WeGo Public Transit

Presentation by:
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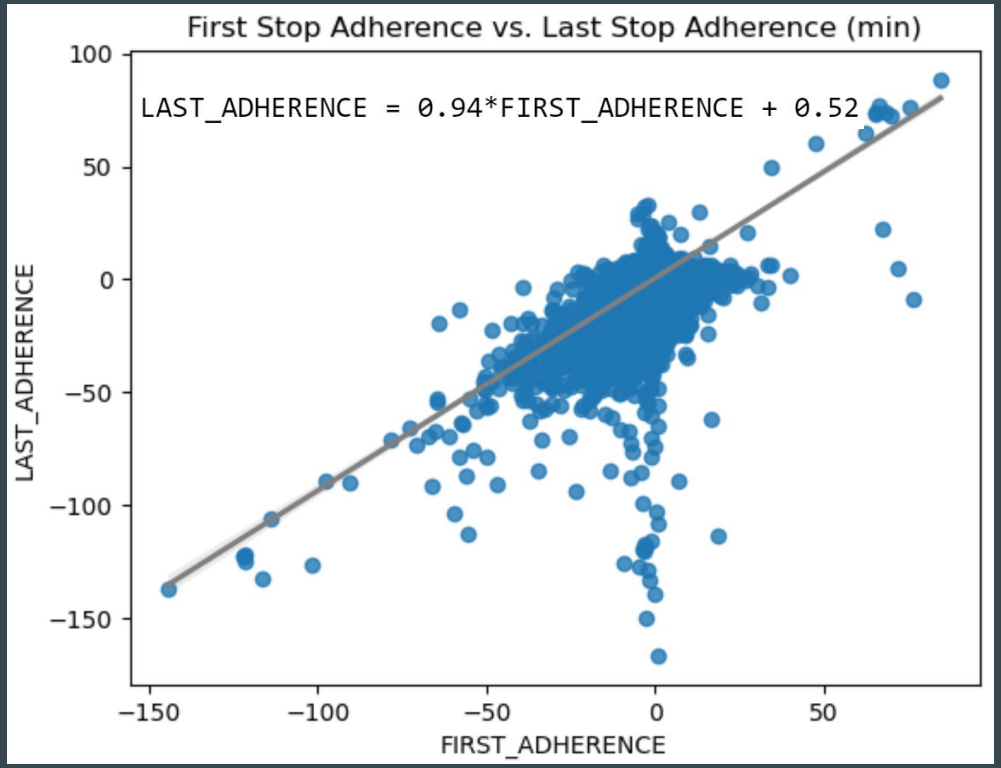
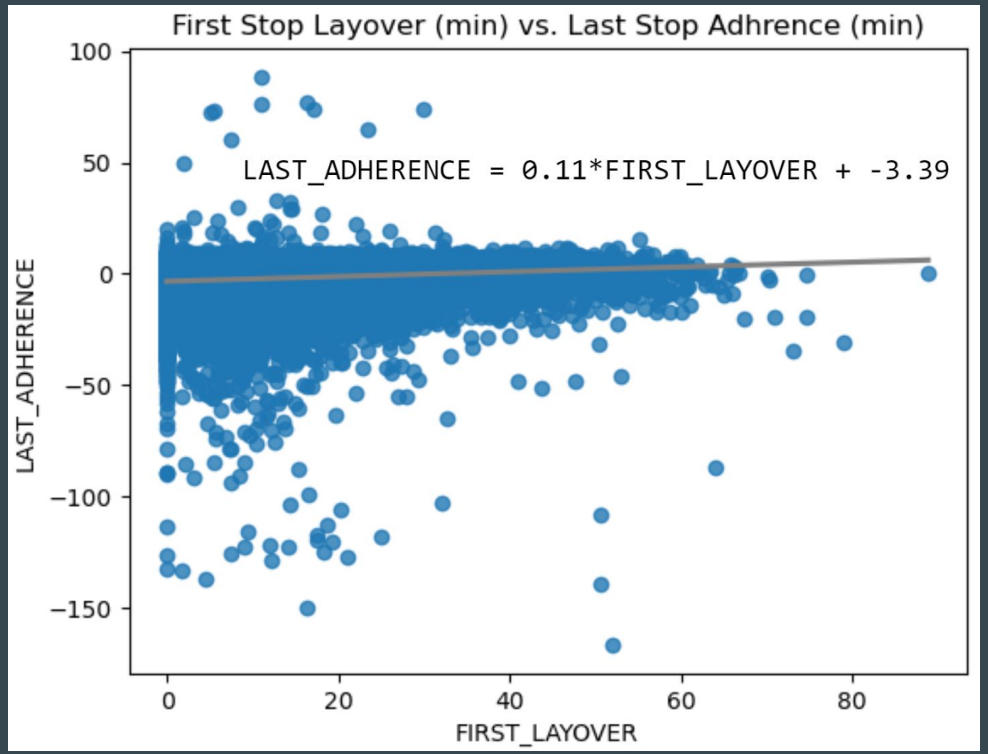
Jeff Davis
Paris Parker
Ndidi Obi

How much impact does being late at the first stop have downstream?



r = 0.5228857578942757
R^2 = 0.2734095158086711

What is the impact of the layover at the start of the trip?

