

BRIEF OR LASTING

Changes to Bike and Pedestrian Volumes During and After the Pandemic

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TPB Technical Committee
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National Capital Region
Transportation Planning Board

Background

- In the months that followed the arrival of the pandemic, the outdoors provided relief to residents living under stay-at-home orders. Gyms were closed and public transit service was reduced. There was heightened anxiety about enclosed public spaces. People began walking and biking more.
- Rails to Trails' 31 trail counters distributed across the country reported a 73 percent year-over-year increase in volume in Spring 2020. (<https://www.railstotrails.org/COVID19/#trailcount>)
- Respondents to a nationwide travel survey expected to walk and bike more after the pandemic. (COVID-19 and the Future Survey, Arizona State University-University of Illinois at Chicago (ASU-UIC)).
- Today, questions remain about longer-term impact of the pandemic on walking and biking.

Project Approach

- To learn about longer term impacts on walking and biking from the pandemic, TPB staff assessed data from Arlington's continuous, automatic bicycle and pedestrian counters.
- As of January 2023, there are around 40 automatic bicycle and pedestrian counting stations available in Arlington County.
- Obtained raw data from Arlington; assessed and cleansed raw data.
- Analyzed data from stations with historical data, complete 2020 data, and complete 2020 to 2022 data.
- TPB staff also examined data from counters located in other jurisdictions in the region.

Counter Group Assignment

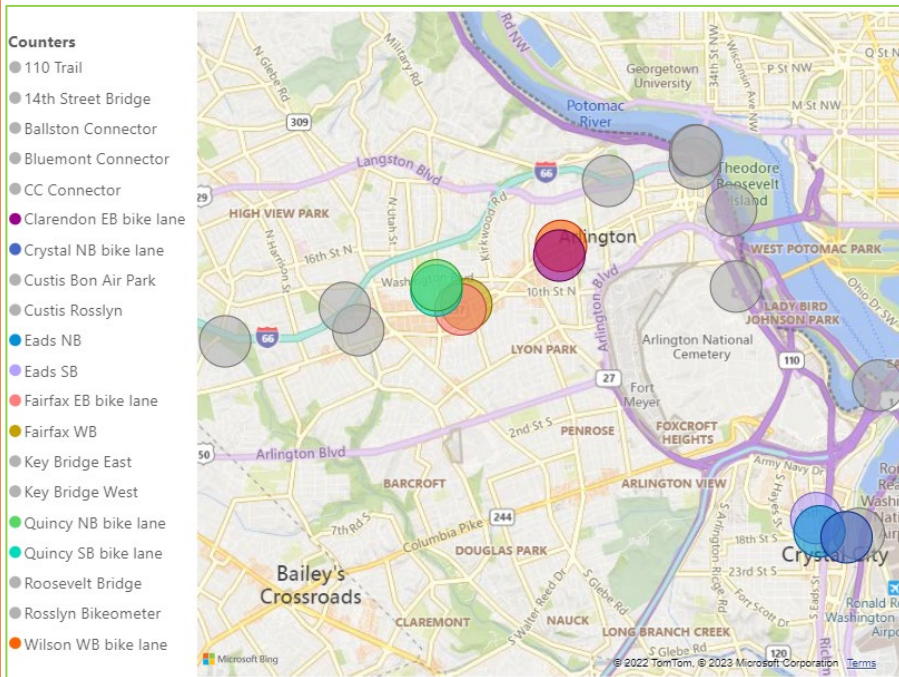
- The counters showed two distinct patterns of use before and during the pandemic.
- TPB staff assigned counters to two groups: primary peak group (20 stations) or primary off-peak group (13 stations) based on the key counter characteristics, including: weekday and weekend volume comparison, and time of day volume distribution.

Counter Group	Hourly Volume Distribution	Weekday Weekend Volume Comparison
Peak Group	Clear AM peak period and PM peak period during weekdays	Weekdays volume much higher than weekends
Off-peak Group	Hourly volume more evenly distributed during weekdays	Weekends volume higher than weekdays

