 351-mile Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor (Corridor), which traverses through a six-county coastal region in Southern California. As illustrated in Figure 1 on the next page, the rail right-of-way along the corridor is hosted by four different host railroads, including the Union Pacific Railroad (UP), the Burlington Northern Santa Fe Railway (BNSF), the Southern California Regional Rail Authority (SCRRA), and North County Transit District (NCTD).

In addition to the Amtrak Pacific Surfliner intercity passenger rail service, Amtrak long-distance trains, Metrolink commuter trains, and COASTER commuter trains also operate along the north-south corridor.

Figure 1: Pacific Surfliner Route

Before the COVID-19 pandemic necessitated service reductions in late March 2020, the LOSSAN Corridor was bustling with over 150 daily one-way train operations, spanning 41 stations. Within this bustling activity, the Pacific Surfliner service alone accounted for 27 trains and served 27 stations. Today, the Pacific Surfliner has expanded its reach to 29 stations, maintaining a schedule of 20 daily one-way trains, equating to ten round trips. Reflecting on the fiscal year 2018-19, the last complete fiscal year before the pandemic's impact, the Pacific Surfliner boasted nearly 2.8 million passenger journeys, with an additional 5.4 million rides taken on the combined commuter rail services of Metrolink and COASTER.

Impact of COVID-19 Pandemic

The COVID-19 pandemic significantly impacted transit operations globally, including the LOSSAN corridor's three rail services. Following Governor Newsom's March 15, 2020, safer-at-home order, the Pacific Surfliner, COASTER, and Metrolink experienced notable declines in ridership and revenue, leading to temporary service reductions starting late March 2020. As conditions improved, rail services gradually resumed. COASTER was the first to return to full service on May 29, 2021, coinciding with Metrolink's new Saturday service on its Ventura County Line. The Pacific Surfliner service restoration began on June 28, 2021, increasing from 12 to 18 daily one-way trips, and further expanded on October 24, 2021, to 21 daily one-way trips. Metrolink's significant service expansion occurred on April 4, 2022, with the addition of 26 trains, marking a pivotal recovery milestone since the pandemic onset.

Impacts of Temporary Track Closures in San Clemente Due to Falling Debris from an Adjacent Slope

On April 27, 2023, service on the Pacific Surfliner was halted between San Juan Capistrano and Oceanside due to active debris movement on the slope adjacent to the Casa Romantica Cultural Center and Gardens in San Clemente, just north of the San Clemente Pier. This debris fall occurred two miles north of where the Orange County Transportation Authority (OCTA) was finishing track stabilization work near the Cyprus Shore Homeowners Association, noting that the debris fall was not related to the stabilization project. During this track closure, the service operated as follows:

- Limited train service was available between San Diego and Oceanside.
- Bus connections were provided between Oceanside and Irvine.
- Modified train service ran between San Juan Capistrano and Irvine.
- Regular train service continued from Los Angeles to San Luis Obispo.

Service resumed regular operations on Saturday, May 27, 2023, following emergency stabilization of the hillside that had scattered debris onto the rail right-of-way. The reopening was timely for the Memorial Day Weekend, a period of heightened demand for the Pacific Surfliner. However, service was suspended again on Monday, June 5, 2023, due to ongoing debris falls from the same slope near the Casa Romantica Cultural Center and Gardens.

On Friday, June 23, 2023, the Metrolink Board of Directors approved a contract with the geotechnical firm Condon-Johnson & Associates, Inc., initiating the design and installation of a temporary barrier wall to shield the railway from falling debris. This disruption extended through the end of the fourth quarter of

FY 2023 and into the first quarter of FY 2024. Finally, on Monday, July 17, 2023, regular service on the Pacific Surfliner was restored following the completion of the temporary barrier wall.

Special Considerations for Ridership Data for the Pacific Surfliner Service During Temporary Track Closures in San Clemente

Under normal operations, Pacific Surfliner trains utilize a three-digit numbering system. The 500 series denotes trains on the southern segment between San Diego and Los Angeles, and the 700 series for those extending north of Los Angeles. During temporary track closures in San Clemente, trains operating between San Diego and Oceanside adopted a four-digit 1000 series, while service north of Irvine or San Juan Capistrano maintained the three-digit format.

Amtrak's fare collection system, due to its technical limitations, necessitated counting each passenger journey involving a transition from train to bus bridge, and back to train as two separate trips. Thus, passengers were counted twice: once for the 1000 series segment and again for the subsequent 500 or 700 series train. Typically, Amtrak counts passengers for each segment of their journey when multiple routes are used, applying this method during the track closure. However, given the substantial resources Amtrak must allocate for an extensive manual review, a specific timeline for the availability of adjusted ridership figures during months affected by temporary track closures remains undetermined.