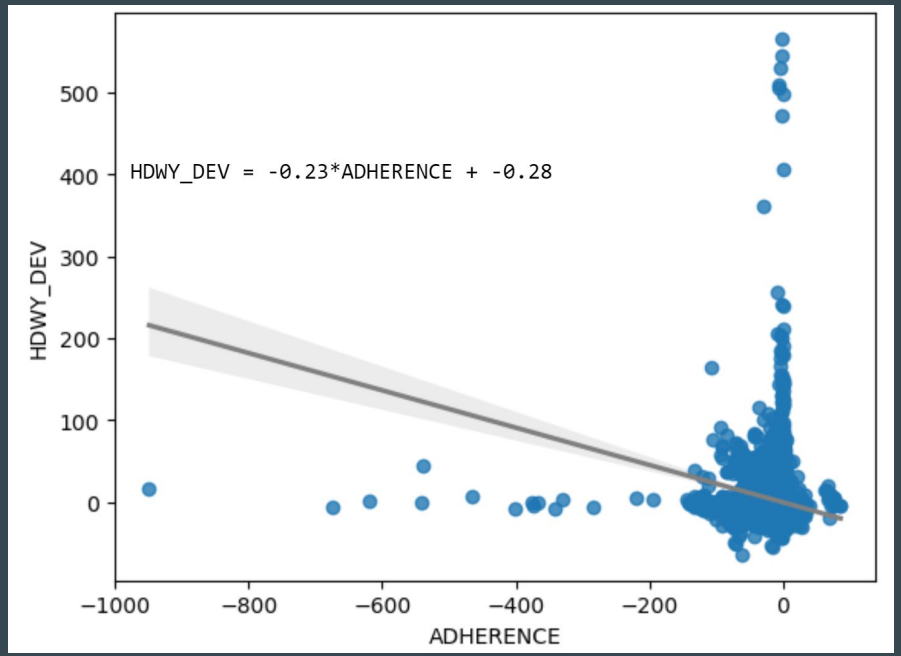


r = 0.1304618828461733

R^2 = 0.017020302875768646

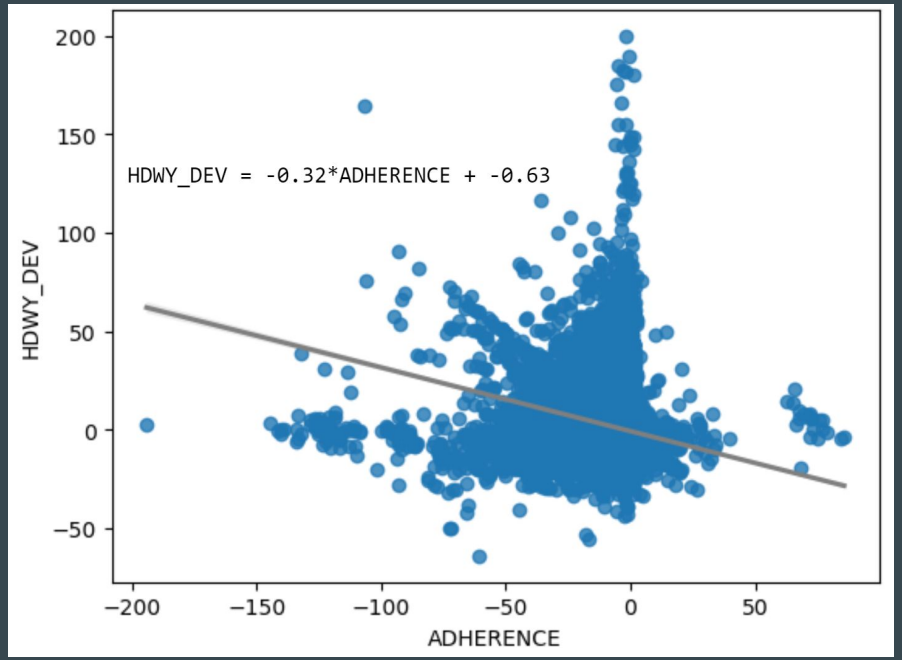
How closely does lateness (adherence) correlate to headway?

Raw Data



r = -0.20679395520064747
R^2 = 0.042763739907527396

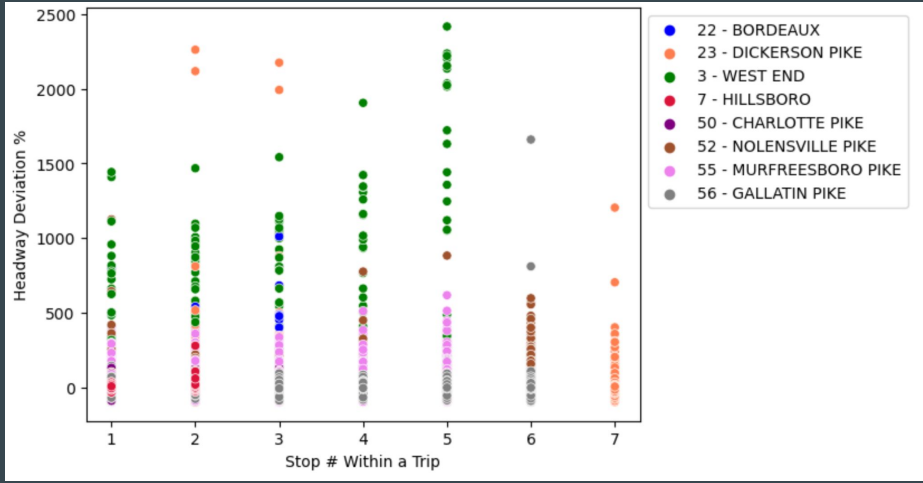
Outliers Removed



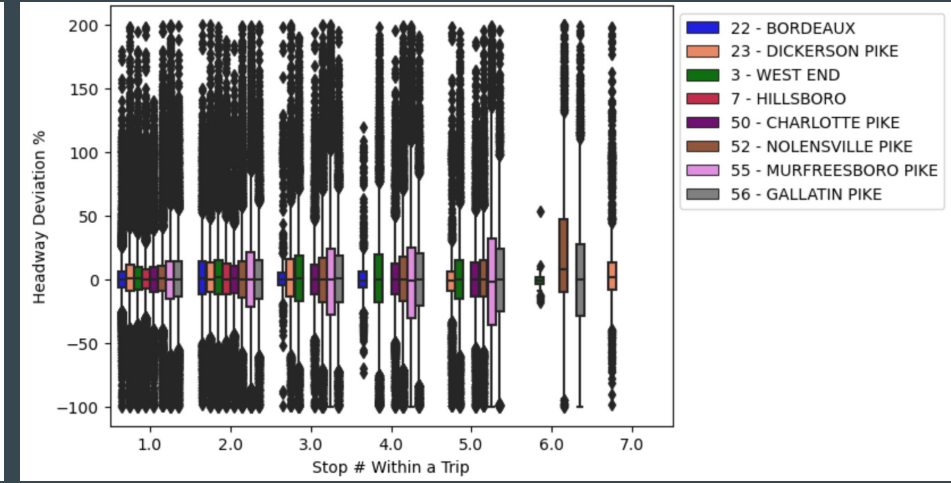
r = -0.2705726018094982
R^2 = 0.07320953284996128

What is the relationship between distance travelled since the start of a given trip and the headway deviation?