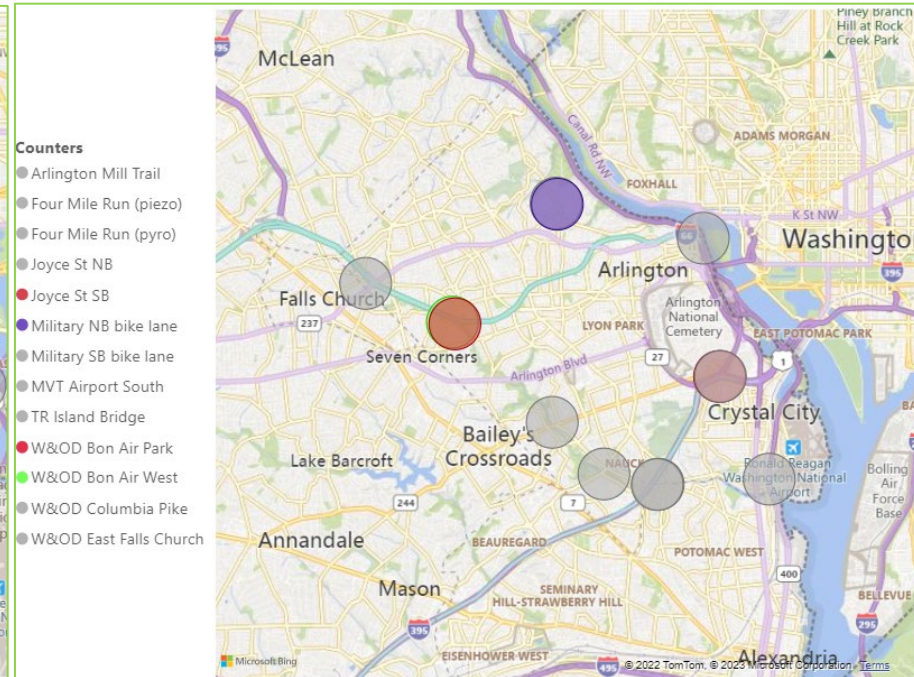


Overview of Arlington Bicycle and Pedestrian Counters

Locations of all the counters by counter group



Peak Group

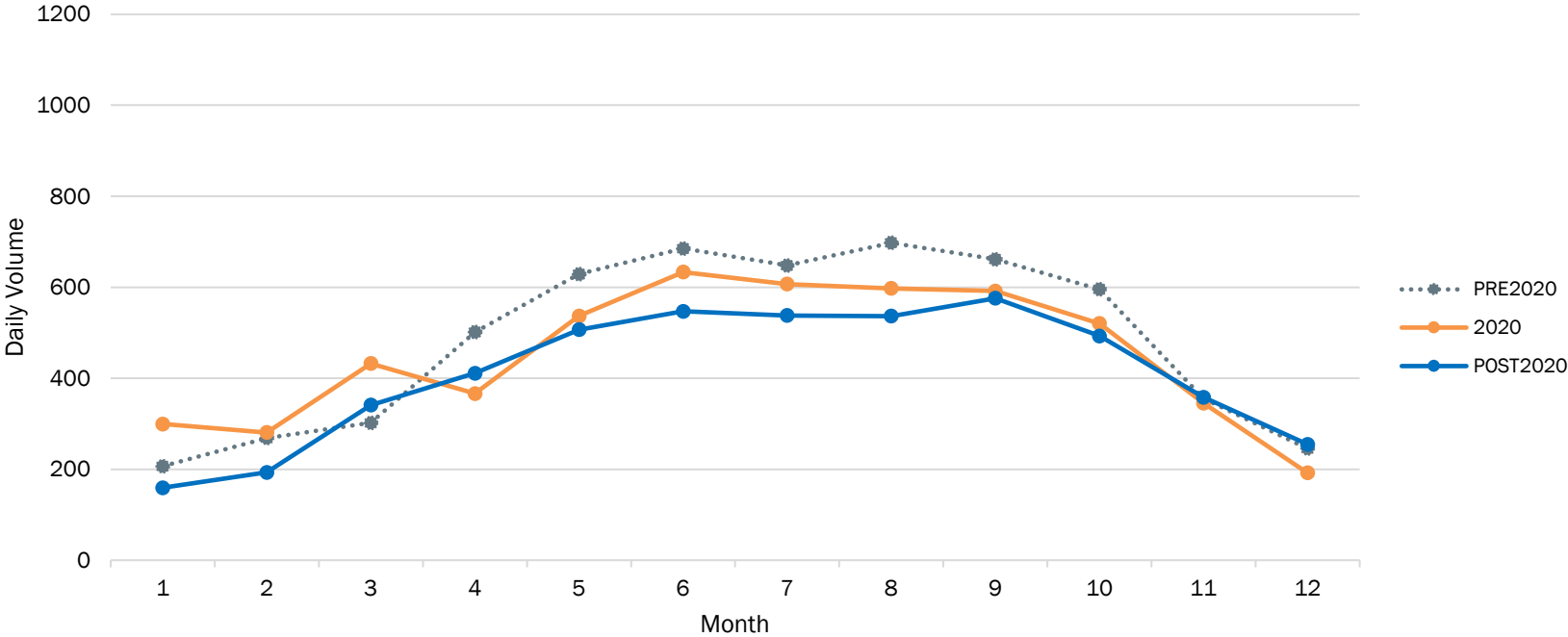


Off-Peak Group



Peak Group Daily Volume by Month Pre-2020 to Post-2020, Weekdays

Weekday Volume Comparison by Month for Counters in Peak Group: Pre-2020 to Post-2020

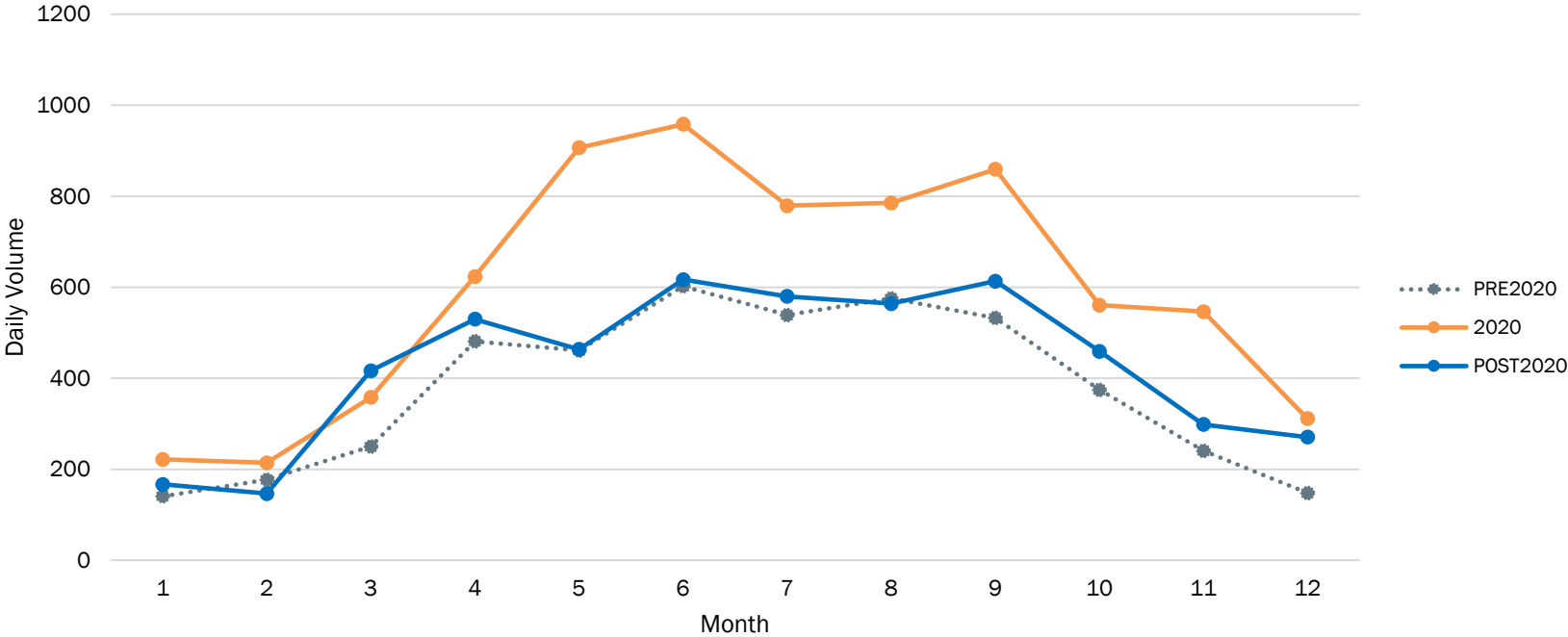


- The decline in Peak Group usage on weekdays aligns with a reduction in trips during the peak period across all modes triggered by stay-at-home-orders in 2020 and increased telework due to COVID-19 from March 2020 until today.



