



VIRGINIA
RAILWAY
EXPRESS

Virginia Railway Express (VRE) 2040 Demand Remodeling Process

June 25, 2026

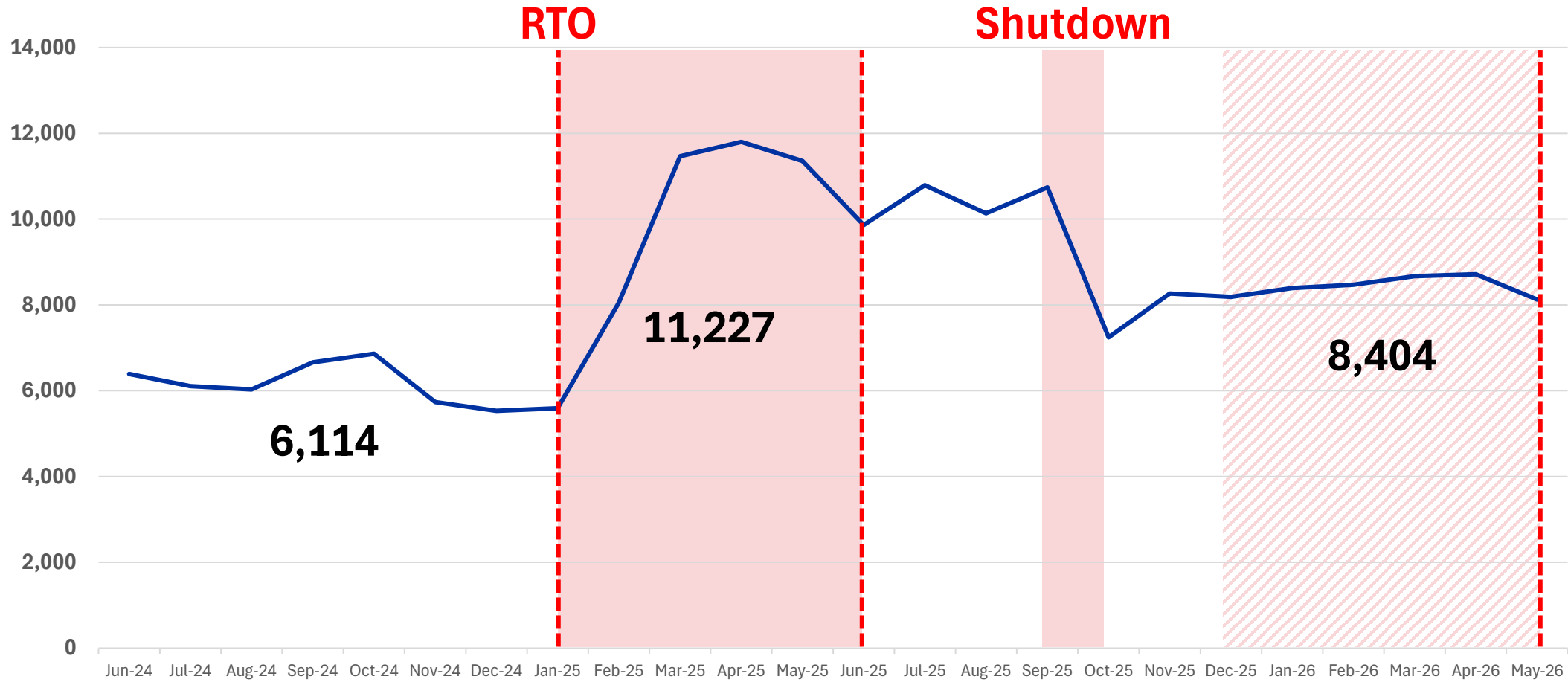
Will Montgomery



The Need for Updated ADR Projections

- ◆ **Initial System Plan Update Forecast (2023-2024)**
- ◆ **Assumptions have changed since analysis was first run**
- ◆ **Commitment to update System Plan every year**
- ◆ **External requests**
 - ◆ Examining Rolling Stock Needs
 - ◆ 2040 ADR Projection

Average Daily Ridership Trend

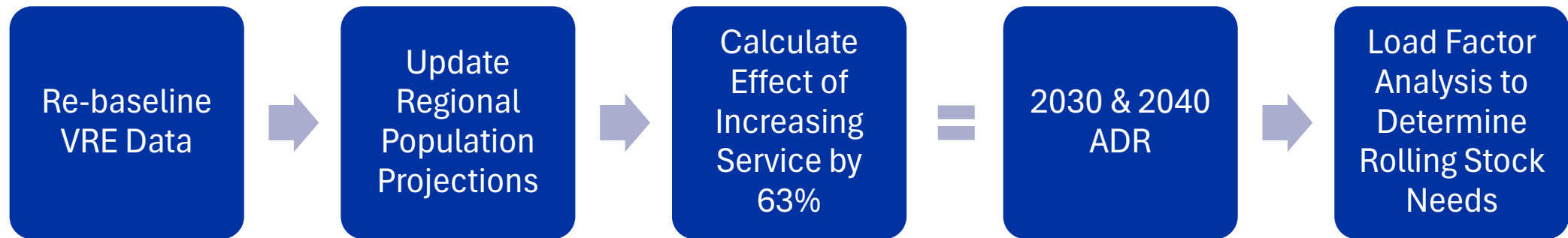


Methodology



Constraints:

- Short timeframe
- Internal Projection (Limited Resources and Data)
- Patterns changed, 2030 needed to be re-baselined