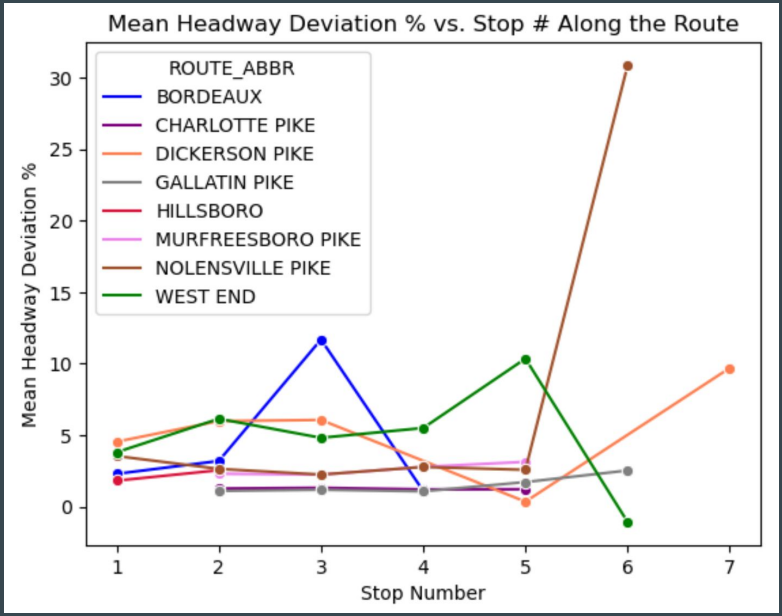
Raw Data

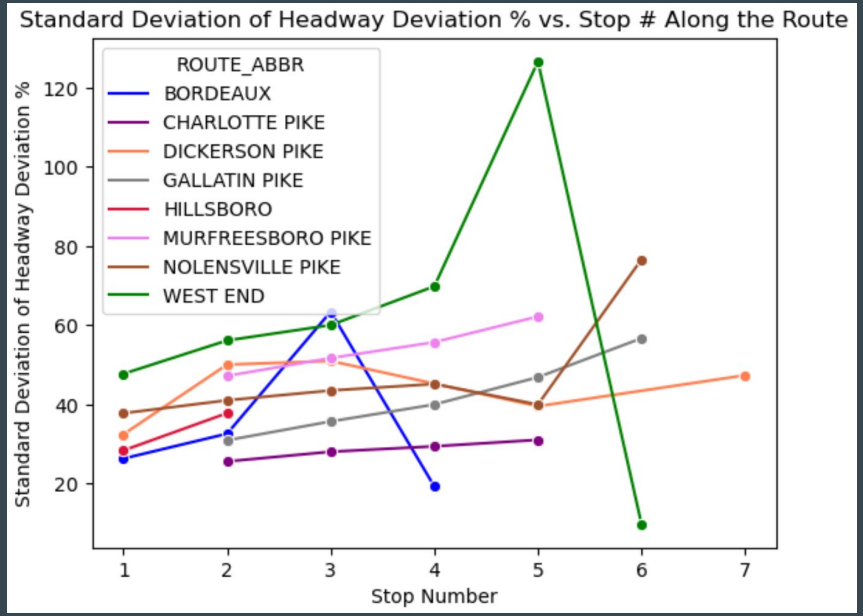


Outliers Removed



Relationship between distance travelled since start of a trip and headway deviation



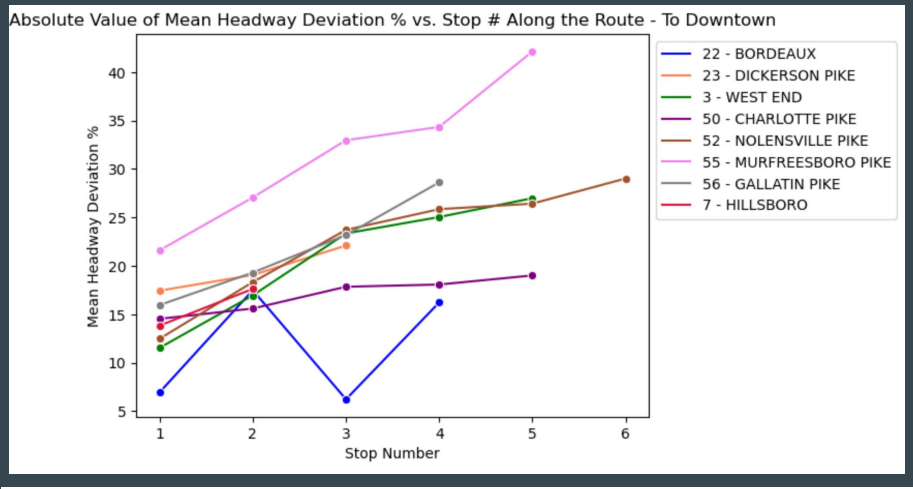


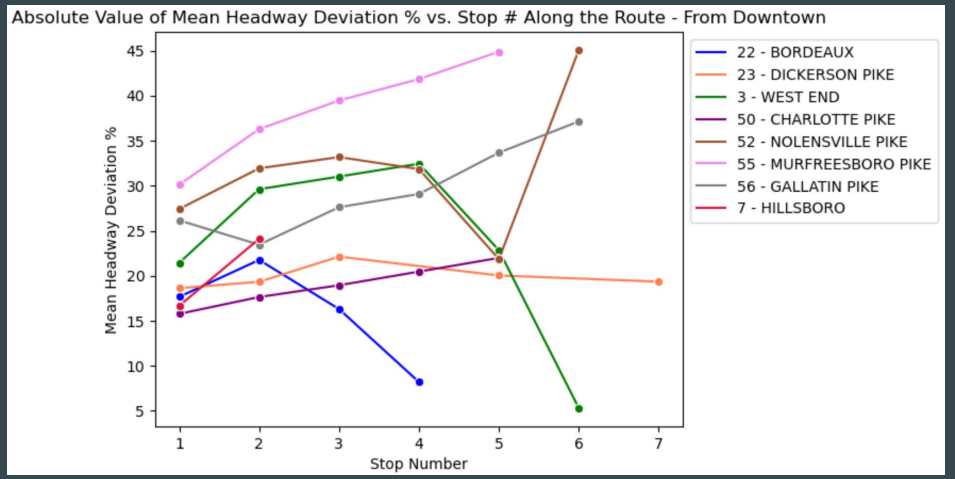
Outliers of note:

