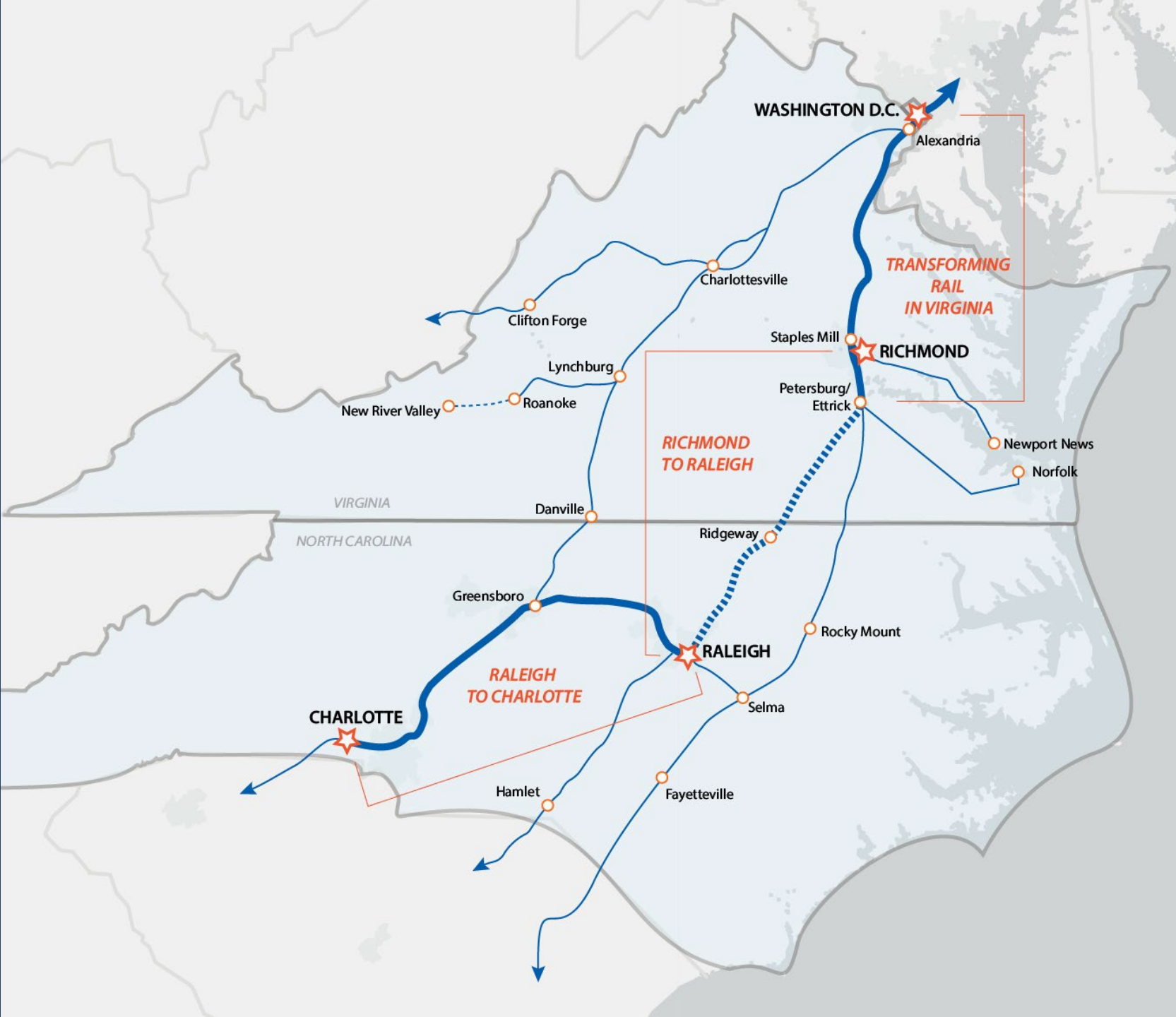


Passenger Rail Service Performance

Jeremy Latimer
Director of Rail Services



What is On Time Performance? (OTP)

Customer OTP

- Percentage of **all customers** who arrive at their destination no later than 15 mins after scheduled arrival.
- Recovery in schedule to benefit busiest stations.
- Federal Standard
- Goal: 80%

All Station OTP

- Percentage of **trains** arriving at a station no later than 15 mins after scheduled arrival.
- Not a federal standard
- Identifies where delays happen.