Population Projections



	2025	2030	2040	Growth	% Growth
Alexandria City	163,393	165,537	183,858	20,465	13%
Arlington	247,056	258,193	287,364	40,308	16%
Caroline	34,509	35,607	37,707	3,198	9%
Fairfax	1,147,514	1,161,376	1,222,112	74,598	7%
Fauquier	75,664	77,588	84,812	9,148	12%
Fredericksburg City	29,866	29,275	32,760	2,894	10%
King George	28,589	29,951	32,879	4,290	15%
Manassas City	44,735	44,513	49,149	4,414	10%
Manassas Park City	17,567	18,785	21,592	4,025	23%
Prince William	501,856	534,983	611,260	109,404	22%
Spotsylvania	150,946	160,387	176,886	25,940	17%
Stafford	168,519	183,416	210,033	41,514	25%
	2,610,214	2,699,611	2,950,412	340,198	13%
	31%		52%	22%	

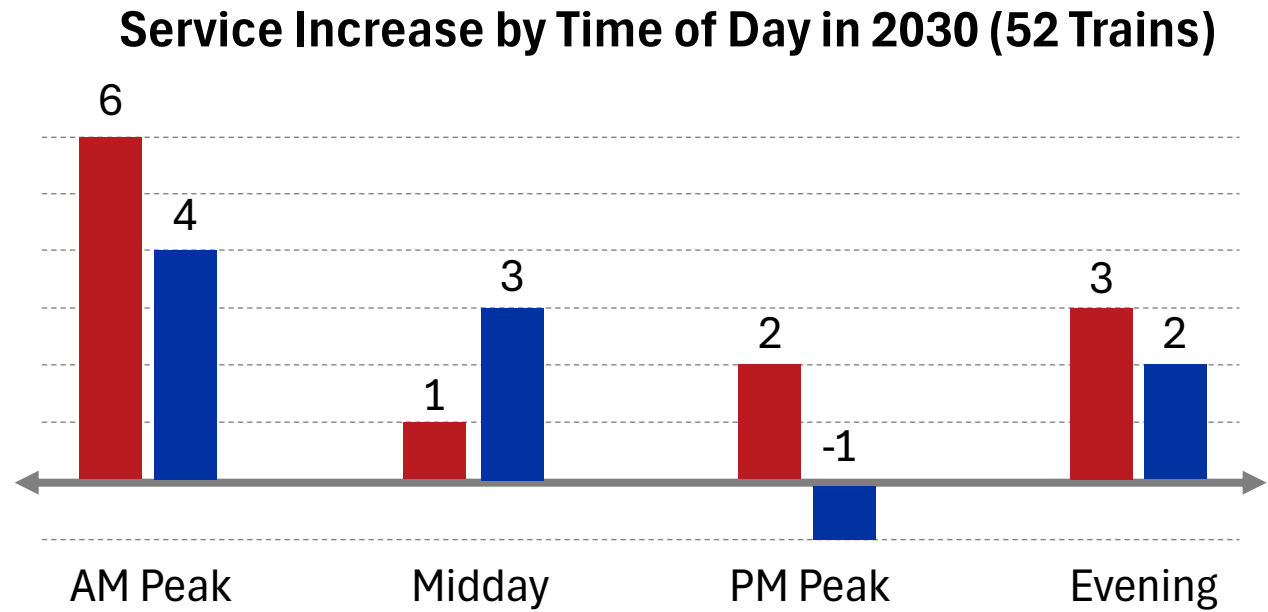
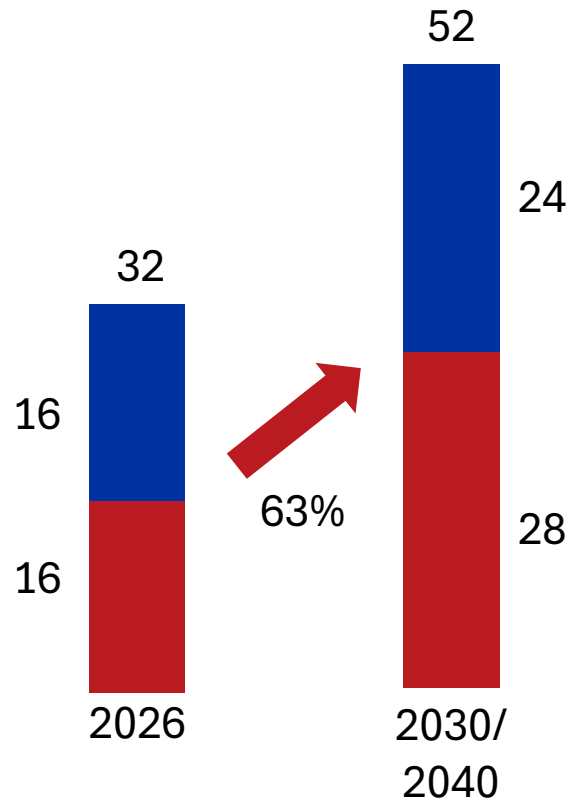
56%



ADR and Population Growth



	Population Growth	ADR Growth	Relationship	2040 ADR Increase
Alexandria City	22,225	40	550	37
Arlington	32,753	-5	-6,635	-6
Caroline	1,799	62	29	111
Fairfax	67,258	-313	-215	-348
Fauquier	6,409	31	206	45
Fredericksburg City	3,517	215	16	177
King George	2,500	50	50	85
Manassas City	5,047	172	29	151
Manassas Park City	2,694	166	16	248
Prince William	72,609	139	524	209
Spotsylvania	14,517	645	22	1,153
Stafford	24,022	1,002	24	1,731
				<hr/>
				3,592 * (.962) + 10,500
				= 14,234