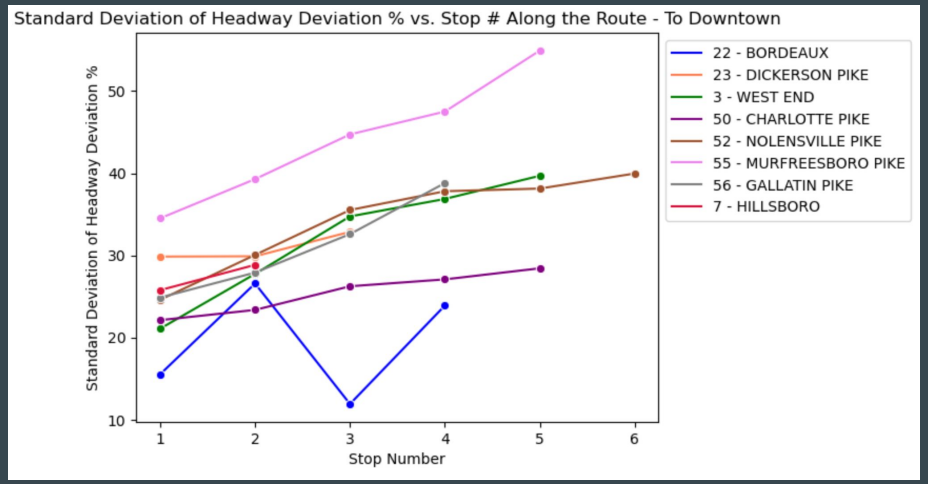
- Occurred over multiple days
- Typically occurred in the evening

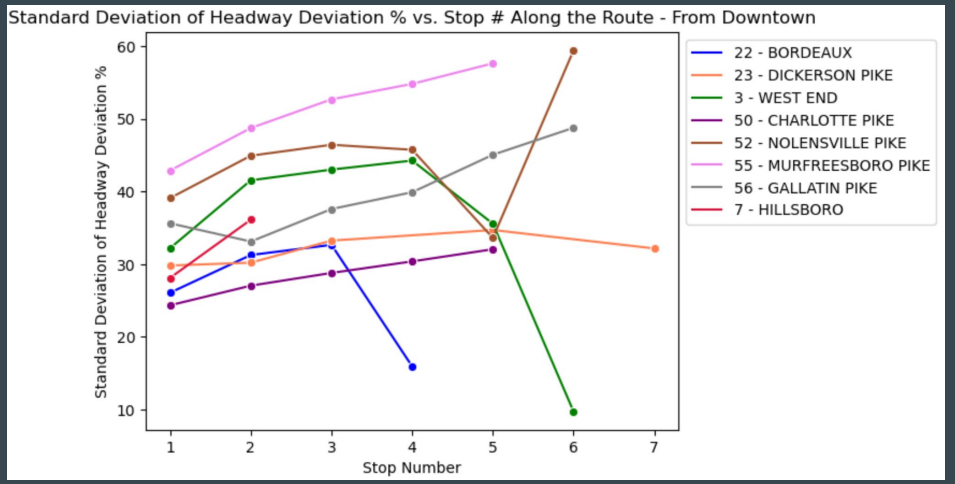
Route Name	Outlier Stop #	Outlier Stop Abbr.	Direction
22 - Bordeaux	3	CLFF	From Downtown
3 - West End	5	BRCJ	From Downtown
52 - Nolensville Pike	6	DCSCC	From Downtown

Relationship between distance travelled since start of a trip and headway deviation

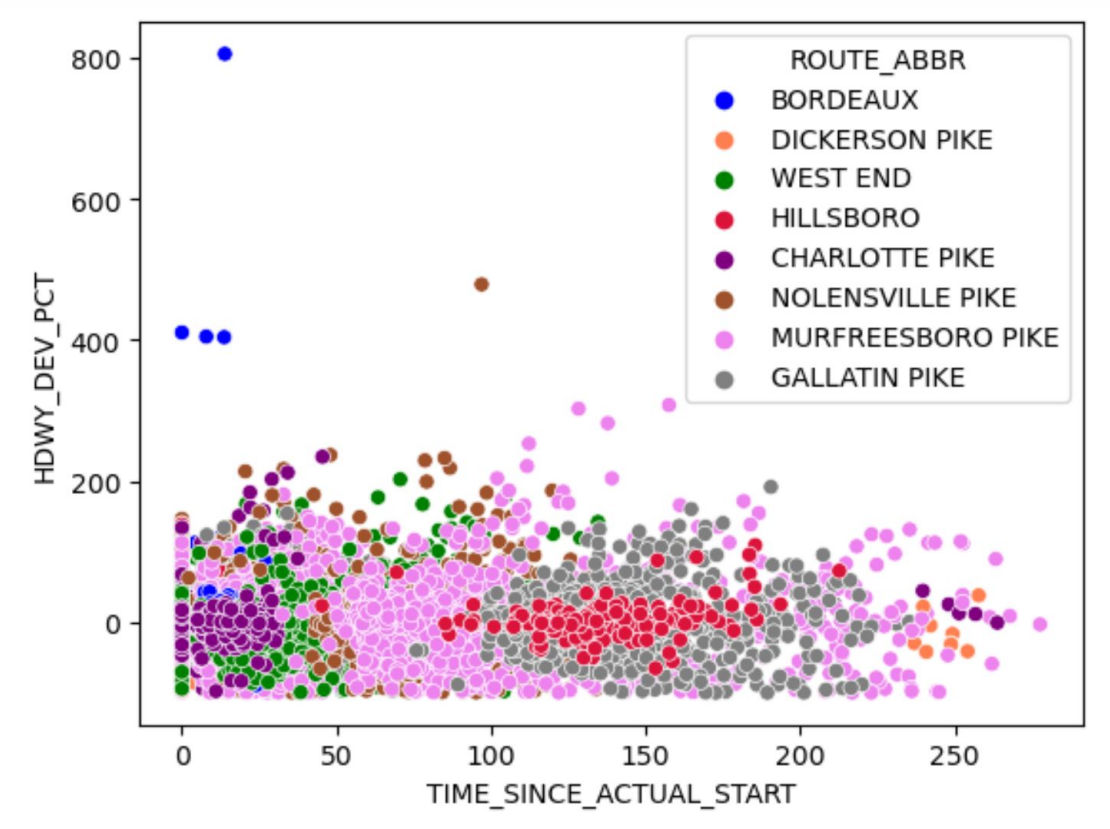








What is the relationship between time travelled since the start of a given trip and the headway deviation?