Amtrak continues to report ridership by individual train number for the Pacific Surfliner route, adhering to its standard procedure even during the track closure. This report reflects Amtrak's practice ensuring consistency in performance data presented by the LOSSAN Agency for the affected quarter.

Special Considerations for On-Time Performance Data for the Pacific Surfliner Service During Temporary Track Closures in San Clemente

The LOSSAN Agency collects on-time performance (OTP) data for the Pacific Surfliner from Amtrak's On-Time Performance Monitoring and Reporting System (OTP MRS). This system provides comprehensive reports on delays for individual Pacific Surfliner trains and per 10,000 train miles across the four host railroads. However, from FY 2023 Q4 to FY 2024 Q1, the OTP MRS excluded data for trains on the San Diego-Oceanside segment during temporary closures in San Clemente. After identifying a programming issue as the cause, LOSSAN staff engaged with Amtrak to include this missing data. Due to Amtrak's reporting deadlines, incorporating the omitted train data into the OTP MRS was not

feasible. Therefore, the on-time performance data in this report excludes some trains affected by the closures. Despite this, our reporting methodology will continue using the most accurate data available, recognizing that these adjustments are necessary rather than indicative of the Pacific Surfliner's standard reporting practices.

Discussion

This report provides an update on the average systemwide on-time performance (OTP) of the Amtrak Pacific Surfliner for the first quarter (Q1) of FY 2023-24. The following metrics give an overview of the Pacific Surfliner train OTP scores for the reporting quarter, as well as information about delay causes:

- Endpoint OTP
- Total Trains Operated
- Total Trains Cancelled or Suspended
- Customer OTP
- Ridership
- Endpoint OTP by Train
- Total Train Miles
- Systemwide Delays by Responsible Party, Per 10,000 Train Miles
- Systemwide Delays by Delay Type, Per 10,000 Train Miles
- Host-Responsible Delays, Per 10,000 Train Miles
- Total Delays Around Stations (or Other Specific Locations)

Endpoint OTP

Endpoint OTP represents the percentage of trains arriving to their final station within 15 minutes of their schedule arrival time. This metric is part of the Uniform Performance Standards that the LOSSAN Agency is required to report to the California State Transportation Agency (CalSTA), which sets a 90 percent endpoint OTP standard.

Figure 2: Endpoint OTP by Total Trains Operated

Values	FY 2023 Q4	FY 2024 Q1	% Change
Late	358	480	34.1%
On-Time	1,317	1,301	-1.2%
Operated	1,675	1,781	6.3%
Endpoint OTP	78.6%	73.0%	-7.1%

As shown in Figure 2, for Q1 FY 2023-24, 1,301 of 1,781 operated Pacific Surfliner trains arrived at their endpoint station on-time, while 480 trains

arrived late. This results in a **systemwide endpoint OTP score of 73.0 percent** for Q1 FY 2023-24, representing a 7.1 percent decrease from 78.6 percent endpoint OTP for the previous quarter.
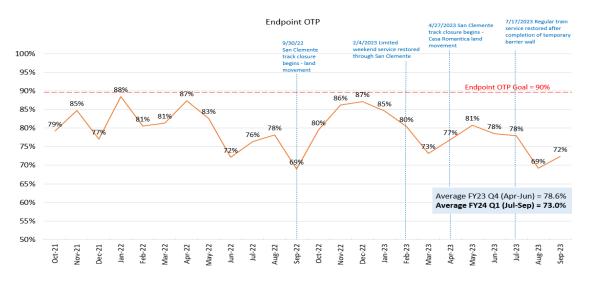
On any given date, an incident can lead Amtrak to either cancel or suspend one or more scheduled trains. Cancelled trains are treated as late trains, and are reflected in endpoint and customer OTP calculations, but suspended trains are not included. A cancellation means that Amtrak decided not to operate the train less than four hours before its scheduled departure. A suspension means that Amtrak decided not to operate the train at least four hours before its scheduled initial terminal departure. The table in Figure 3 shows that for Q1 FY 2023-24, 60 trains were either cancelled or suspended, representing a 69.5 percent decrease from the previous quarter. The number of suspended trains decreased significantly in the first quarter due to the restoration of regular train service on July 17, 2023, after construction of the temporary barrier wall near the Casa Romantica Cultural Center and Gardens in San Clemente was completed.