Service Growth



-  Fredericksburg Line
-  Manassas Line

Research and Case Study

Understanding Factors Associated With Commuter Rail Ridership A Demand Elasticity Study of the GO Transit Rail Network – Aaron Shantz



Trip Type Time Parameters

Trip Type	Start Time	End Time	Elasticity
AM Peak	5:00	9:30	0.207
Midday	9:31	14:59	0.571
PM Peak	15:00	19:00	0.562
Evening	19:01	4:49	0.493

Simplified Process



2040 No Build				
14,234				
Split by Line				
Fred:	60%	Man:	40%	
Split by Day				
	Fredericksburg		Manassas	
	%	#	%	#
Monday	99%	8,448	96%	5,472
Tuesday	110%	9,359	121%	6,872
Wednesday	112%	9,593	110%	6,285
Thursday	105%	8,990	103%	5,846
Friday	74%	6,313	70%	3,995

Time of Day	ADR Split	Increase in Service	ADR Growth	New ADR
AM Peak	3,684	75%	15.5%	4,256
Midday	959	0%	0%	959
PM Peak	3,489	43%	24.1%	4,330
Evening	316	200%	98.6%	627
				10,172

2040 No Build and 2040 Build



2040 No Build (32 Trains)	
14,234	
New ADR Splits by Day	
Monday	13,920
Tuesday	16,231
Wednesday	15,878
Thursday	14,836
Friday	10,307

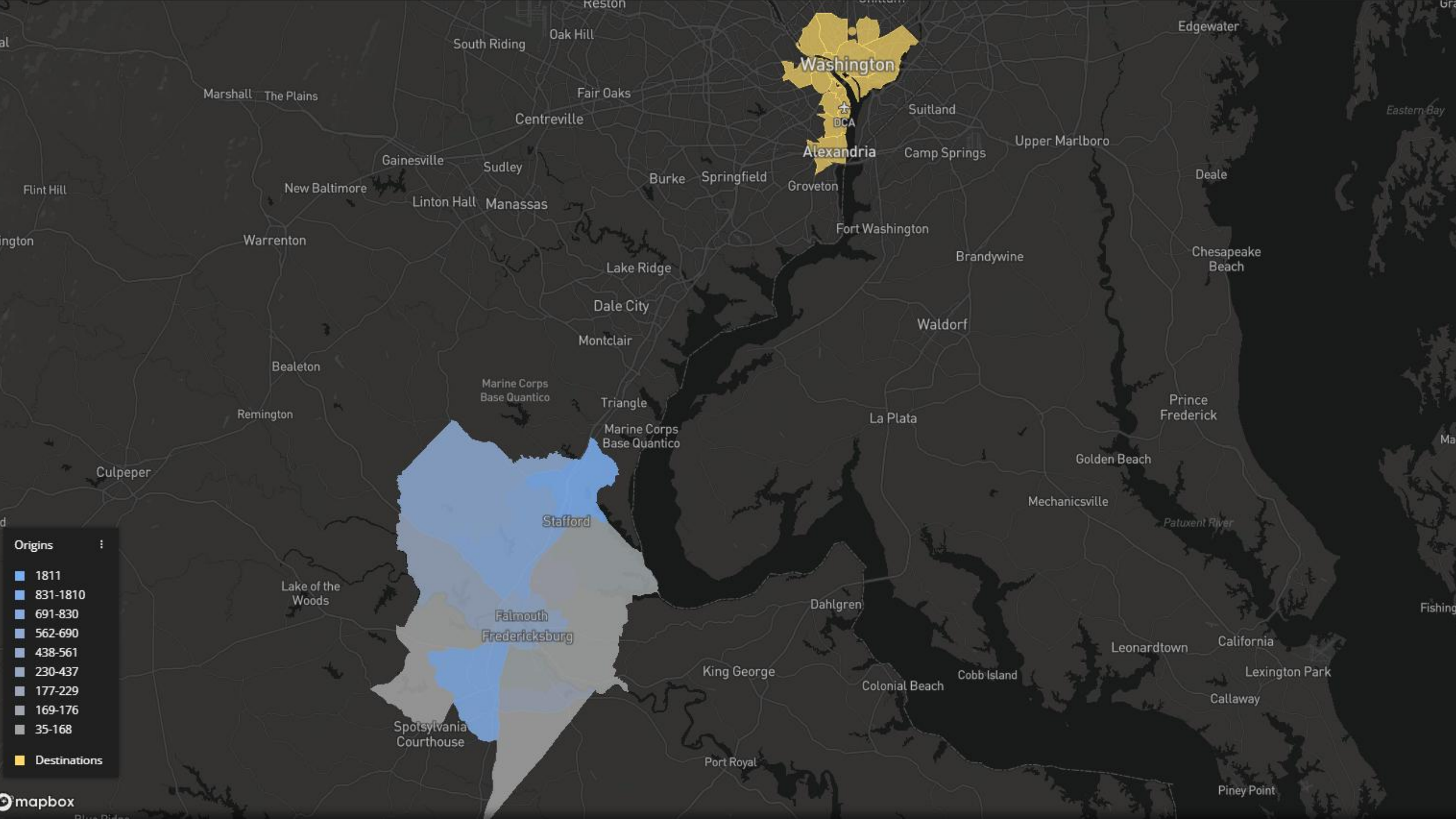
2040 Build (52 Trains)	
17,313	
New ADR Splits by Day	
Monday	16,849
Tuesday	19,732
Wednesday	19,238
Thursday	18,031
Friday	12,718