Peak Group Daily Volume by Month Pre-2020 to Post-2020, Weekends

Weekend Volume Comparison by Month for Counters in Peak Group: Pre-2020 to Post-2020

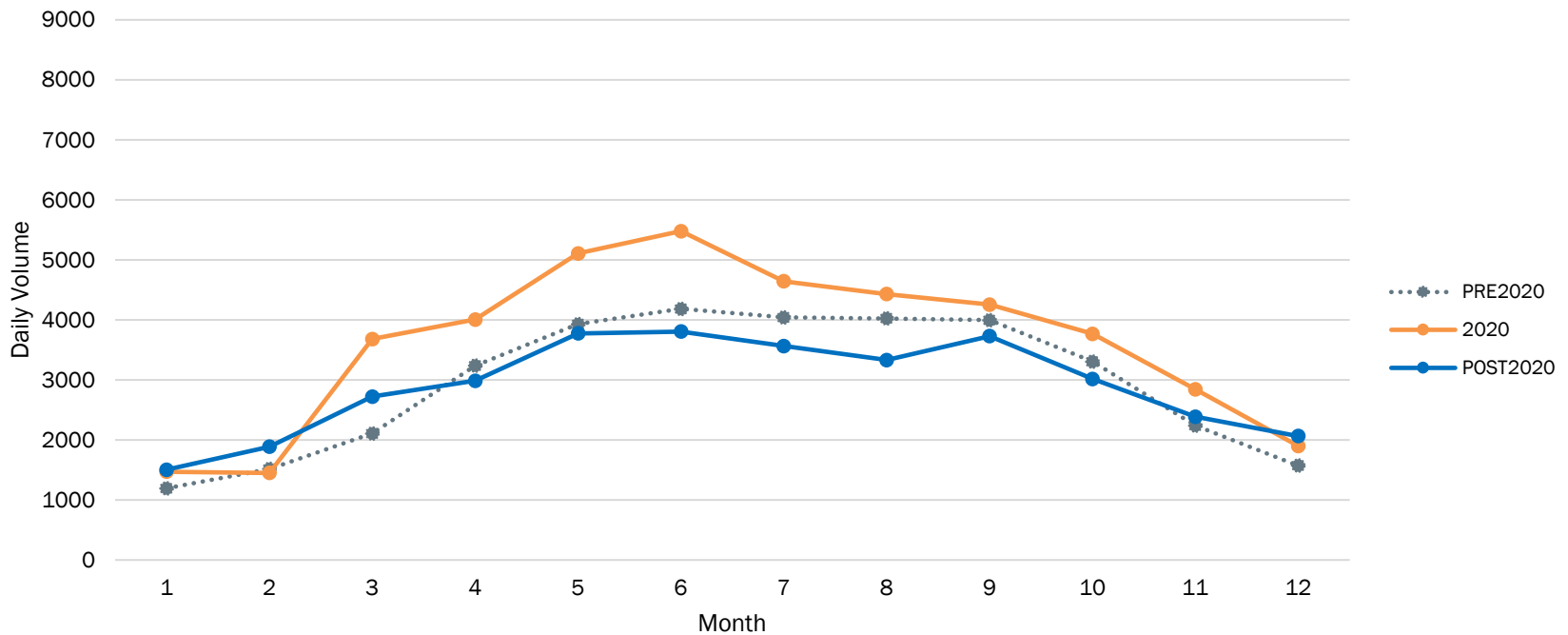


- While this data represents the Peak Group, distinct travel patterns were observed on weekends. A large increase in use occurred in 2020, however, after the first year of the pandemic use returned to pre-pandemic levels.



Off-peak Group Daily Volume by Month Pre-2020 to Post-2020, Weekdays

Weekday Volume Comparison by Month for Counters in Off-peak Group: Pre-2020 to Post-2020