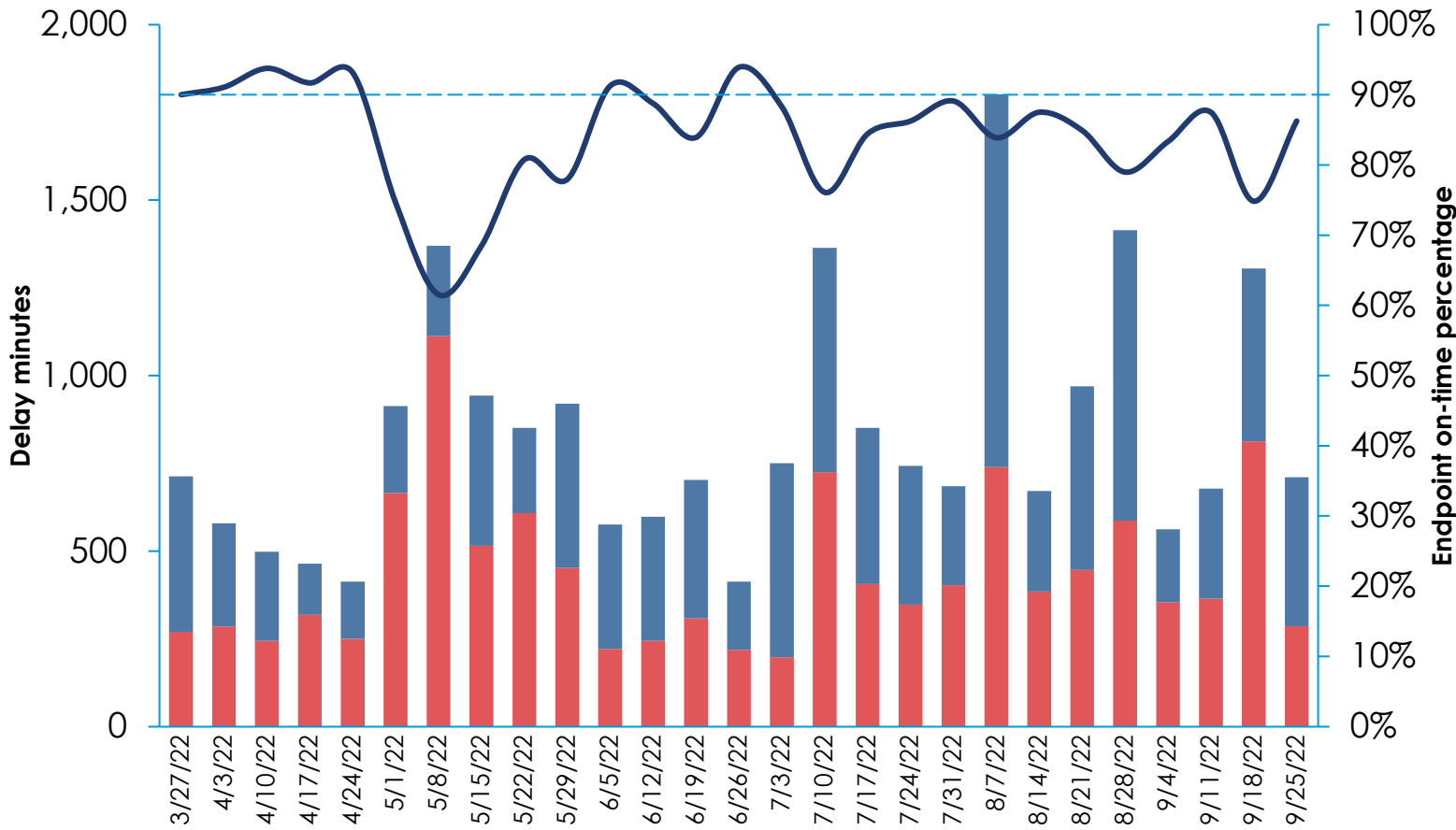
Virginia Customer OTP

Route	FFY 2022 Quarter 1	FFY 2022 Quarter 2
Richmond, Newport News, Norfolk	74%	75%
Roanoke	81%	77%

- Effective Date of FRA Rule: December 16, 2020
- Application of Standard on the first full calendar quarter after May 17, 2021
 - Oct 1, 2021 – Dec 31, 2021 (Q1)
 - Jan 1, 2022 – Mar 31, 2022 (Q2)

VRE On-Time Performance

VRE On-Time Performance (OTP) vs. Delay Minutes



10 Most-Challenged VRE Trains by OTP April-September 2022

333	53.5%	Manassas Line (Southbound, dep WAS at 5:30pm)
331	55.1%	Manassas Line (Southbound, dep WAS at 5:10pm)
329	60.1%	Manassas Line (Southbound, dep WAS at 4:10pm)
327	68.5%	Manassas Line (Southbound, dep WAS at 3:20pm)
336	69.5%	Manassas Line (Northbound, arr WAS at 4:57pm)
335	77.2%	Manassas Line (Southbound, dep WAS at 6:00pm)
328	78.7%	Manassas Line (Northbound, arr WAS at 7:35am)
307	80.5%	Fredericksburg Line (Southbound, dep WAS at 4:00pm)
338	80.6%	Manassas Line (Northbound, arr WAS at 6:29pm)
325	82.4%	Manassas Line (Southbound, dep WAS at 1:15pm)