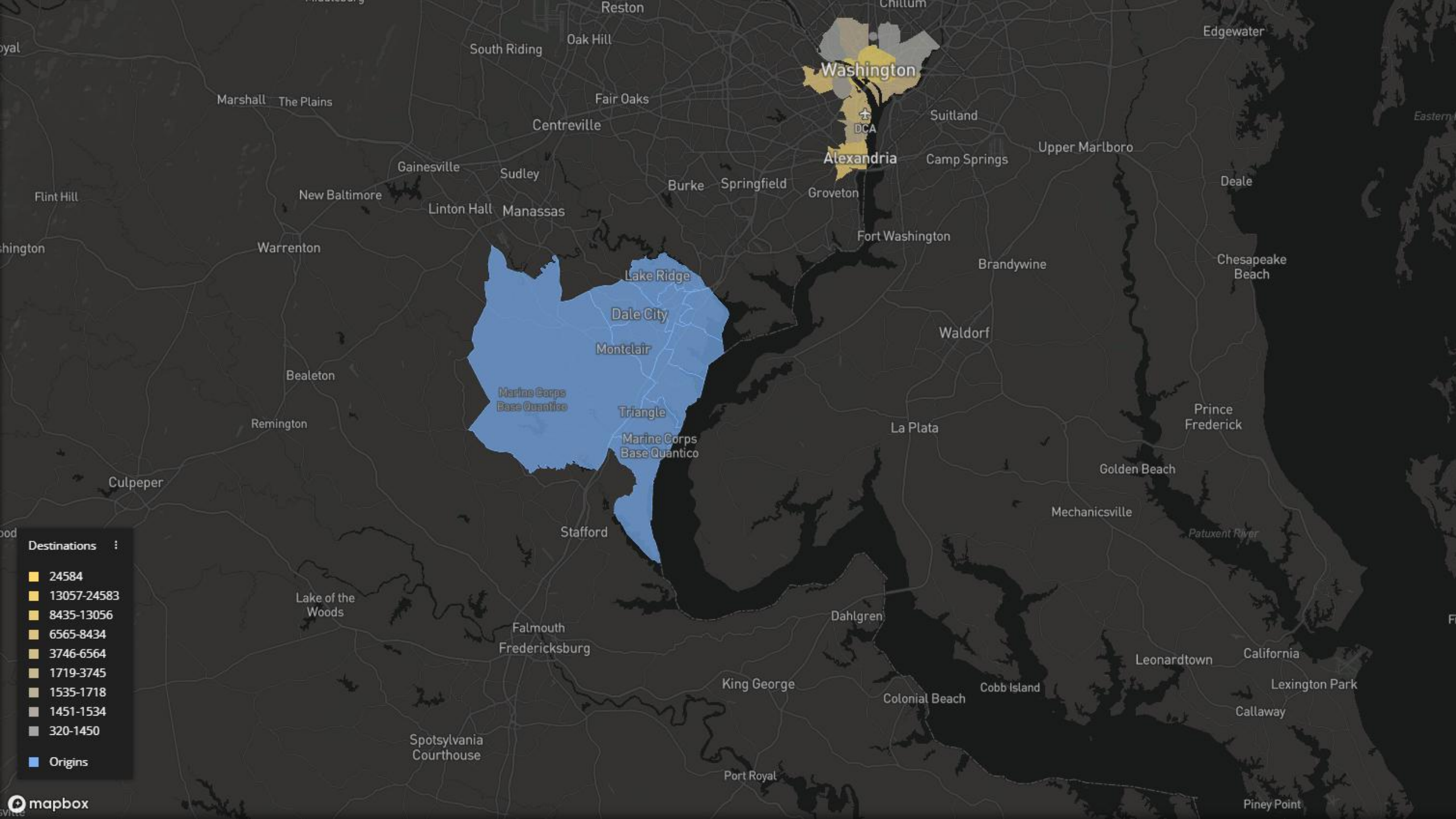
We Have A New ADR, Now What?