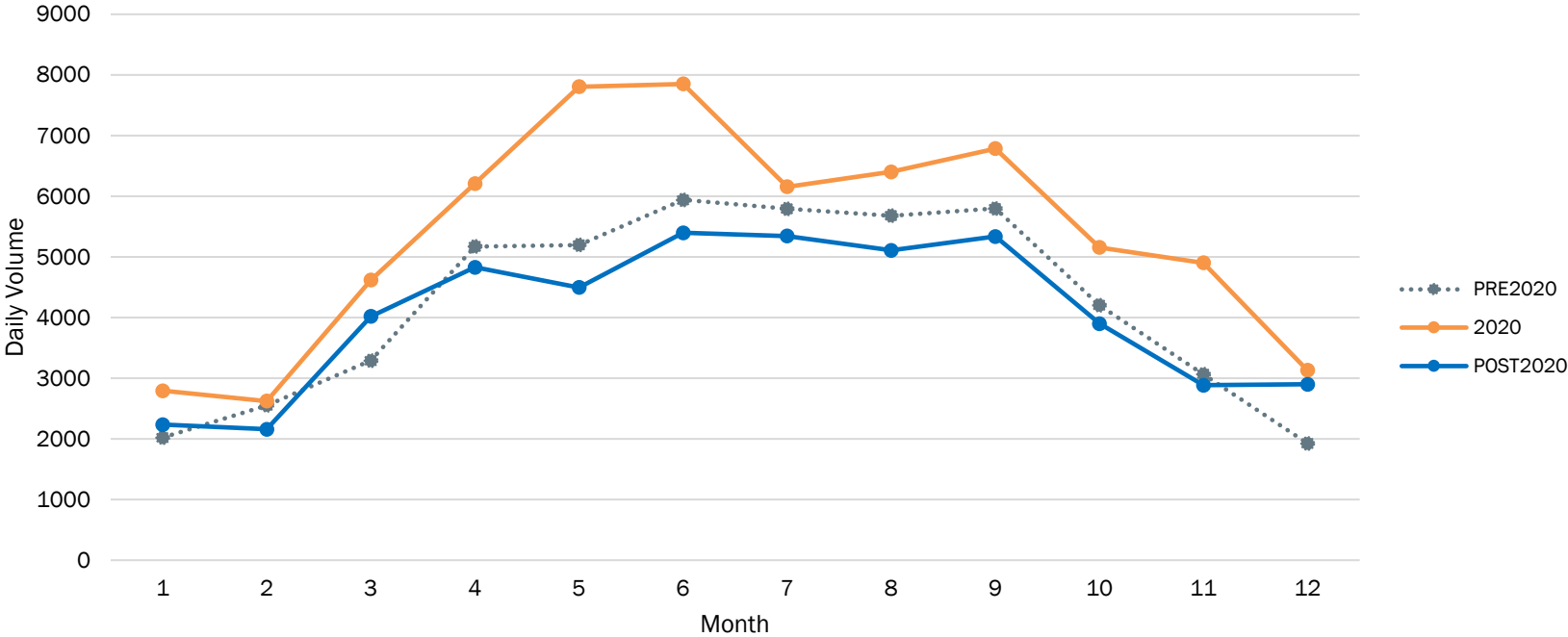


- While there was an increase in trips on the Off-peak Group of counters in 2020, after the first year of the pandemic, trips returned to pre-pandemic levels.



Off-peak Group Daily Volume by Month Pre-2020 to Post-2020, Weekends

Weekend Volume Comparison by Month for Counters in Off-peak Group: Pre-2020 to Post-2020

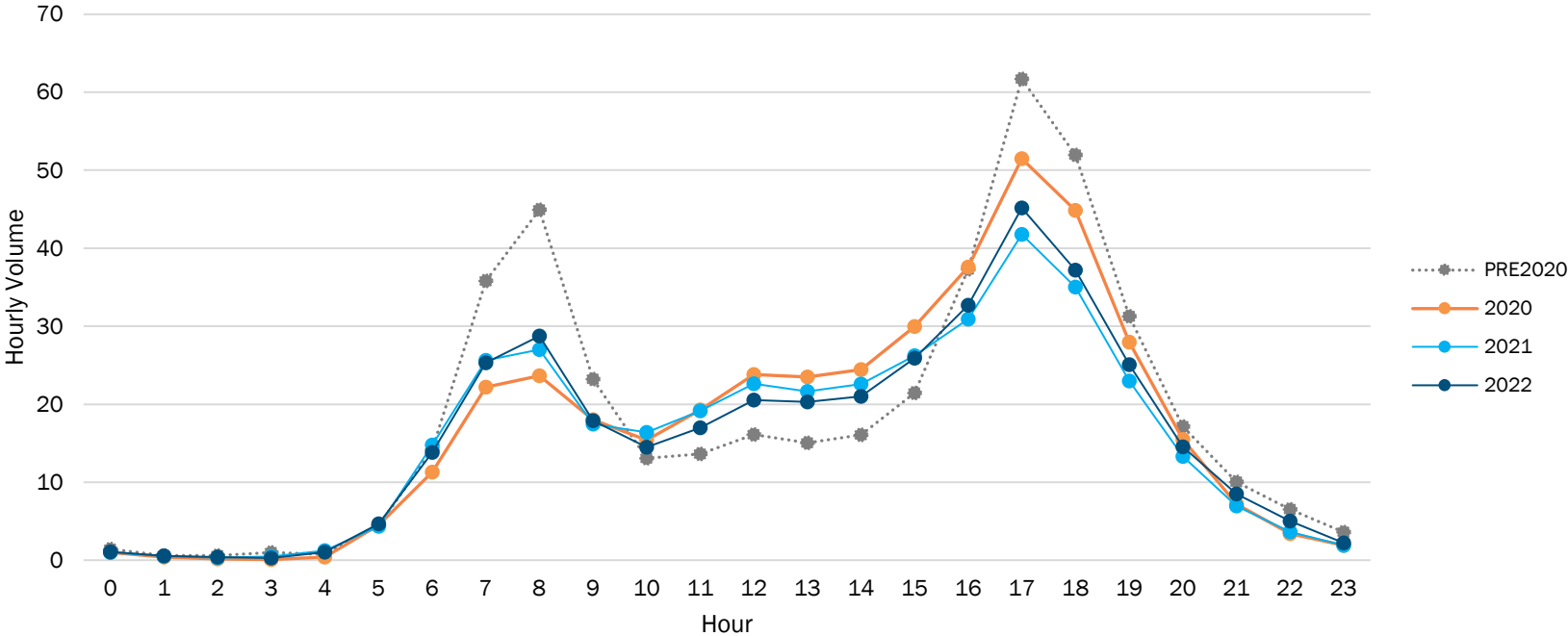


- While there was an increase in 2020 for weekends, after the first year of the pandemic, trips returned to pre-pandemic, similar to weekdays.