— Weekly OTP % ■ FBG Delay Minutes ■ MSS Delay Minutes

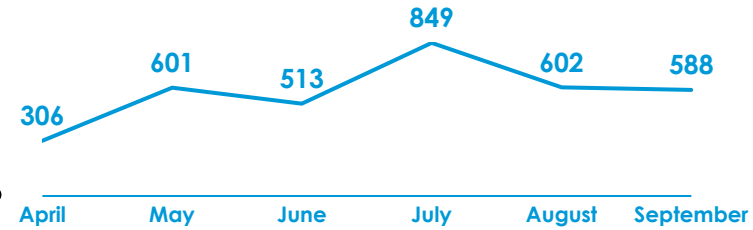


VRE Top Delay Trends – April-September 2022

April-September 2022 Total Delay Minutes by Category – Top Four Delay Categories

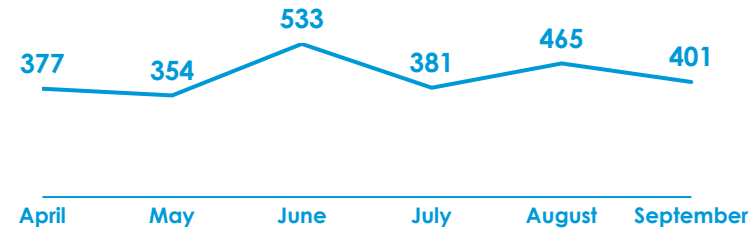
Amtrak Interference

VRE trains delayed by an Amtrak train



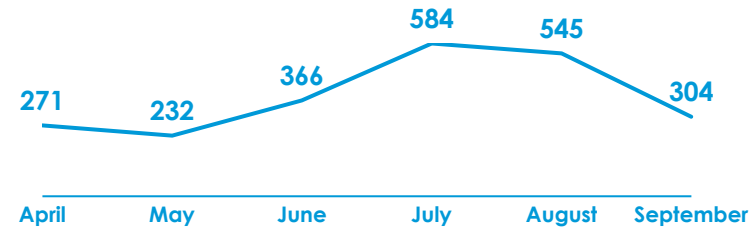
Slow Orders

Speed restrictions due to track conditions



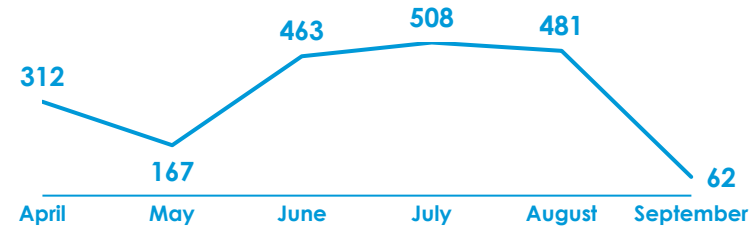
CSX Interference

VRE trains delayed by a CSX freight train