Figure 3: Total Trains Cancelled or Suspended

Status	FY 2023 Q4	FY 2024 Q1	% Change
Cancelled	26	36	38.5%
Suspended	171	24	-86.0%
Total	197	60	-69.5%

Figure 4 shows historical monthly systemwide endpoint OTP from July 2021 to the present. Notes within the chart highlight the events that have had significant impacts on OTP.
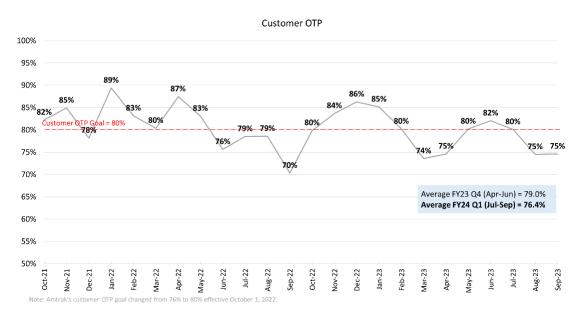
Figure 4: Endpoint OTP

Customer OTP

Customer OTP measures the on-time arrival of every passenger, including those who detrain at intermediate stops along a route and those who ride the entire route.

The 80 percent goal shown in red in Figure 5 is set by Amtrak. For Q1 FY 2023-24, **customer OTP averaged 76.4 percent, representing a 3.2 percent decrease** from 79.0 percent in the previous quarter.

Figure 5: Customer OTP

Note: Amtrak's customer OTP goal changed from 76% to 80% effective October 1, 2022.

Ridership

Various passenger related delays may impact train OTP. In general, the higher the systemwide ridership, the higher the incidences of passenger related delays. The chart in Figure 6 shows historical monthly ridership. As shown in Figure 6, for Q1 FY 2023-24, there were **498,517 passenger trips** on the Pacific Surfliner, representing a 34.6 percent increase from 370,501 passenger trips in the previous quarter.
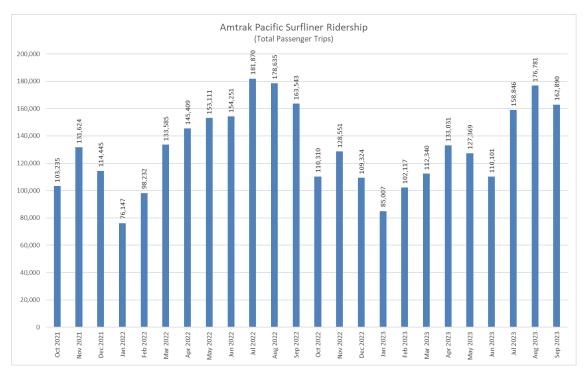
Figure 6: Total Monthly Ridership

Endpoint OTP by Train

One major delay incident can result in cascading delays that impact multiple trains throughout the day. One factor is that individual train consists are normally used by multiple trains throughout the day. For example, upon its arrival to Santa Fe Depot in San Diego, the same equipment used to operate southbound Train 564 is then used to operate northbound Train 777. Therefore, delays experienced by southbound Train 564 have the potential to result in delays for northbound Train 777, as well as any additional trains operated with the same train consist.

Figure 7[1] shows individual endpoint OTP for each of the trains that operated during Q1 FY 2023-24, during the temporary track work period. For Q1 FY 2023-24, six trains reached the endpoint OTP goal of 90 percent or above. The train with the **lowest endpoint OTP average score for the quarter was Train 777[2].**

Figure 7: Endpoint OTP by Train

Train	Orig-Dest	3-Month Average	# Trains On Time	# Trains Operated
1565	VNC-SBA	100.0%	2	2
1570	GTA-VNC	100.0%	2	2
1574	SLO-VNC	100.0%	2	2
1584	SBA-VNC	100.0%	2	2
799	SAN-SBA	100.0%	3	3
562	LAX-SAN	91.1%	82	90
564	LAX-SAN	87.0%	80	92
580	LAX-SAN	85.6%	77	90
587	SAN-LAX	85.3%	64	75
586	LAX-SAN	82.7%	62	75
573	SAN-LAX	82.4%	61	74
581	SAN-LAX	79.3%	73	92
769	SAN-GTA	78.3%	72	92
572	LAX-SAN	76.3%	58	76
784	GTA-SAN	75.0%	69	92
774	SLO-SAN	72.8%	67	92
790	GTA-SAN	72.8%	67	92
765	SAN-GTA	70.7%	65	92
595	SAN-LAX	70.2%	59	84
591	SAN-LAX	70.0%	63	90
770	GTA-SAN	68.5%	63	92
568	LAX-SAN	66.7%	2	3
761	SAN-SLO	65.2%	60	92
785	SAN-GTA	64.1%	59	92
794	SLO-SAN	57.6%	53	92
1561	VNC-SLO	50.0%	1	2
1569	VNC-SBA	50.0%	1	2
777	SAN-SLO	33.7%	31	92
798	SBA-LAX	33.3%	1	3
1594	SLO-VNC	0.0%	0	2
System		**73.0%**	**1301**	**1781**