Peak Group Hourly Volume Pre-2020 to Post-2020, Weekdays

Weekday Hourly Volume Comparison for Counters in Peak Group: Pre-2020 to Post-2020

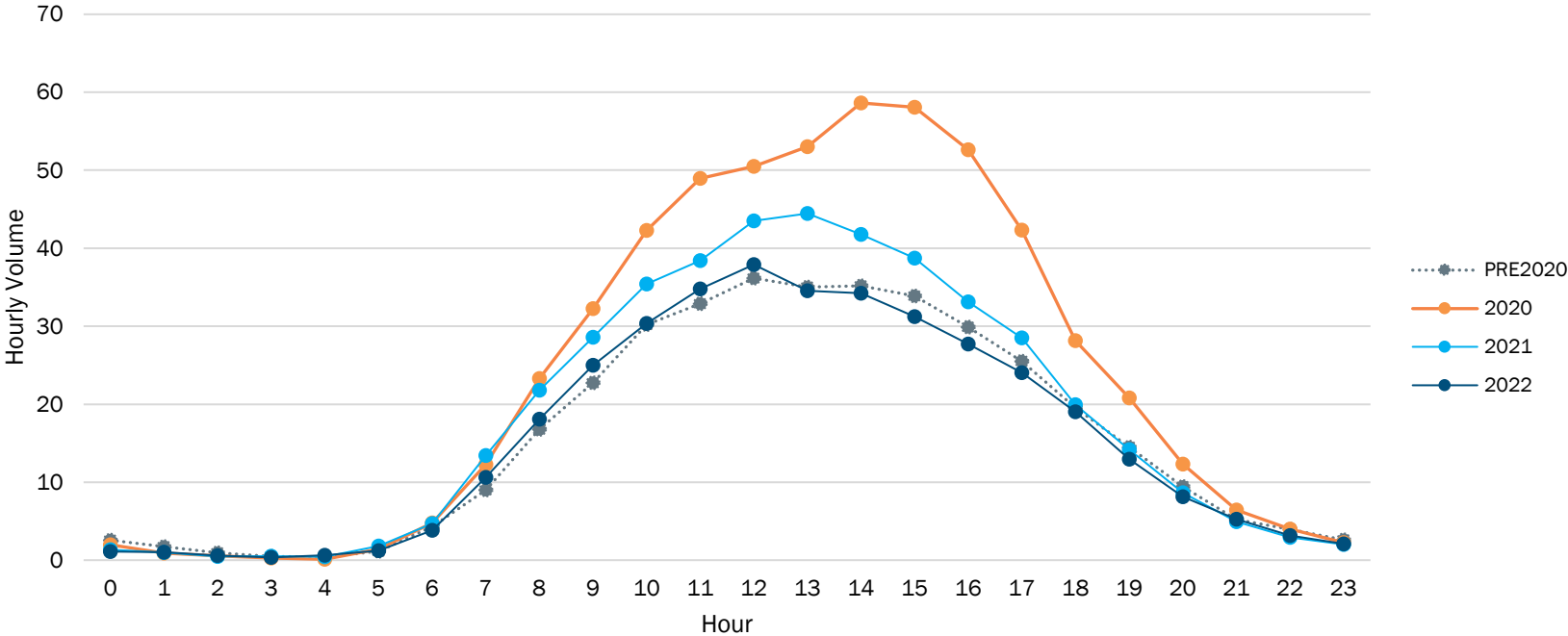


- Fewer people used these locations during peak period, and more people used these locations for mid-day travel on weekdays beginning in 2020.



Peak Group Hourly Volume Pre-2020 to Post-2020, Weekends

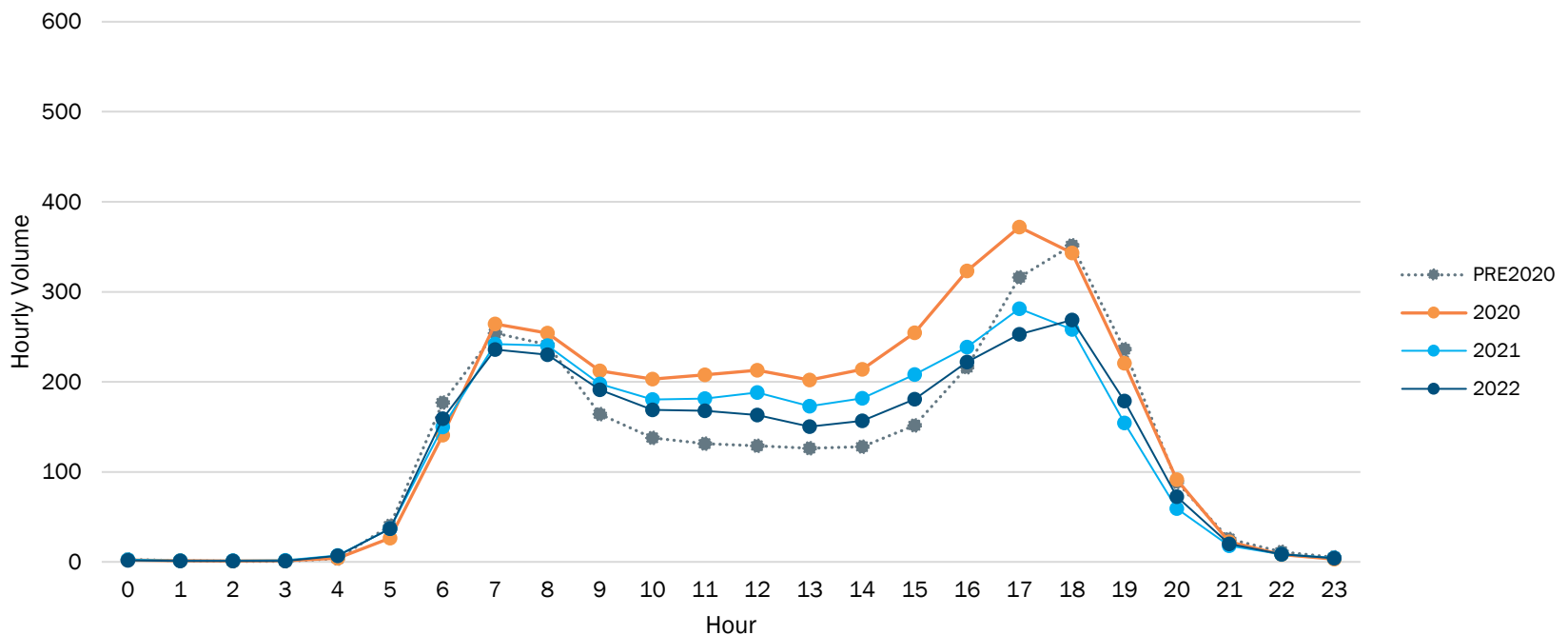
Weekend Hourly Volume Comparison for Counters in Peak Group: Pre-2020 to Post-2020



- While this data represents the Peak Group, travel on weekends is often different than weekdays. A large increase in use occurred in 2020 for all hours, however, after the first year of the pandemic use returned to pre-pandemic levels.