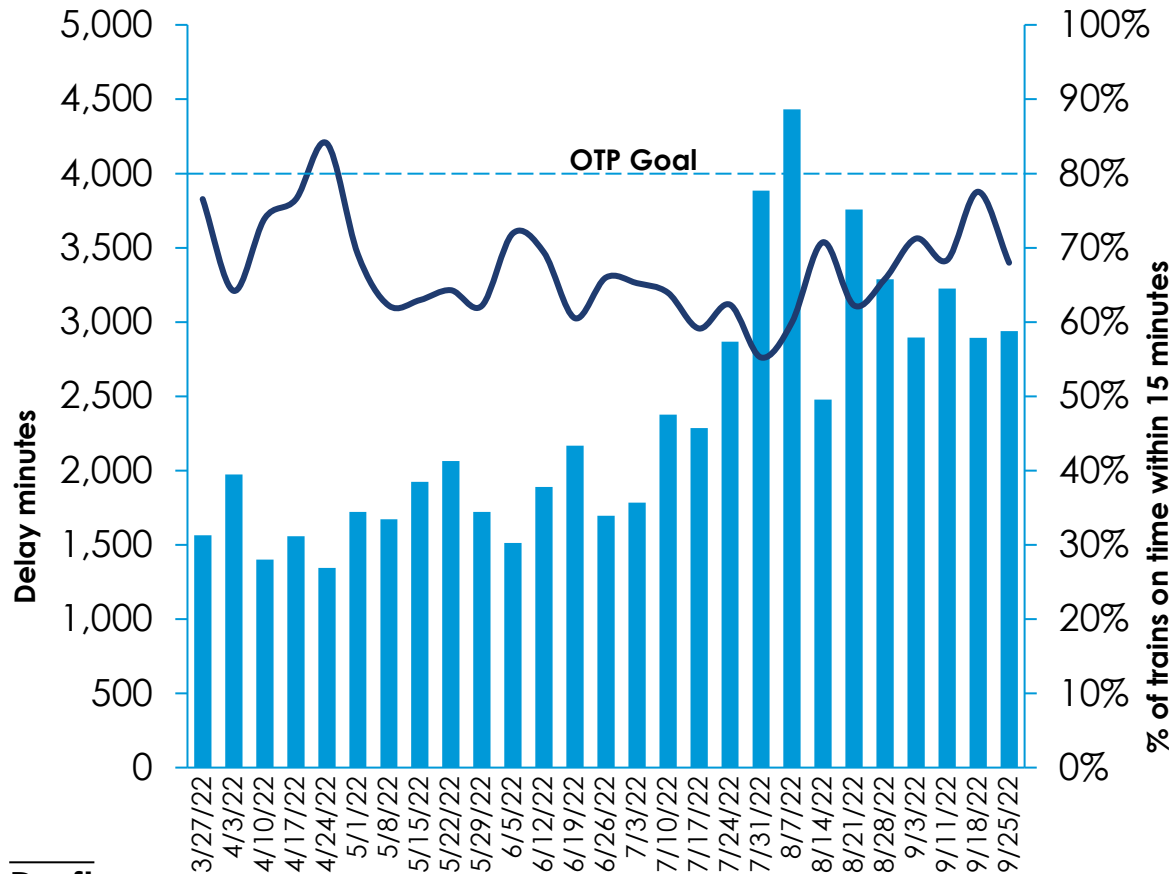
VRE Interference

VRE trains delayed by another VRE train

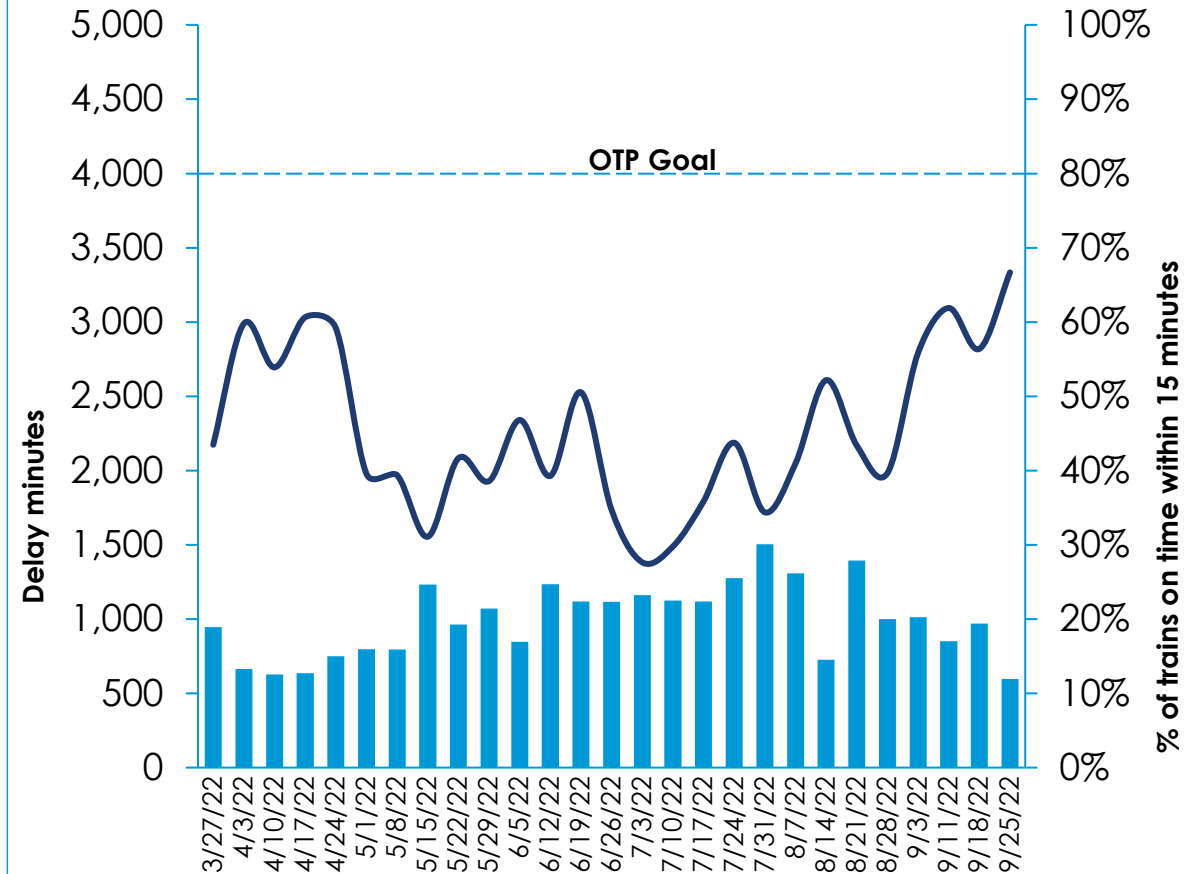


Amtrak On-Time Performance in Virginia

NE Regional All-Station OTP v. Delay Minutes^{1,2,3}



Long Distance All-Station OTP v. Delay Minutes^{1,2,3}



Draft



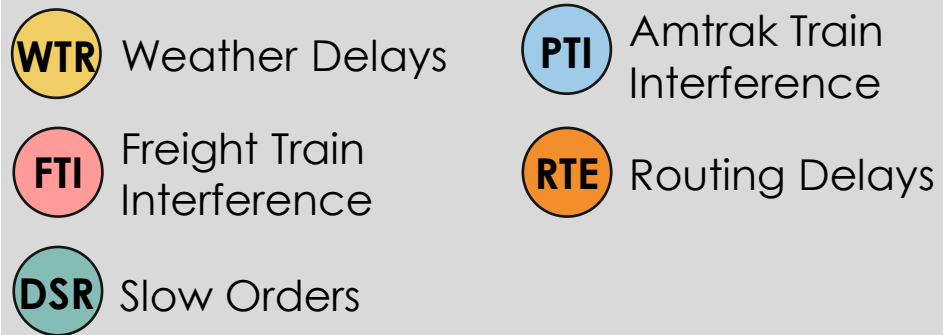
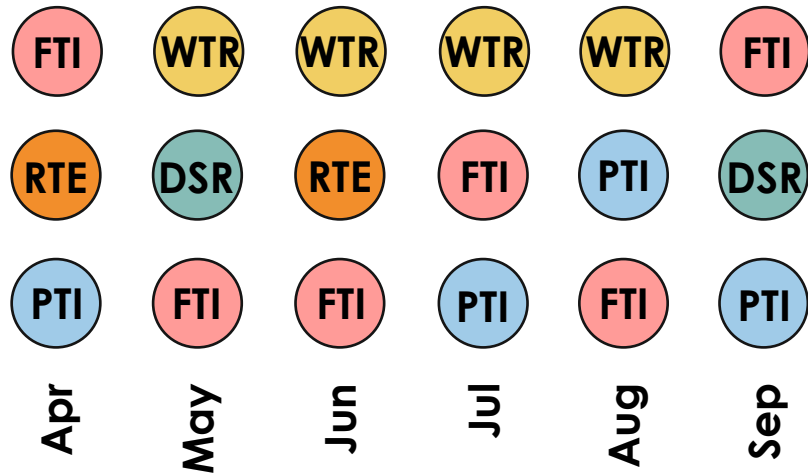
— Weekly OTP % ■ Minutes of Delay

- (1) Week of 9/25 only includes data through 9/30 (6 days)
- (2) OTP includes Norfolk arrivals
- (3) Delay minutes exclude NOD and all delays on NS