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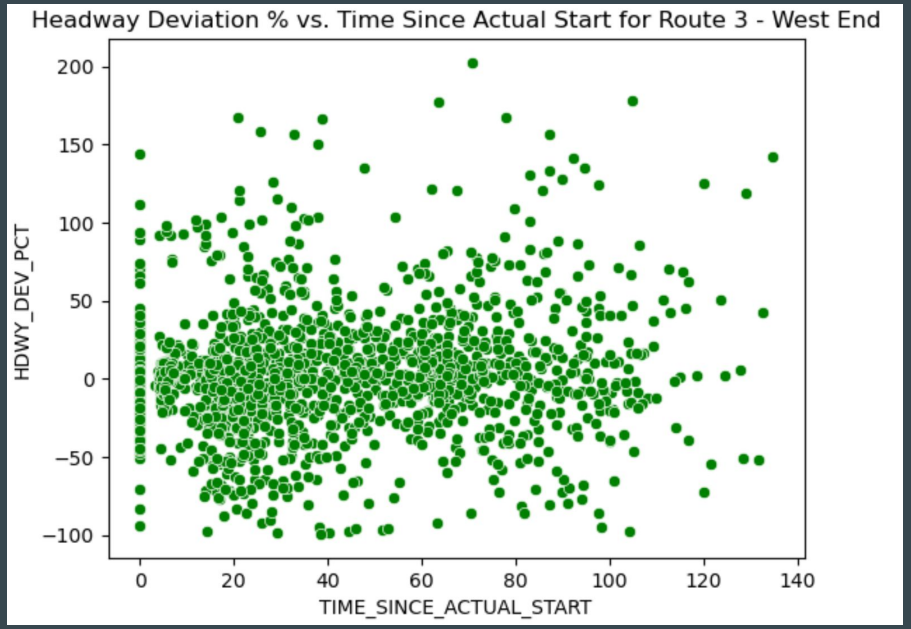
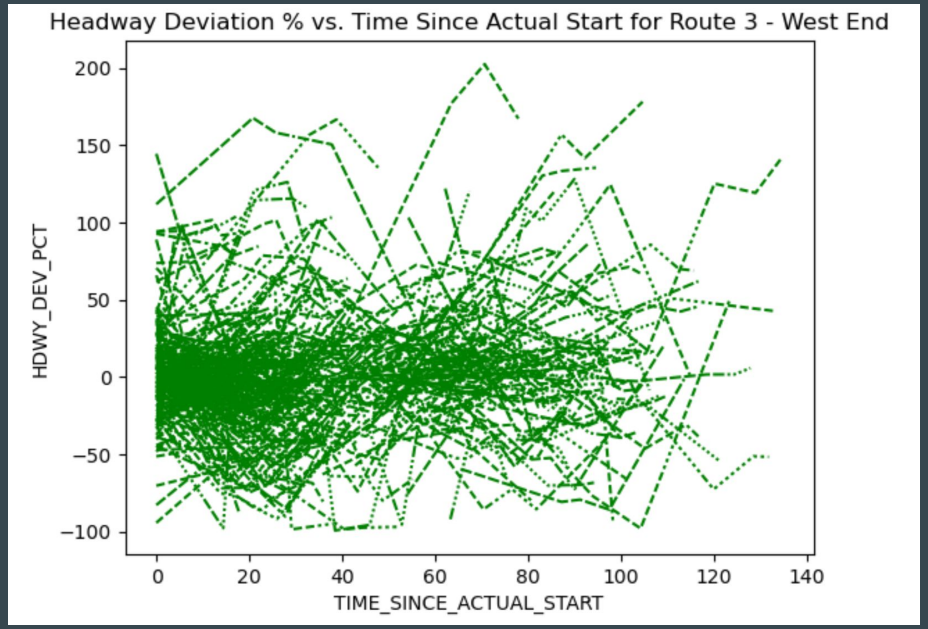
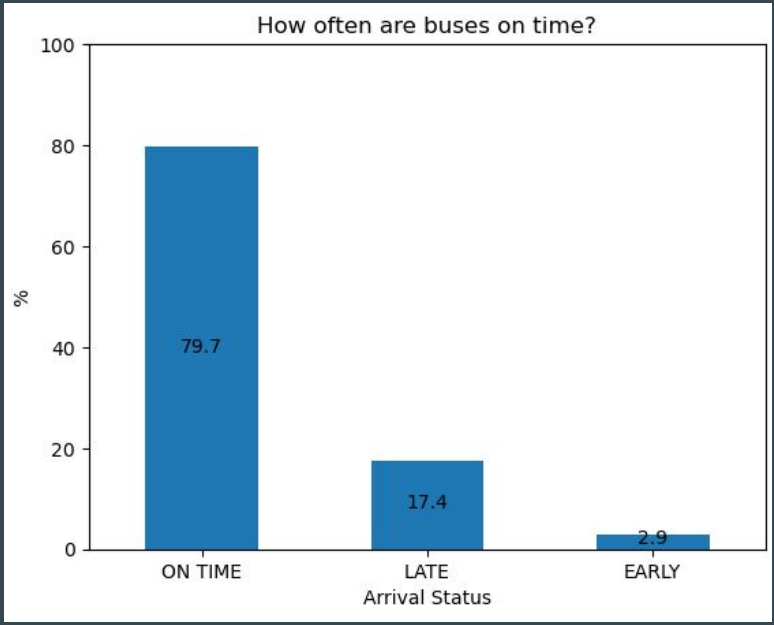