Off-peak Group Hourly Volume Pre-2020 to Post-2020, Weekdays

Weekday Hourly Volume Comparison for Counters in Off-peak Group: Pre-2020 to Post-2020

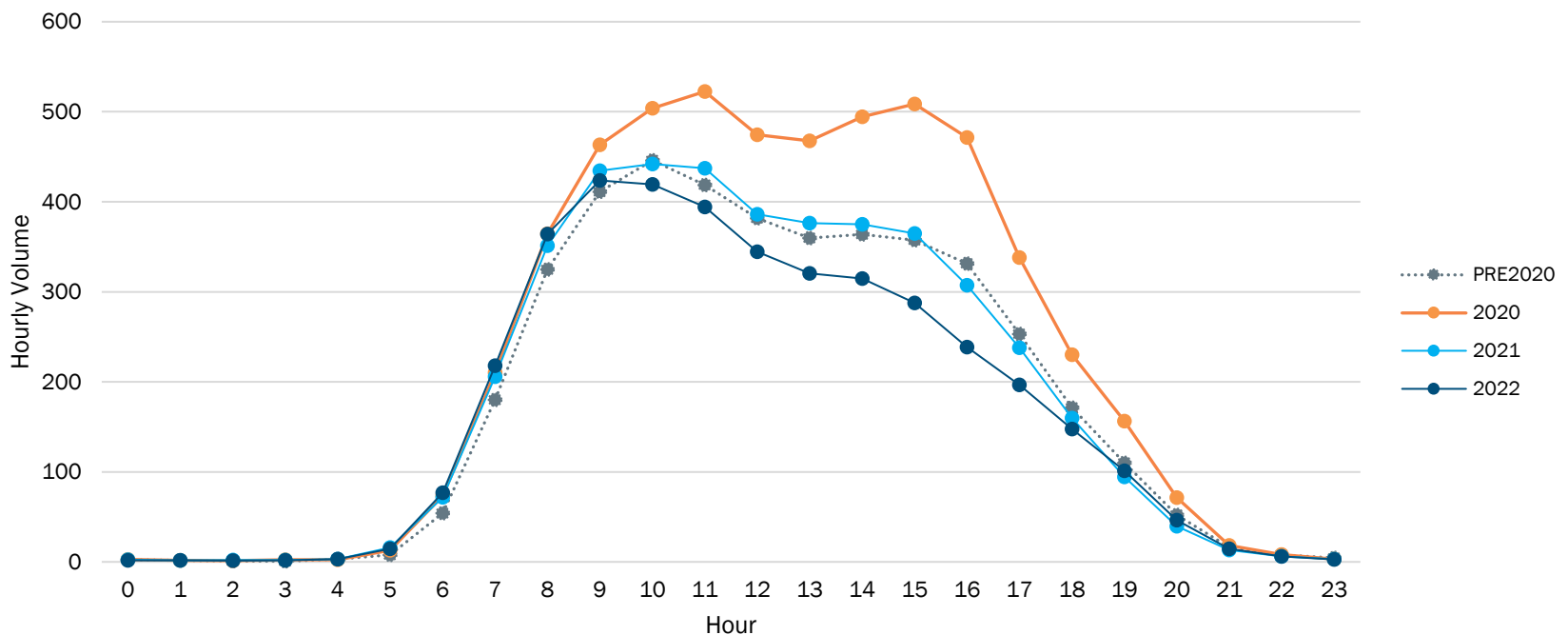


- Hourly usage of the locations in Off-peak Group during weekdays gradually became more evenly distributed since the beginning of the pandemic.



Off-peak Group Hourly Volume Pre-2020 to Post-2020, Weekends

Weekend Hourly Volume Comparison for Counters in Off-peak Group: Pre-2020 to Post-2020

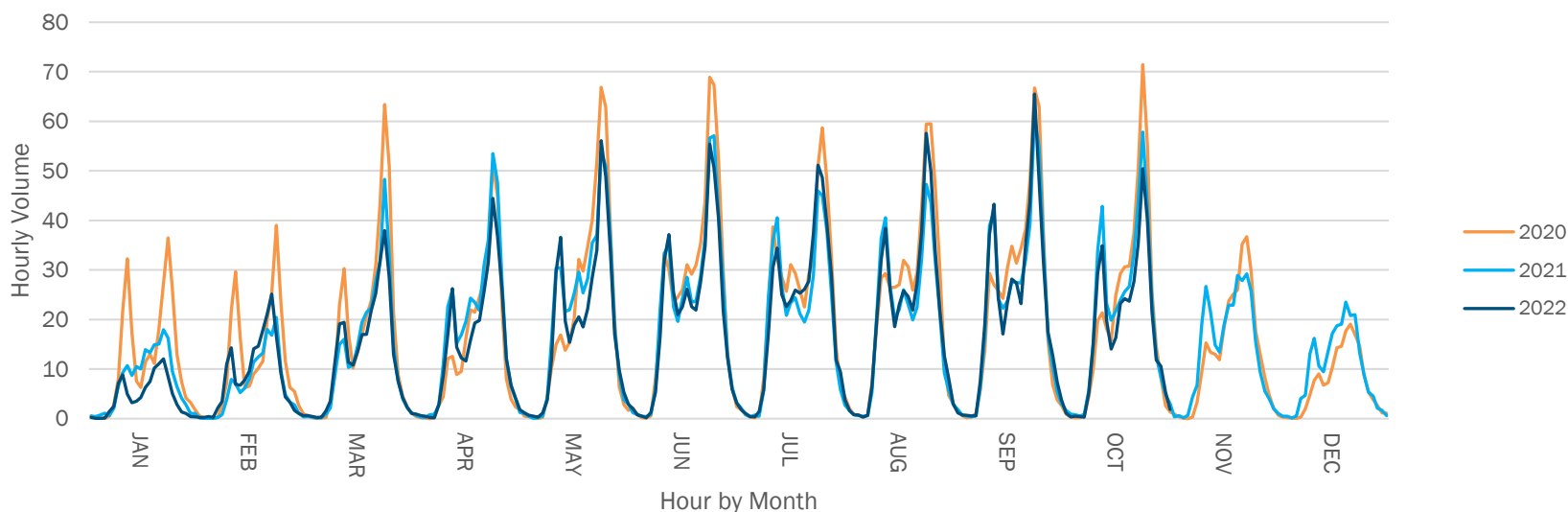


- While there was an increase in the use of the Off-peak Group in 2020 for all hours, after the first year of the pandemic, use returned to pre-pandemic levels.