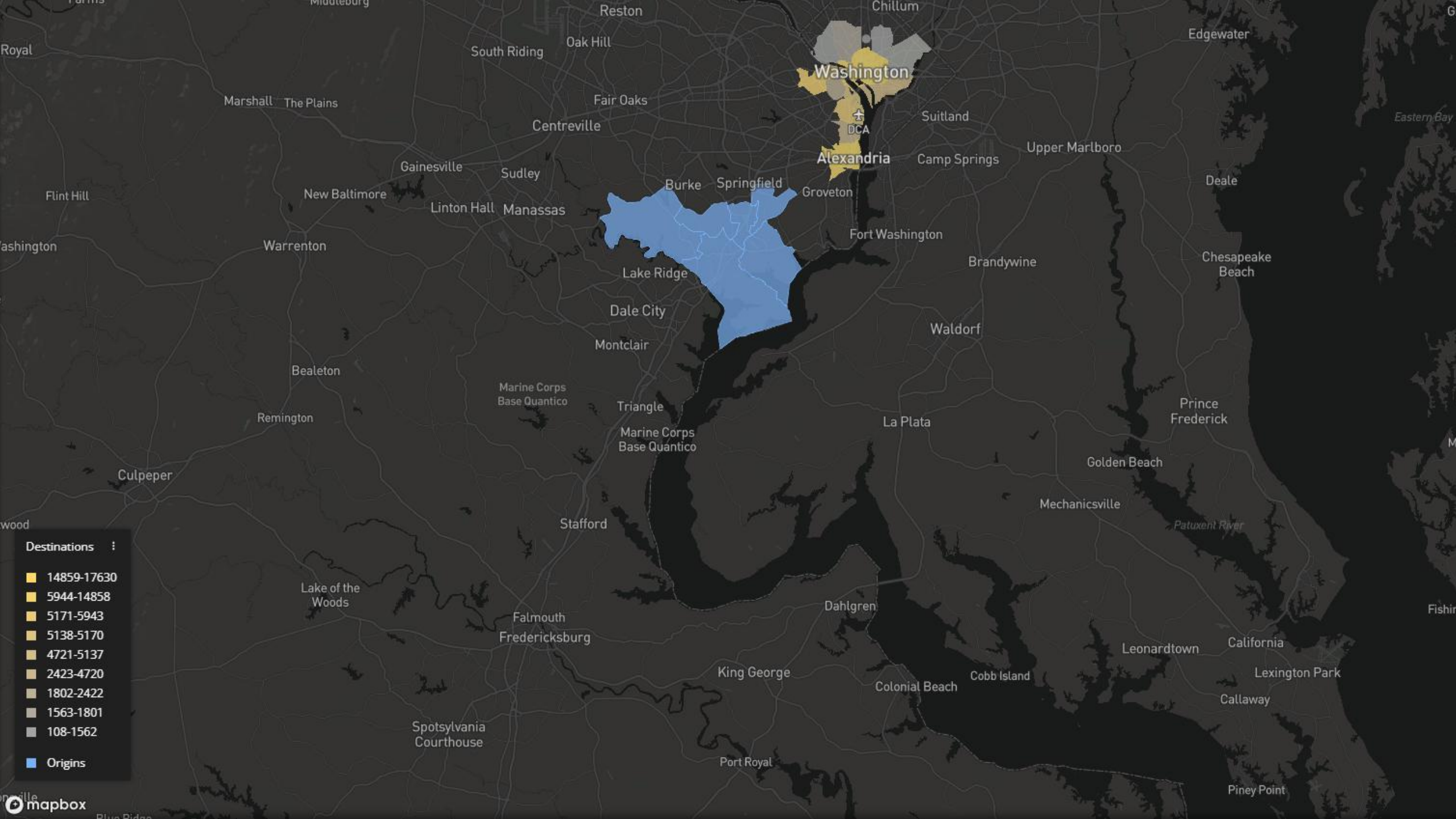


**What is the
distribution of
demand across
the day?**

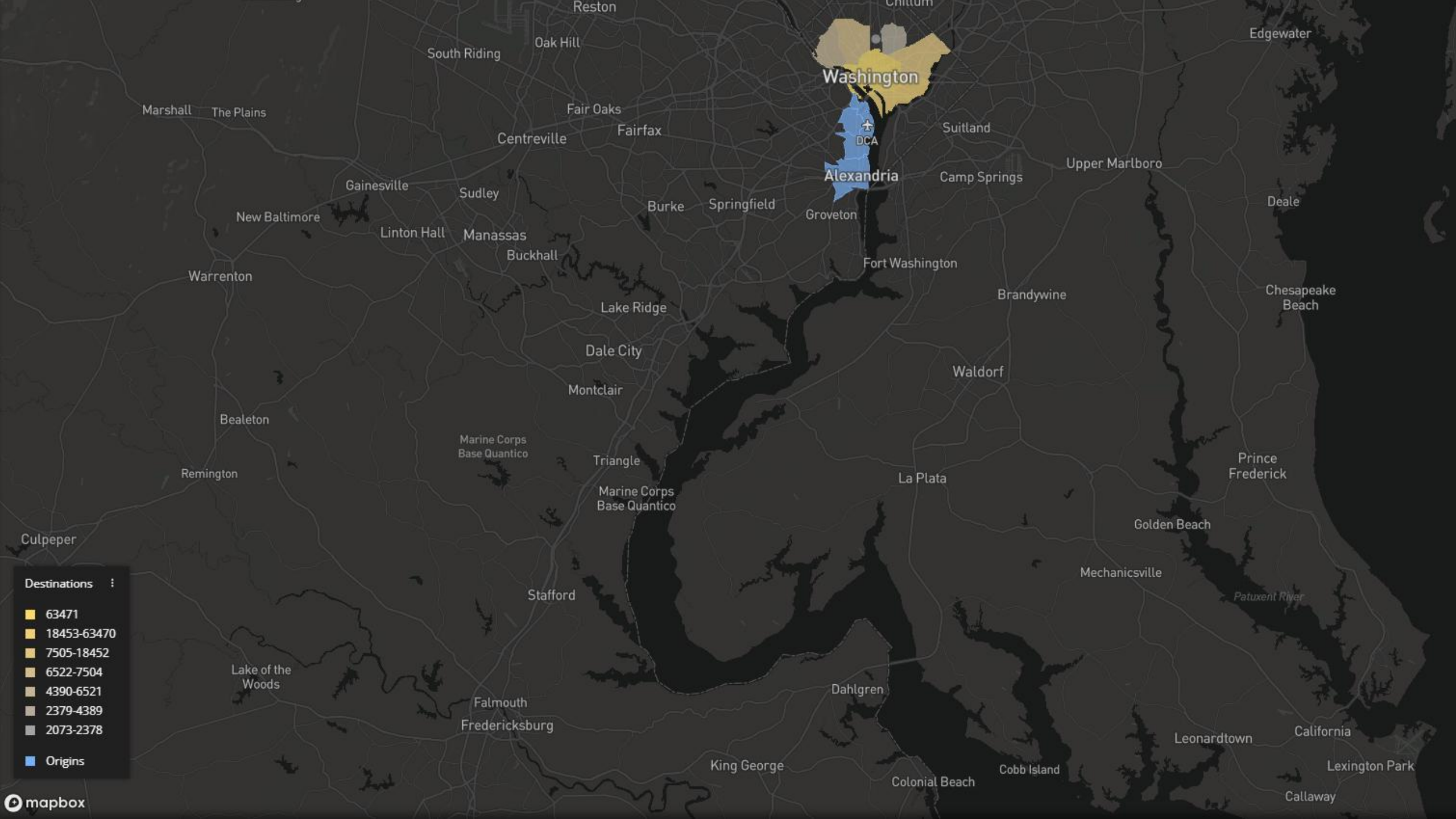
**Do we have
sufficient
rolling stock?**