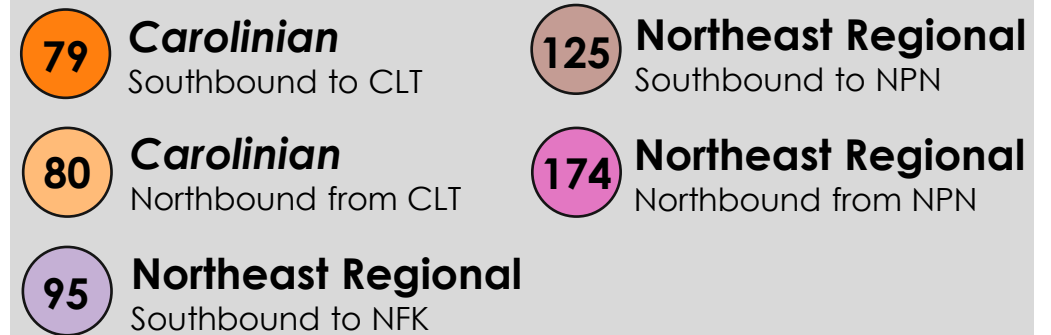
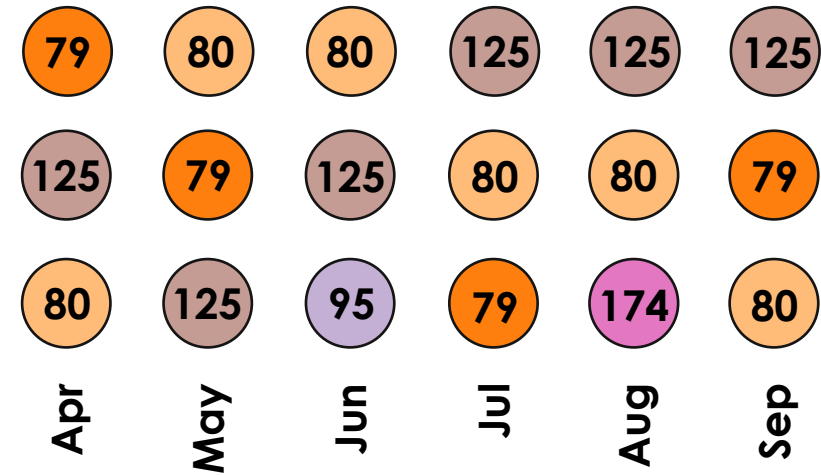
Amtrak On Time:
trains arrive at each station stop within 15 minutes of schedule

Amtrak Top Delay Categories and Delayed Trains

Top 3 Delay Categories by Month^{1,2}



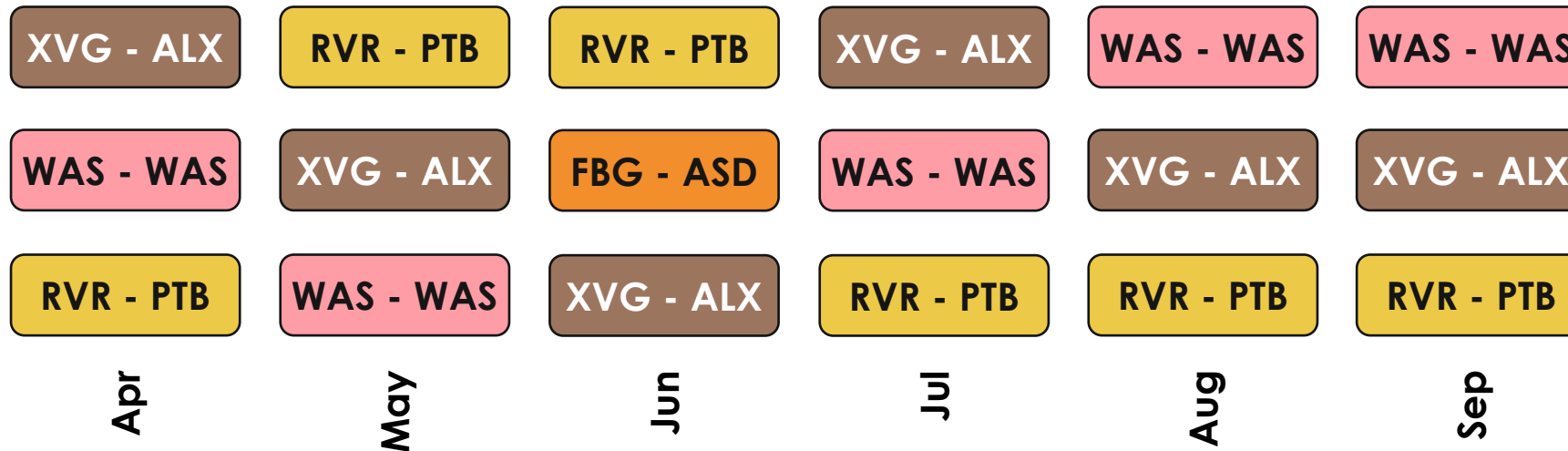
Top 3 Delayed Trains by Month^{1,2}



(1) Includes data from Apr 1-Sep 30
 (2) Excludes NOD and all delays on NS

Amtrak Top Delay Locations on RF&P: April-Sept. 2022

Top 3 Delay Segments by Month^{1,2}



WAS - WAS

Washington Union Station
(delay in station)

FBG - ASD

Fredericksburg - Ashland
(does not include *Carolinian* trains)

XVG - ALX

CP Virginia – Alexandria
(CP Virginia is at 2nd Ave. SW & E St., near L'Enfant VRE; segment includes Long Bridge)

RVR - PTB

Richmond-Staples Mill Road - Petersburg

Amtrak Northbound and Southbound Performance in Virginia

April 2022 Station OTP (OT≤15")