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[1] During Q1 FY 2023-24, bus connections operated between Irvine and Oceanside from July 1, 2023, to July 16, 2023, while construction of the temporary barrier wall near the Casa Romantica Cultural Center and Gardens in San Clemente was completed. On July 17, 2023, regular Pacific Surfliner service was restored after construction of the temporary barrier wall was completed.

[2] During Q1 FY 2023-24, Train 1594 operated during one weekend only when a track closure occurred between Los Angeles Union Station and Van Nuys Station due to track improvement work. Train 798 also operated during one weekend only in Q1 FY 2023-24 to provide additional train service during the X Games California which occurred in Ventura in July 2023. Therefore, Train 777 is identified as having the lowest endpoint OTP average score for the quarter.

Systemwide Delays by Responsible Party, Per 10,000 Train Miles

Delay minutes are attributed to a variety of causes, or delay types, using a three-letter coding system. In addition, each delay type is categorized under one of three responsibility groups: Host, Amtrak, or Third Party.

The rate metric of **minutes of delay by responsible party per 10,000 train miles** is useful for comparing levels of delay for periods or territories that may have differing levels of Pacific Surfliner service. This measure is normalized by dividing the total minutes of delay for all operated trains by the total number of miles traveled by all trains, then multiplying the decimal result by 10,000.

For Q1 FY 2023-24, the Pacific Surfliner operated a total of **322,733 train miles, representing a 26.8 percent increase** from the 254,523 train miles operated in the previous quarter.
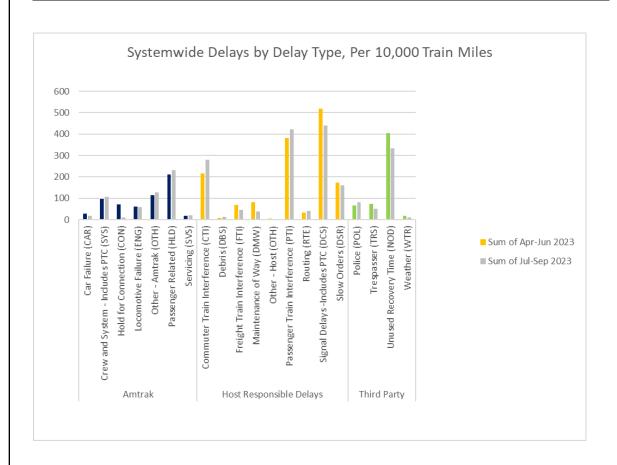
Host-responsible delay types (shown in yellow in Figure 8) continue to be the **largest category of delay types** for the entire Pacific Surfliner, followed by Amtrak-related delays (shown in blue), then third party (shown in green). While minutes of unused recovery time (coded as NOD) are included in the raw data set used for delay analyses, they are excluded from delay analyses, since NOD is not actually a delay, and just represents the minutes a train spends waiting to avoid operating ahead of schedule.

Overall, for Q1 FY 2023-24, there were **2,151 minutes of delay per 10,000 train miles, representing a 4.2 percent decrease** in the overall delay rate compared to Q4 FY 2022-23. The rate of host-responsible delays decreased by 3.5 percent, the rate of Amtrak-responsible delays decreased by 5.7 percent, and the rate of third party-responsible delays increased by 4.8 percent.

Figure 8: Systemwide Delays by Responsible Party, Per 10,000 Train Miles

Systemwide Delays by Responsible Party, Per 10,000 Train Miles

| | Host | Amtrak | Third Party (NOD Excluded) |

2,245

166, 7%

601, 27%

1478, 66%

Apr-Jun 2023

2,151

158, 7%

567, 26%

1426, 66%

Jul-Sep 2023

Systemwide Delays by Delay Type, Per 10,000 Train Miles

In Q1 FY 2023-24, the top three individual delay types were all under the host-responsible delay category: signal delays, passenger train interference, and commuter train interference.