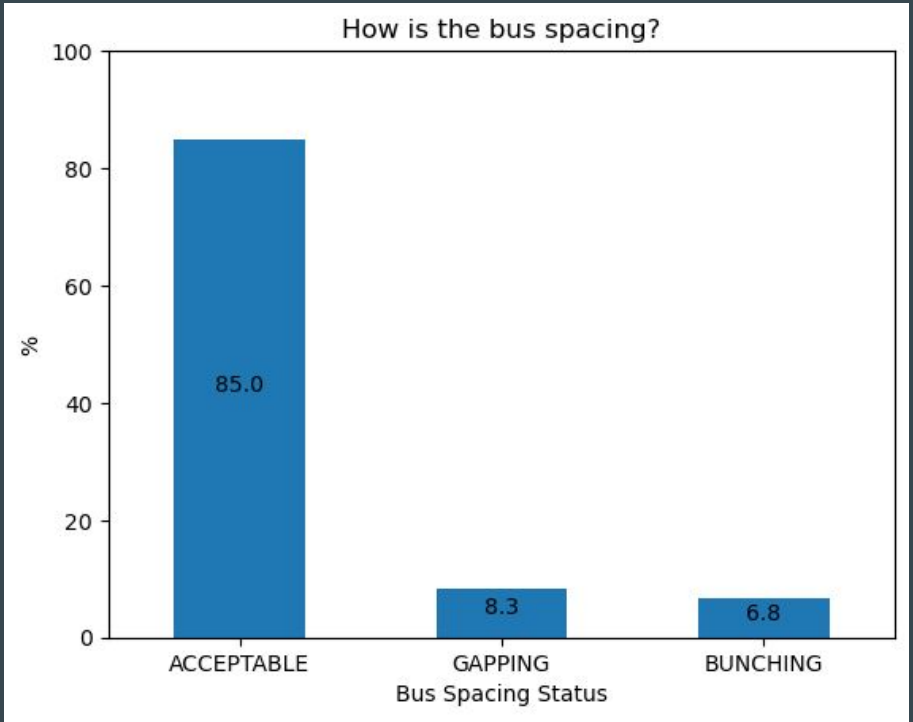


How much of a factor does the driver have on headway and on-time performance?



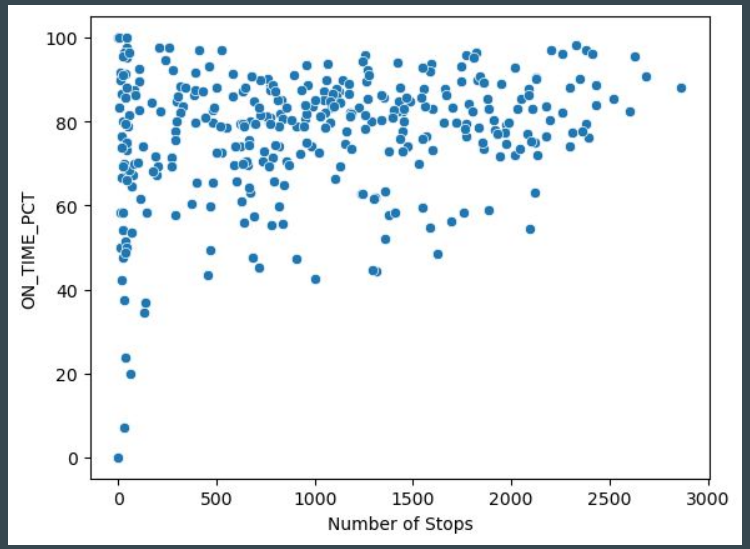
- The bus is on time if it falls in between 1 minute early and 6 minutes late
- When the bus is more than 6 minutes late it considered a late bus
- When the bus is more than 1 minute early, it is considered an early bus

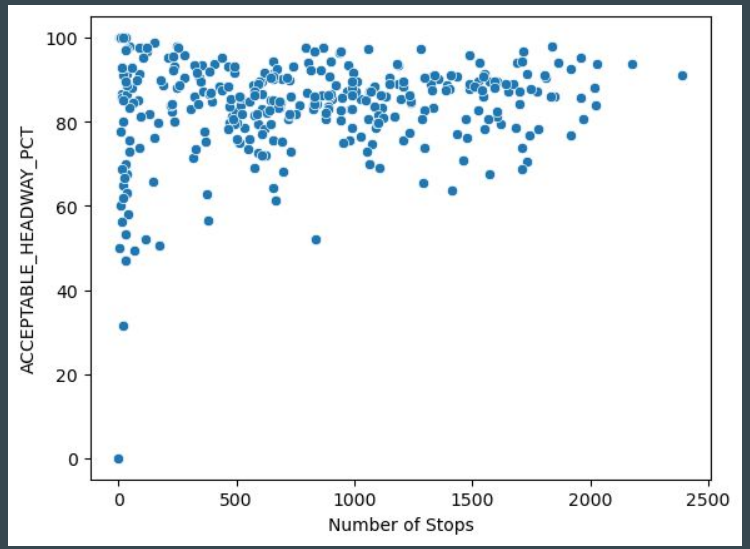
How much of a factor does the driver have on headway and on-time performance?



- If the bus was within 50% to 150% of the scheduled headway, this would be considered acceptable
- If the bus was less than 50% of the scheduled headway, this would be considered bunching
- If the bus was more than 50% of the scheduled headway, this would be considered bunching

How much of a factor does the driver have on headway and on-time performance?





ON_TIME_PCT : Percentage of stops where the operator was on time
ACCEPTABLE_HEADWAY_PCT : Percentage of stops where the operator met an acceptable headway