Station Name	Northbound				Southbound			
	80 Carolinian	Northeast Regional 90 Palmetto	92 Silver Star	79 Carolinian	Northeast Regional 89 Palmetto	91 Silver Star		
Washington Union	60%▲	85%▼	77%▼	20%▲	93%▼	83%▲	97%▲	57%▼
Alexandria	53%▲	84%▲	47%▼	17%▲	80%▼	68%▼	97%▲	43%▲
Woodbridge		92%▲				68%▼		
Quantico	53%▲	85%▲			77%▲	59%▲		
Fredericksburg	53%▲	88%▲			73%▼	57%▲		
Ashland		90%▼				52%▲		
Richmond Staples Mill Road	63%▲	91%▼	43%▼	20%▲	87%▲	57%▲	87%▲	33%▲
Richmond Main Street		93%▲				62%▼		
Williamsburg		100%▲				66%▲		
Newport News						69%▼		
Petersburg	43%▲	93%▲	27%▲	17%▲	77%▲	56%▲	77%▼	33%▲
Norfolk						69%▼		

▲ ▼ Change from previous month



Amtrak Trains arriving in Virginia late hurts OTP

Amtrak Northbound and Southbound Performance in Virginia

May 2022 Station OTP (OT≤15")

Station Name	Northbound				Southbound			
	80 Carolinian	Northeast Regional 90	Palmetto 90	Silver Star 92	79 Carolinian	Northeast Regional 89	Palmetto 89	Silver Star 91
Washington Union	19%▼	78%▼	9%▼	0%▼	87%▼	66%▼	95%▼	52%▼
Alexandria	19%▼	80%▼	9%▼	0%▼	71%▼	52%▼	95%▼	35%▼
Woodbridge		95%▲				51%▼		
Quantico	19%▼	86%▲			65%▼	39%▼		
Fredericksburg	19%▼	90%▲			68%▼	39%▼		
Ashland		92%▲				30%▼		
Richmond Staples Mill Road	45%▼	95%▲	14%▼	3%▼	68%▼	38%▼	82%▼	16%▼
Richmond Main Street		90%▼				39%▼		
Williamsburg		97%▼				39%▼		
Newport News						42%▼		
Petersburg	39%▼	91%▼	9%▼	0%▼	52%▼	37%▼	68%▼	10%▼
Norfolk						49%▼		

▲ ▼ Change from previous month



As temperatures rose, performance decreased.

Amtrak Northbound and Southbound Performance in Virginia

June 2022 Station OTP (OT≤15")

Station Name	Northbound				Southbound			
	80 Carolinian	Northeast Regional	90 Palmetto	92 Silver Star	79 Carolinian	Northeast Regional	89 Palmetto	91 Silver Star
Washington Union	20%▲	84%▲	30%▲	0%	97%▲	72%▲	93%▼	70%▲
Alexandria	17%▼	82%▲	13%▲	0%	80%▲	62%▲	83%▼	50%▲
Woodbridge		90%▼				59%▲		
Quantico	13%▼	83%▼			73%▲	45%▲		
Fredericksburg	13%▼	84%▼			83%▲	47%▲		
Ashland		90%▼				30%▼		
Richmond Staples Mill Road	50%▲	91%▼	27%▲	0%▼	83%▲	34%▼	83%▲	27%▲
Richmond Main Street		83%▼				53%▲		
Williamsburg		93%▼				40%▲		
Newport News						40%▼		
Petersburg	30%▼	88%▼	7%▼	0%	67%▲	36%▼	73%▲	27%▲
Norfolk						43%▼		

▲ ▼ Change from previous month



NB Silver Star never arrived on time in June.

Amtrak Northbound and Southbound Performance in Virginia

July 2022 Station OTP (OT≤15")

Station Name	Northbound				Southbound			
	80 Carolinian	Northeast Regional 90 Palmetto	92 Silver Star		79 Carolinian	Northeast Regional 89 Palmetto	91 Silver Star	
Washington Union	13%▼	66%▼	26%▼	0%	90%▼	74%▲	100%▲	52%▼
Alexandria	16%▼	68%▼	16%▲	0%	58%▼	62%▼	77%▼	32%▼
Woodbridge		66%▼				49%▼		
Quantico	16%▲	69%▼			52%▼	36%▼		
Fredericksburg	16%▲	73%▼			58%▼	35%▼		
Ashland		82%▼				23%▼		
Richmond Staples Mill Road	42%▼	85%▼	26%▼	3%▲	55%▼	26%▼	87%▲	13%▼
Richmond Main Street		69%▼				43%▼		
Williamsburg		88%▼				43%▲		
Newport News						45%▲		
Petersburg	32%▲	88%▲	19%▲	0%	39%▼	19%▼	74%▲	10%▼
Norfolk						31%▼		

▲ ▼ Change from previous month



Heat Orders had major impacts on trains in July.

Amtrak Northbound and Southbound Performance in Virginia

August 2022 Station OTP (OT≤15")

Station Name	Northbound				Southbound			
	80 Carolinian	Northeast Regional 90 Palmetto	92 Silver Star		79 Carolinian	Northeast Regional 89 Palmetto	91 Silver Star	
Washington Union	16%▲	71%▲	58%▲	6%▲	97%▲	75%▲	87%▼	74%▲
Alexandria	10%▼	70%▲	40%▲	3%▲	77%▲	63%▲	80%▲	23%▼
Woodbridge		64%▼				54%▲		
Quantico	16%	71%▲			71%▲	43%▲		
Fredericksburg	16%	76%▲			68%▲	41%▲		
Ashland		85%▲				34%▲		
Richmond Staples Mill Road	42%	90%▲	67%▲	0%▼	84%▲	38%▲	83%▼	13%
Richmond Main Street		74%▲				49%▲		
Williamsburg		97%▲				53%▲		
Newport News						56%▲		
Petersburg	23%▼	92%▲	33%▲	3%▲	61%▲	29%▲	77%▲	10%
Norfolk						44%▲		

▲ ▼ Change from previous month



August performance was similar to July.