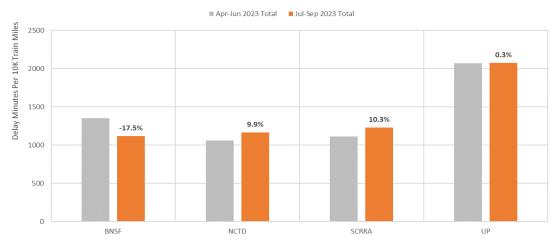*Figure 9: Systemwide Delays by Delay Type, Per 10,000 Train Miles*

Systemwide Delays by Delay Type, Per 10,000 Train Miles

Host-Responsible Delays, Per 10,000 Train Miles

Each host territory location is unique and has its own pattern of challenges to be monitored. Figure 11 has three charts showing only host-responsible delays per 10,000 train miles, by host railroad. Overall, for Q1 FY 2023-24, the host-responsible delay rate decreased by **17.5 percent** within BNSF territory, while there were increases of **9.9 percent** within NCTD territory, **10.3 percent** within SCRRA territory, and **0.3 percent** within UP territory.
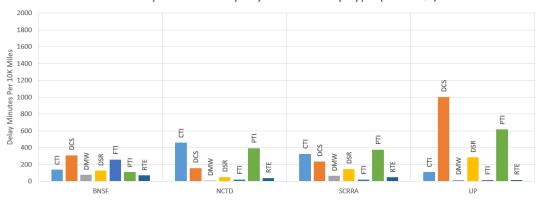
The second chart in Figure 10 clearly illustrates what the prominent delay contributors[3] were within each host territory in Q1 FY 2023-24. In BNSF territory, the top delay types were signal delays, slow orders, and freight train interference. In NCTD territory, the top delay types were commuter train interference, passenger train interference, and freight train interference. In SCRRA territory, the top delay types were commuter train interference and passenger train interference. In UP territory, signal issues remained as the top delay type, and continued to result in a significant amount of passenger train interferences.
Figure 10: Host-Responsible Delays, Per 10,000 Train Miles

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[3] Refer to Figure 9 for definitions of three-letter delay codes.

Host Responsible Delays by Host (FY23 Q3 v. FY23 Q4)

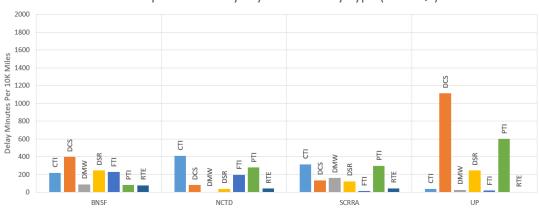### Host Responsible Delays by Host & Delay Type (FY24 Q1)

Host Responsible Delays by Host & Delay Type (FY23 Q4)

Total Delays Around Stations (or Other Specific Locations)

Figure 11 shows total minutes of delay along the entire 351-mile route, for all Pacific Surfliner trains combined. The bars in colors represent the total minutes of delay around a station for Q1 FY 2023-24, and the gray bars show the same for the previous quarter. Delays between stations were allocated to the starting station of the delay. For example, whether a train was traveling northbound from Solana Bach to Oceanside, or southbound from Solana Beach to San Diego-Old Town, the delay minutes in both examples would be allocated to Solana Beach.

Overall, **total minutes of delay systemwide increased by 35.7 percent**, from 55,540 in Q4 of FY 2022-23, to **75,237 in Q1 of FY 2023-24**. The top three delay locations were Oceanside, Carpinteria, and Solana Beach stations.
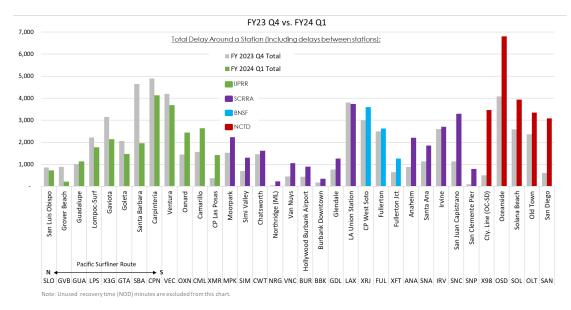

Figure 11: Total Delays Around Stations (or Other Specific Locations)

Summary

For Q1 FY 2023-24, the Amtrak Pacific Surfliner achieved an average systemwide endpoint on-time performance score of 73 percent, which is below the 90 percent standard. Most delay types fell under the host responsibility category. The top individual delay types, regardless of responsibility category, were signal delays, passenger train interference, commuter train interference, passenger-related delays, and slow orders.

Attachment

None.

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