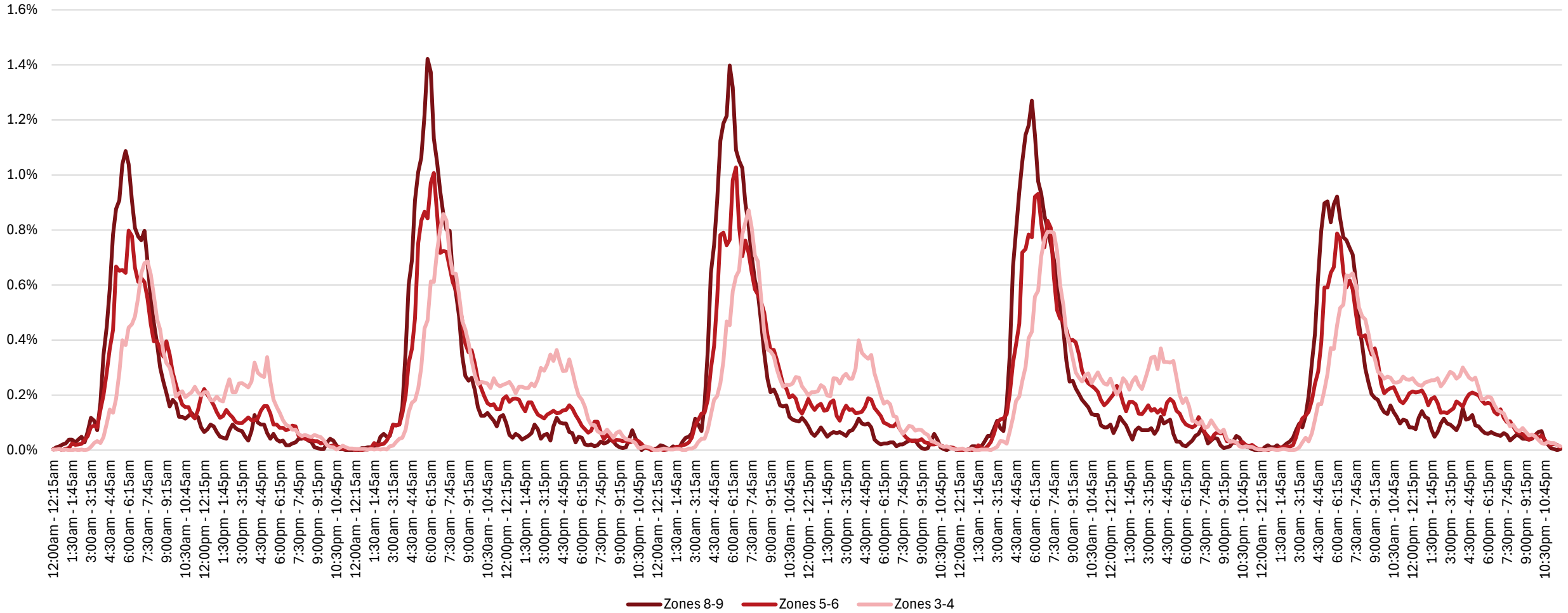


- Destinations** ⌵
- 14859-17630
 - 5944-14858
 - 5171-5943
 - 5138-5170
 - 4721-5137
 - 2423-4720
 - 1802-2422
 - 1563-1801
 - 108-1562
 - Origins