Amtrak Northbound and Southbound Performance in Virginia

September 2022 Station OTP (OT≤15")

Station Name	Northbound				Southbound			
	80 Carolinian	Northeast Regional	90 Palmetto	92 Silver Star	79 Carolinian	Northeast Regional	89 Palmetto	91 Silver Star
Washington Union	53%▲	76%▲	86%▲	24%▲	93%▼	86%▲	97%▲	79%▲
Alexandria	53%▲	78%▲	54%▲	20%▲	73%▼	66%▲	85%▲	42%▲
Woodbridge		75%▲				67%▲		
Quantico	50%▲	78%▲			70%▼	54%▲		
Fredericksburg	50%▲	84%▲			73%▲	55%▲		
Ashland		84%▼				44%▲		
Richmond Staples Mill Road	63%▲	89%▼	42%▼	20%▲	67%▼	52%▲	74%▼	33%▲
Richmond Main Street		75%▲				60%▲		
Williamsburg		88%▼				65%▲		
Newport News						70%▲		
Petersburg	43%▲	93%▲	38%▲	24%▲	63%▲	55%▲	74%▼	21%▲
Norfolk						64%▲		

▲ ▼ Change from previous month

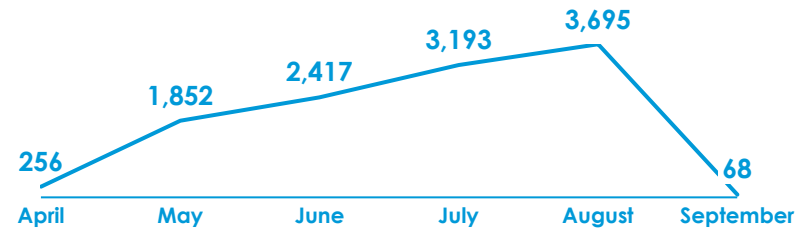


Heat Orders subsided in September.

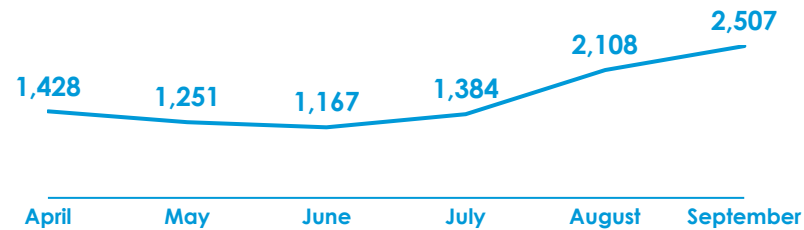
Amtrak Top Delay Trends – April-September 2022

April-September 2022 Total Delay Minutes by Category – Top Four Delay Causes¹

Weather (WTR)



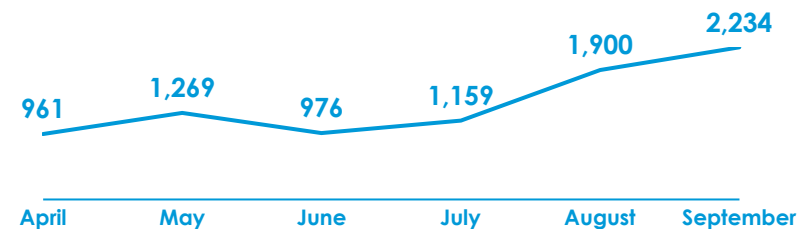
Freight Train Interference (FTI)



Amtrak Train Interference (PTI)



Slow Orders (DSR)



(1) Does not include NOD delays

Challenges in Virginia to Achieve Higher OTP

On time performance can only be achieved when trains originate on time and maintain speeds consistent with the underlying service plan

Trains arrive VA in unplanned slots

Trains operate at slower than planned speeds

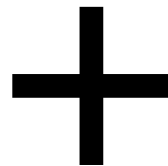
Fluid operating conditions difficult to dispatch, OTP suffers