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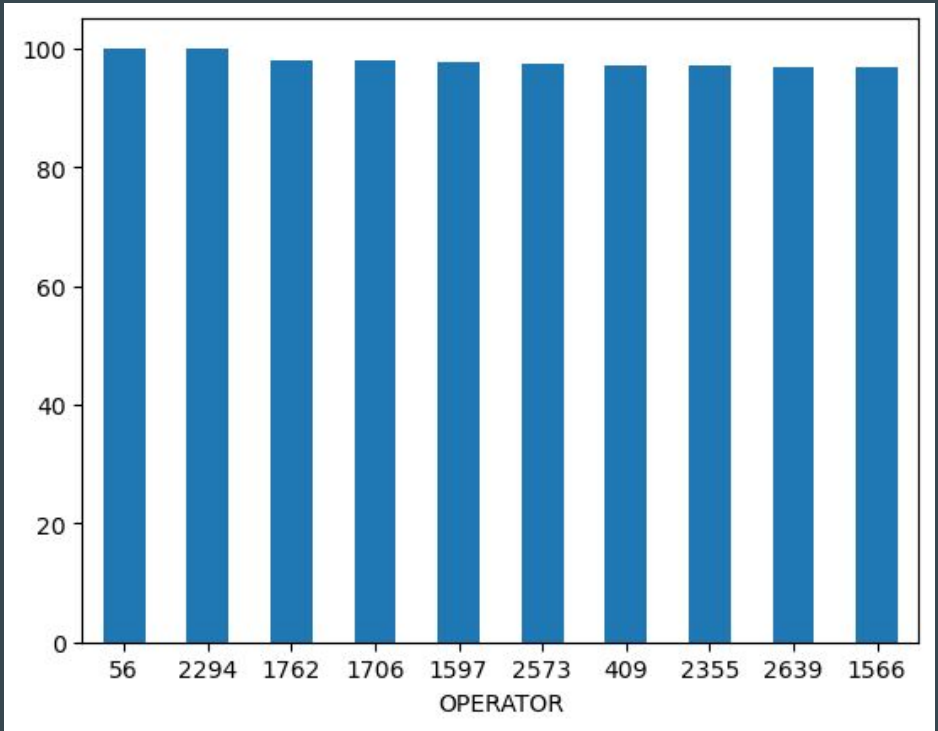
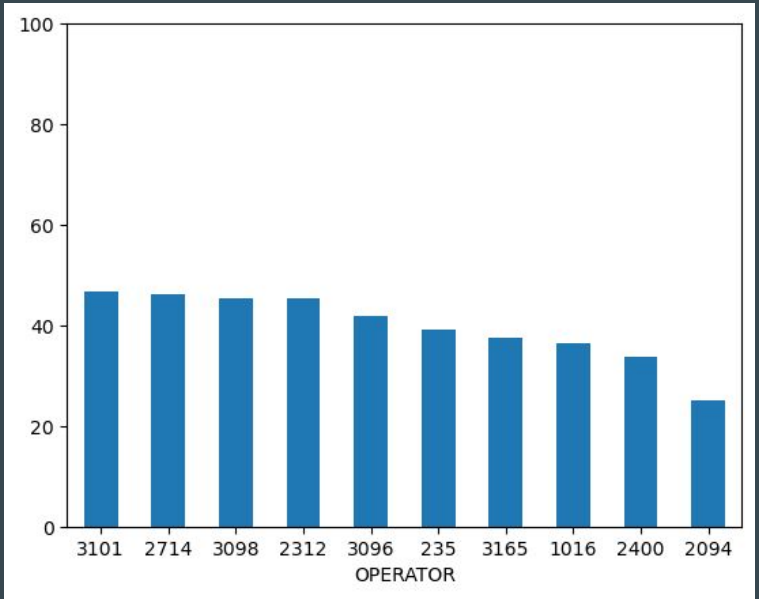


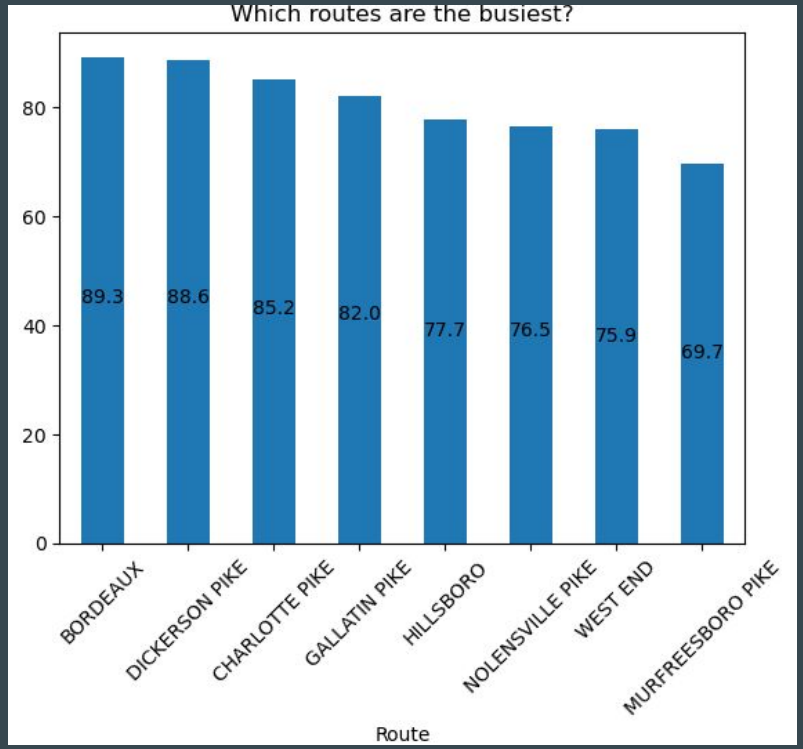
OPERATOR	Number of Trips	Avg On Time %
56	1	100.000000
2294	7	100.000000
1762	779	97.966963
1706	8	97.916667
1597	38	97.596154
2573	63	97.241119
409	463	97.132616
2355	156	97.094017
2639	60	96.846847
1566	367	96.838302

How much of a factor does the driver have on headway and on-time performance?



OPERATOR	Number of Trips	Avg On Time %
3101	232	46.699134
2714	118	46.088154
3098	84	45.416667
2312	478	45.392954
3096	175	41.950758
235	3	39.285714
3165	8	37.500000
1016	7	36.450893
2400	7	33.750000
2094	6	25.000000

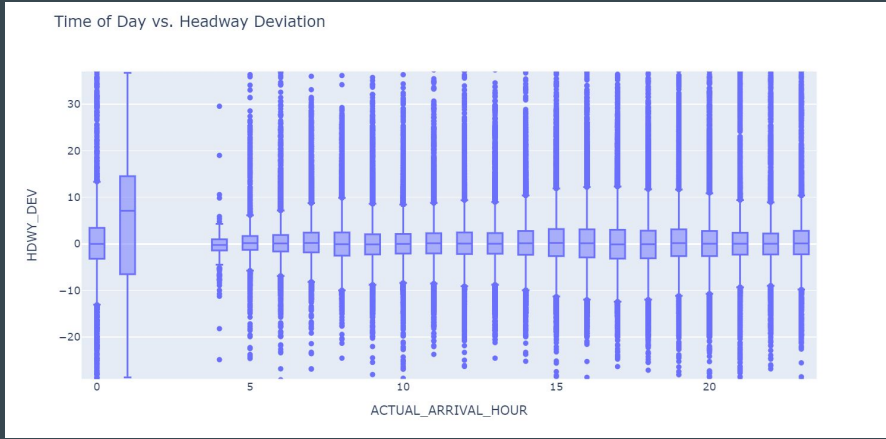
How much of a factor does the driver have on headway and on-time performance?