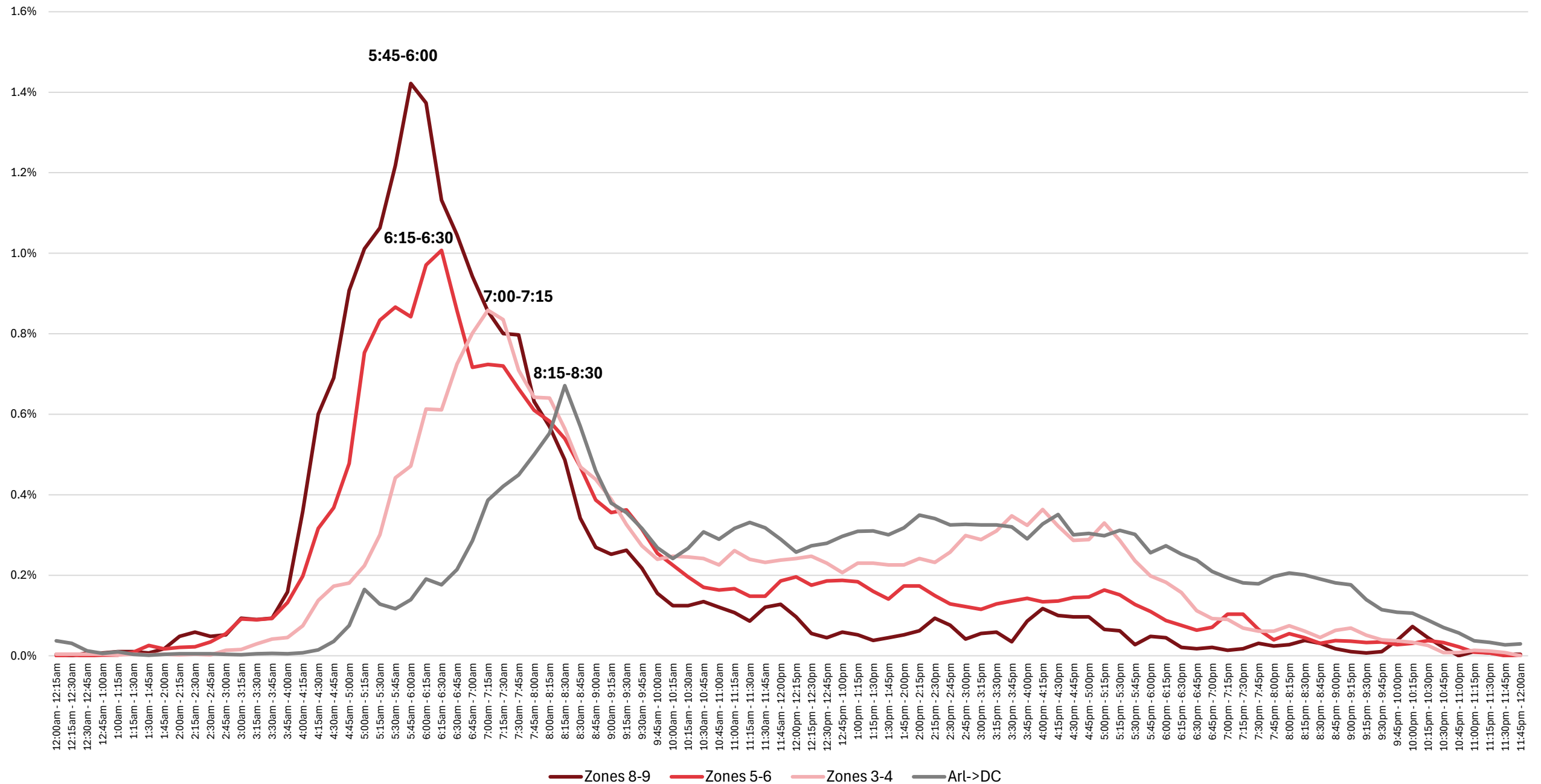


- Destinations** :
- 63471
 - 18453-63470
 - 7505-18452
 - 6522-7504
 - 4390-6521
 - 2379-4389
 - 2073-2378
 - Origins