Carolinian Service performance

Late arrivals to Washington Union Station

Silver Star Performance



Heat Orders



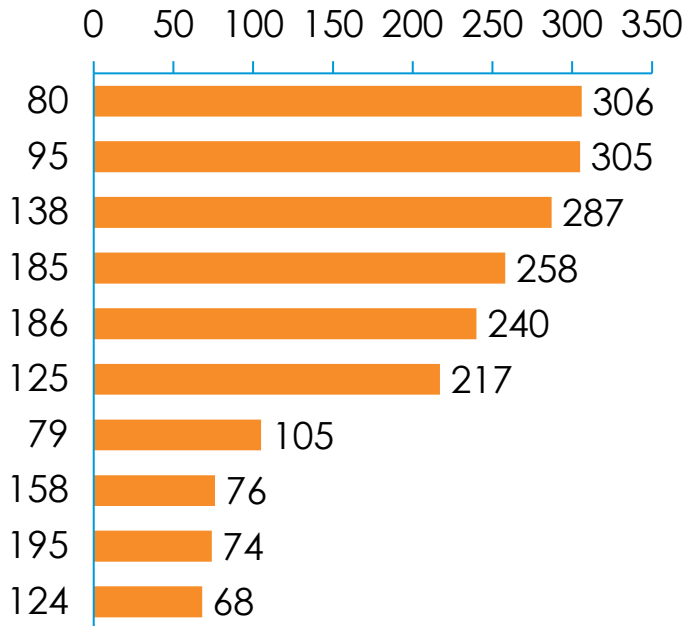
Slow orders



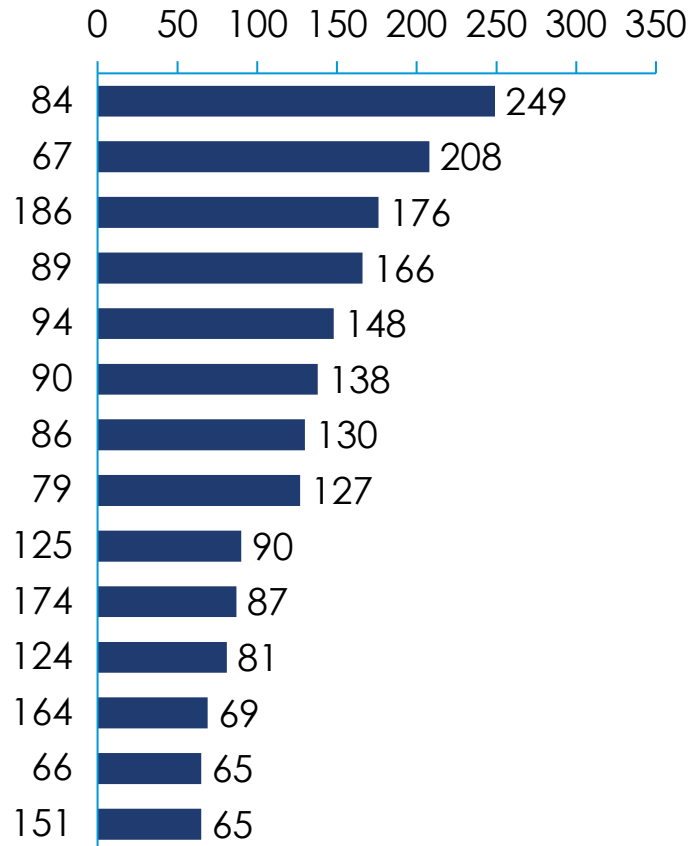
Station Name	Northbound				Southbound			
	Carolinian	Northeast Regional	Palmetto	Silver Star	Carolinian	Northeast Regional	Palmetto	Silver Star
Washington Union	20%▲	84%▲	30%▲	0%	97%▲	72%▲	93%▼	70%▲
Alexandria	17%▼	82%▲	13%▲	0%	80%▲	62%▲	83%▼	50%▲
Woodbridge		90%▼				59%▲		
Quantico	13%▼	83%▼			73%▲	45%▲		
Fredericksburg	13%▼	84%▼			85%▲	47%▲		
Ashland		90%▼				30%▼		
Richmond Staples Mill Road	50%▲	91%▼	27%▲	0%▼	85%▲	34%▼	83%▲	27%▲
Richmond Main Street		83%▼				53%▲		
Williamsburg		93%▼				40%▲		
Newport News						40%▼		
Petersburg	30%▼	88%▼	7%▼	0%	67%▲	36%▼	73%▲	27%▲
Norfolk						43%▼		

Some trains minimally affected by heat orders continue to have high NOD, especially at RVR

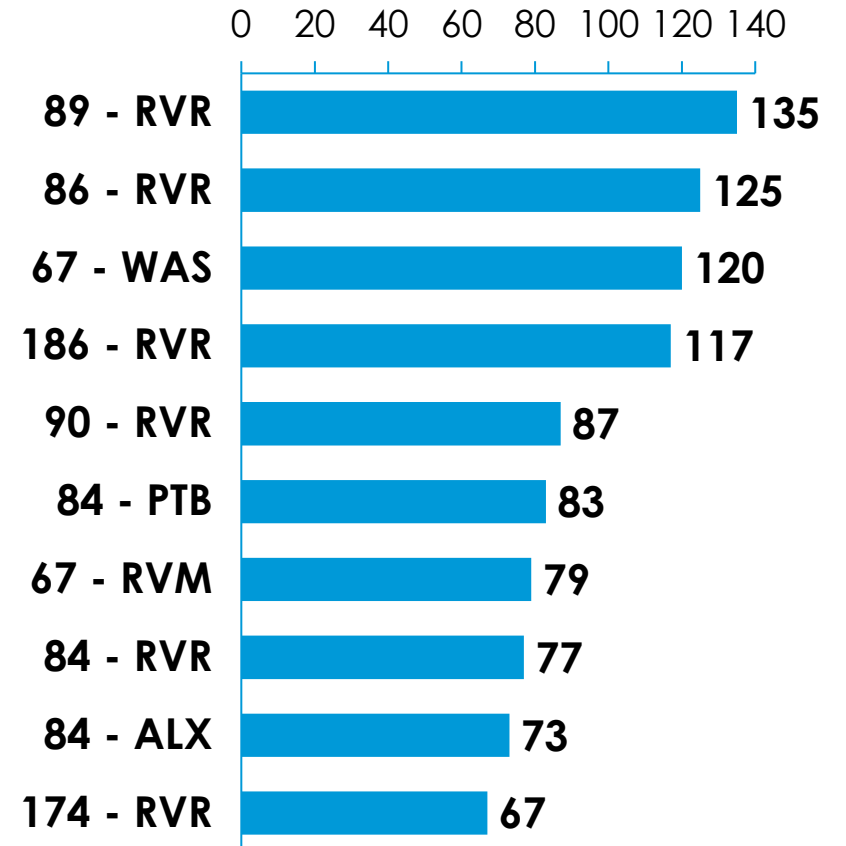
Trains with most total minutes of heat-related delays in August¹ (60+ min)



Trains with most NOD minutes in August¹ (60+ min)



Trains and Stations with Highest NOD (60+ min)



(1) Includes data from Aug 1-31

Next Steps

- Continue to collaborate on performance trends
- Deep-dive review of No Delay
- Discuss Heat Orders with Amtrak and CSX
- Review Station Dwell Time performance
- Begin 6 month review of Acquisition Schedules (July – October)
- Present to Amtrak Board