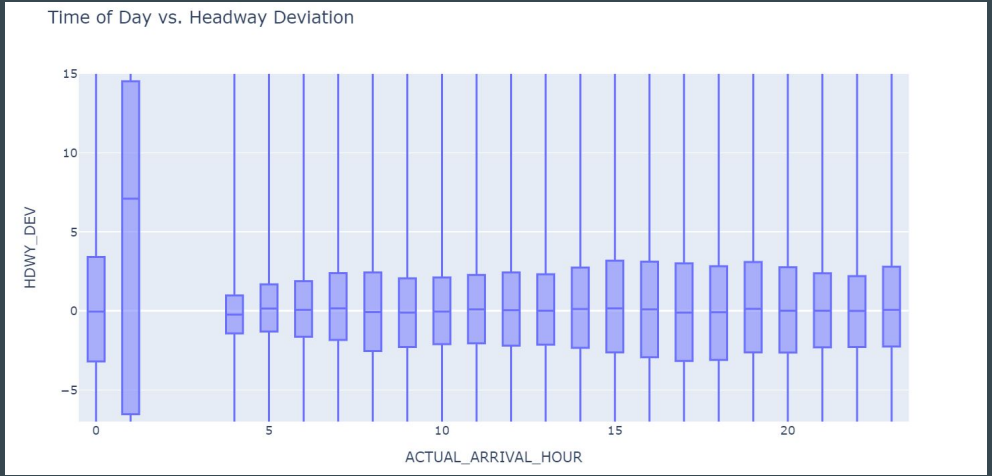


-Bordeaux operators performed 4% better on average than Murfreesboro Pike Operators

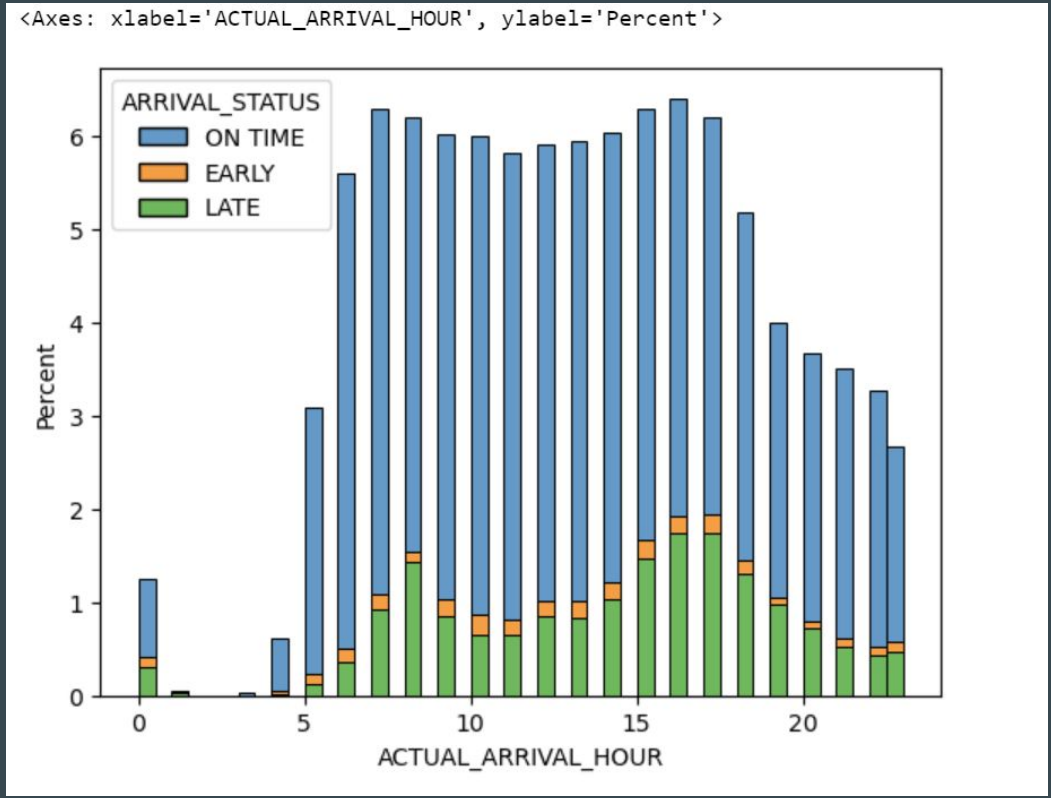
-Murfreesboro Pike operators on time %'s were more spread out

How does time of day affect headway?

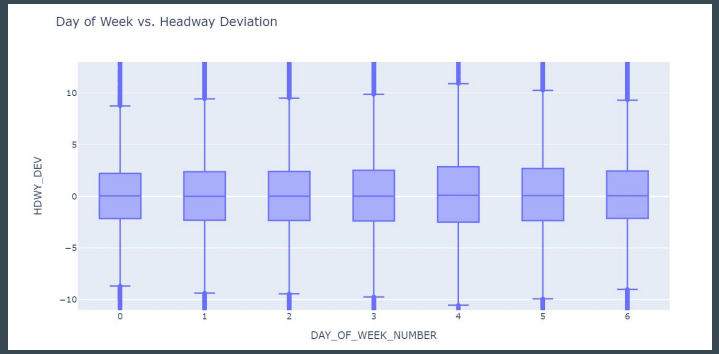


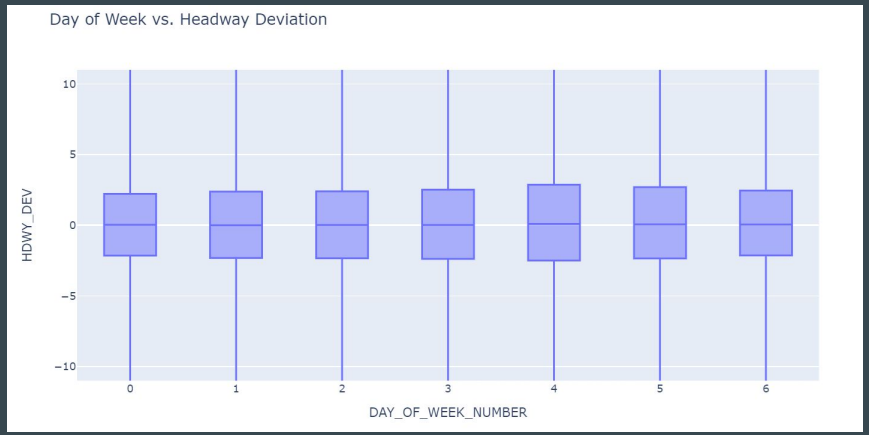


How does time of day affect on-time performance?



How does day of week affect headway?





How does day of week affect on-time performance?