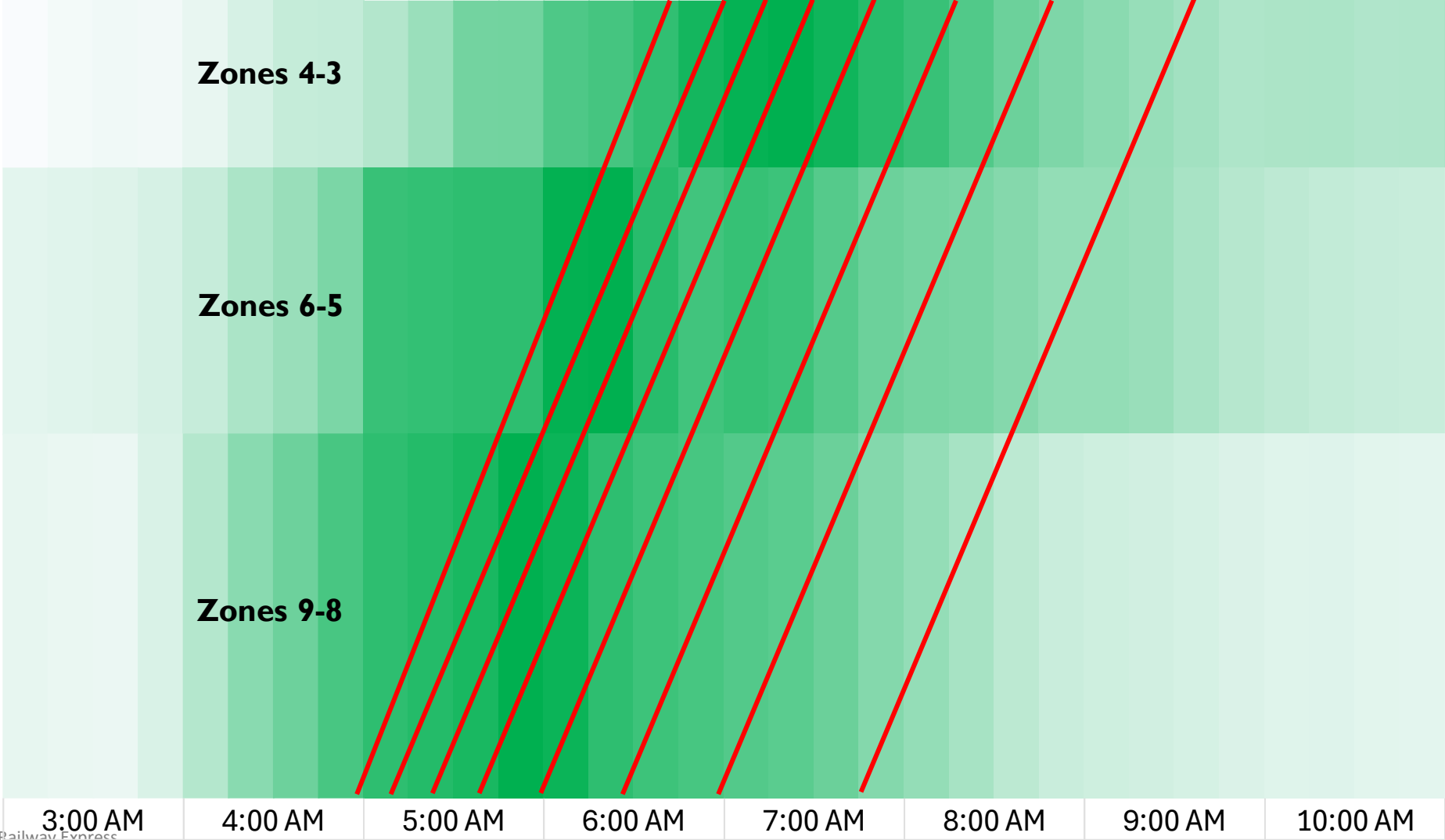
Demand Distribution by Zone



Fredericksburg Inbound Tuesday



Catching Demand



ADR Distribution by Train



AM Service	300	302	304	306	308	310	312	314	316	318	320	322	324	326
Time	4:31	4:46	5:06	5:26	6:23	6:02	5:56	6:26	6:56	7:46	8:46	15:26	17:23	20:01
Mon	4.9%	7.2%	7.9%	8.6%	7.2%	9.7%	9.5%	10.1%	9.7%	7.2%	5.9%	5.6%	4.6%	1.8%
Tue	5.0%	7.1%	7.7%	8.9%	8.3%	10.7%	10.1%	9.9%	10.0%	6.9%	4.9%	5.1%	4.0%	1.6%
Wed	4.7%	6.8%	7.3%	8.5%	7.9%	10.5%	10.2%	10.2%	9.9%	7.1%	5.5%	5.2%	4.3%	1.9%
Thu	4.7%	6.4%	7.2%	8.1%	8.2%	10.8%	10.0%	9.9%	9.9%	7.1%	5.4%	5.7%	4.8%	1.8%
Fri	4.8%	6.5%	6.8%	7.6%	7.3%	9.5%	9.2%	9.3%	9.9%	7.7%	6.4%	6.3%	5.7%	3.0%

PM Service	301	303	305	307	309	311	313	315	317	319	321	323	325	327
Time	5:15	6:20	7:35	12:30	14:40	15:10	15:40	16:10	16:20	16:40	17:20	18:20	20:00	22:10
Mon	0.8%	2.0%	3.3%	6.6%	9.1%	12.4%	12.9%	11.7%	6.0%	11.4%	11.0%	6.4%	3.9%	2.6%
Tue	0.8%	1.9%	3.4%	5.8%	9.7%	12.6%	12.3%	11.6%	6.4%	11.4%	10.9%	6.6%	3.9%	2.8%
Wed	1.3%	1.8%	3.3%	6.1%	9.2%	12.5%	12.2%	11.5%	6.3%	11.8%	10.2%	7.0%	4.0%	2.7%
Thu	0.9%	1.6%	3.4%	6.4%	8.9%	11.9%	12.4%	11.8%	6.0%	12.0%	10.4%	7.0%	4.2%	3.2%
Fri	1.2%	1.9%	3.6%	7.7%	10.5%	12.1%	12.3%	11.5%	4.7%	10.4%	9.3%	6.4%	4.2%	4.2%

Rolling Stock Needs



Cars Required	4	5	5	6	6	7	7	7	7	5	4	4	3	2
AM Service	300	302	304	306	308	310	312	314	316	318	320	322	324	326
Mon	248	368	404	436	366	495	482	515	495	368	302	285	233	90
Tue	286	400	434	501	470	605	570	559	565	388	279	287	226	91
Wed	274	394	421	492	454	606	591	588	574	410	319	303	248	108
Thu	254	349	392	443	445	590	547	542	542	390	293	310	262	97
Fri	185	252	264	292	283	365	356	359	383	297	248	244	222	114

Cars Required	1	2	3	4	7	8	8	8	5	8	7	5	3	2
PM Service	301	303	305	307	309	311	313	315	317	319	321	323	325	327
Mon	43	99	166	333	462	630	656	594	307	580	560	324	198	134
Tue	47	107	190	326	550	715	697	656	360	648	616	373	219	160
Wed	75	105	191	353	530	723	704	662	364	683	592	406	234	159
Thu	48	88	183	348	487	649	679	644	325	653	570	379	227	176
Fri	48	74	139	297	405	466	475	445	180	402	360	249	163	162

Assumed Capacity Per Railcar
130
Max Load Factor
70%

**What's
Next?**



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Thank You!

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