Peak Group Hourly Volume by Month: 2020 vs Post-2020, Weekday

Weekday Hourly Volume Comparison for Counters in Peak Group by Month of Year: 2020 vs Post-2020

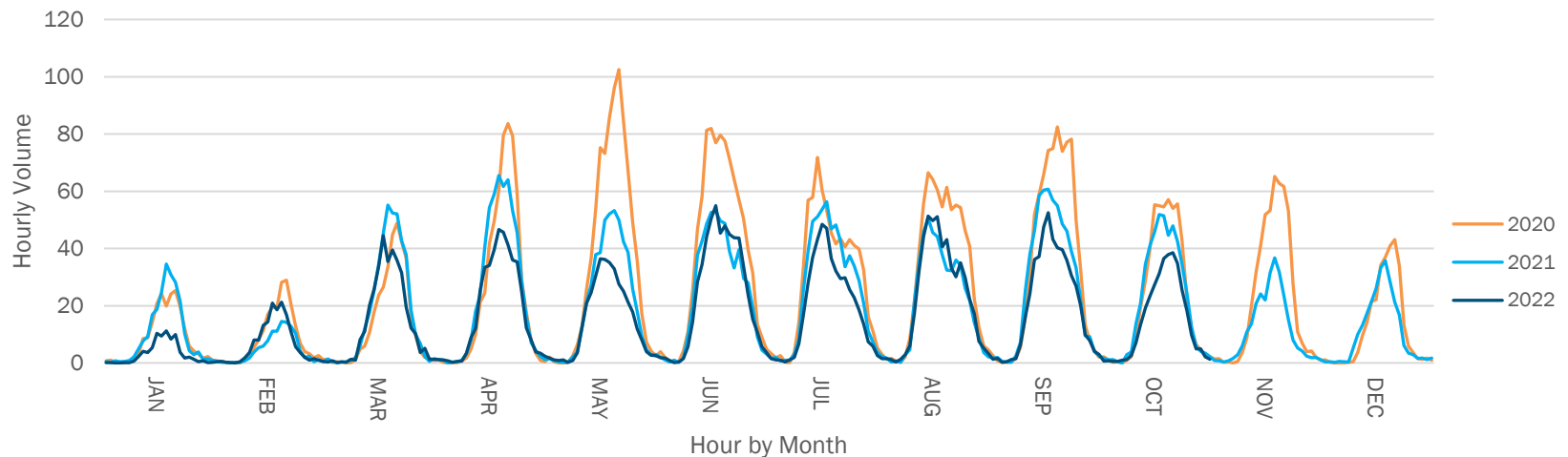


- Pre-COVID pattern before April 2020.
- In 2020, fewer people used these locations during peak period and more people used these locations during non-peak period.
- In 2021/2022, more people used these locations during the morning peak period compared to 2020; the travel pattern in 2021 and 2022 is similar.



Peak Group Hourly Volume by Month 2020 vs Post-2020, Weekend

Weekend Hourly Volume Comparison for Counters in Peak Group by Month of Year: 2020 vs Post-2020

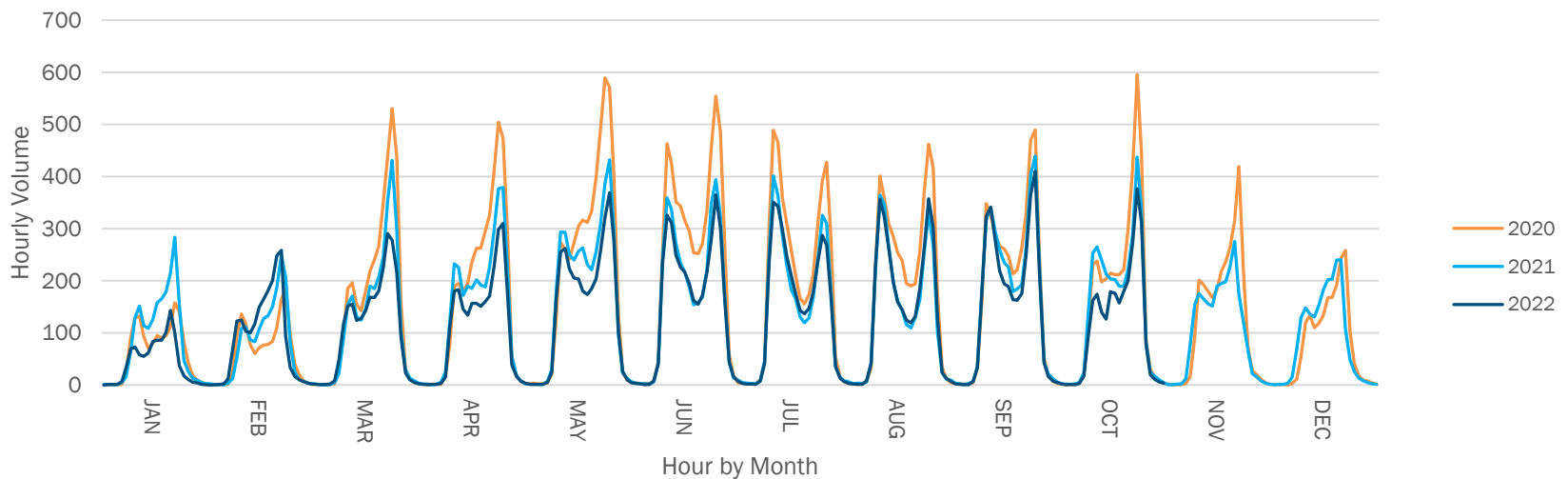


- While this data represents the locations in Peak Group, travel on weekends is often different than weekdays. A large increase in use occurred beginning in April 2020, however, after the first year of the pandemic, use returned to pre-pandemic levels in 2021 and 2022.



Off-peak Group Hourly Volume by Month 2020 vs Post-2020, Weekdays

Weekday Hourly Volume Comparison for Counters in Off-peak Group by Month of Year: 2020 vs Post-2020

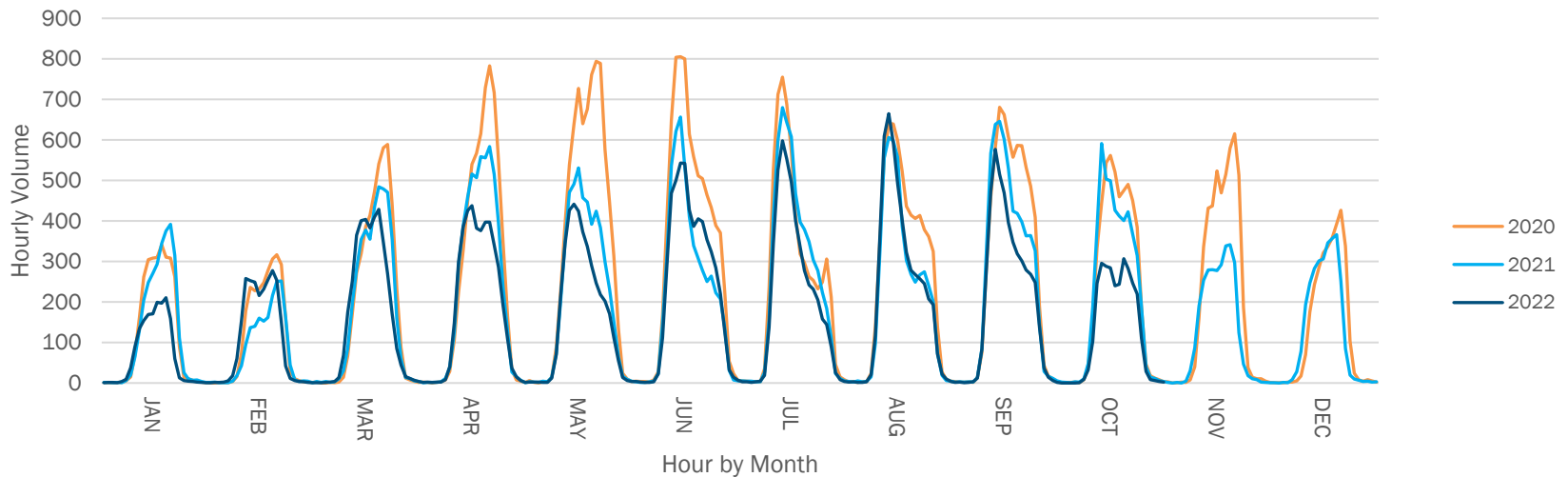


- While there was an increase in trips observed by the Off-peak Group beginning in March, trips returned to pre-pandemic levels in 2021 and 2022.



Off-peak Group Hourly Volume by Month 2020 vs Post-2020, Weekends

Weekend Hourly Volume Comparison for Counters in Off-peak Group by Month of Year: 2020 vs Post-2020



- There was an increase in trips for the Off-peak Group, especially for the initial year (2020 after March) for almost all hours. The usage gradually returned to pre-pandemic levels in 2021 and 2022.



Regional Connections

Counter Group	State	Location	Volume Trend	Similar to Arlington
Peak	DC	Maine Ave Cycle Track	<ul style="list-style-type: none"> • 2020 and 2021 weekday/weekend volumes are much lower than pre-pandemic levels. • 2022 weekday/weekend volume returned to pre-pandemic levels. 	Partial Weekdays, before 2022
	DC	14th St NW	<ul style="list-style-type: none"> • 2020/2021/2022 weekday/weekend volumes are lower than pre-pandemic levels. 	Yes Weekdays
Off-peak	MD	C&O Canal Trail	<ul style="list-style-type: none"> • 2020 weekday/weekend volumes are higher than pre-pandemic levels • 2021/2022 weekday/weekend volumes returned to pre-pandemic levels 	Yes Weekdays and weekends
	MD	Rock Creek Trail	<ul style="list-style-type: none"> • 2020 weekday/weekend volumes are higher than pre-pandemic levels • 2021/2022 weekday/weekend volumes returned to pre-pandemic levels 	Yes Weekdays and weekends
Hybrid	MD	Capital Crescent Trail	<ul style="list-style-type: none"> • 2020 weekday/weekend volumes are higher than pre-pandemic levels • 2021/2022 weekday weekend volumes returned to pre-pandemic levels 	<i>For Off-peak Group</i> Yes Weekdays and weekends
	VA	Potomac Yard Trail	Weekday <ul style="list-style-type: none"> • 2020 volume is much higher than pre-pandemic levels • 2021/2022 volume remained higher than pre-pandemic levels Weekend <ul style="list-style-type: none"> • 2020 volume is higher than pre-pandemic levels • 2021/2022 volume returned to pre-pandemic levels. 	<i>For Off-peak Group</i> Partial , weekdays Yes , weekends



Takeaways

- Brief or Lasting: the impact of the pandemic on walking and biking?
 - Primary Peak Group
 - Weekday use declined in 2020 and remains lower.
 - Weekend use initially increased in 2020 before returning to pre-pandemic levels.
 - Weekday hourly volume is more evenly distributed since 2020.
 - Weekend hourly volume in 2020 is higher than pre-2020 and post-2020 for most hours.
 - Primary Off-peak Group
 - Weekday and weekend use both increased in 2020 before returning to pre-pandemic levels.
 - Weekday hourly volumes of post-2020 are more evenly distributed than pre-2020 and 2020.
 - Weekend hourly volume of 2020 is higher than pre-2020 and post-2020 for most hours.
- Importance of counting equipment maintenance



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