

Bicycle and Pedestrian Count Program 2017 Annual Report (Year 4)

Introduction

Columbia Association (CA) coordinated the fourth annual Bicycle and Pedestrian Count Program in May and June 2017. These counts are done manually. Each location is surveyed on multiple days and — depending on location — various times of day. Counts are completed in two-hour increments.

The count program included 14 bicycle and pedestrian count locations: Lake Kittamaqundi, Lake Elkhorn, Little Patuxent Parkway, Wilde Lake, Jackson Pond, Tamar Drive, the Gateway office park, the Guilford Pratt Truss Bridge, the Columbia Road pedestrian overpass, the Cedar Lane pedestrian overpass, the Harpers Farm Road pedestrian overpass, the Route 1 and Montgomery Road intersection, and the Route 1 and North Laurel Road intersection.

For the second year in a row, Columbia Association partnered with the Howard County Office of Transportation. More than 30 volunteers assisted with the counts. The information gathered helps CA and the Howard County Office of Transportation better understand bicycle and pedestrian usage and trends.

2017 Bicycle and Pedestrian Count Locations

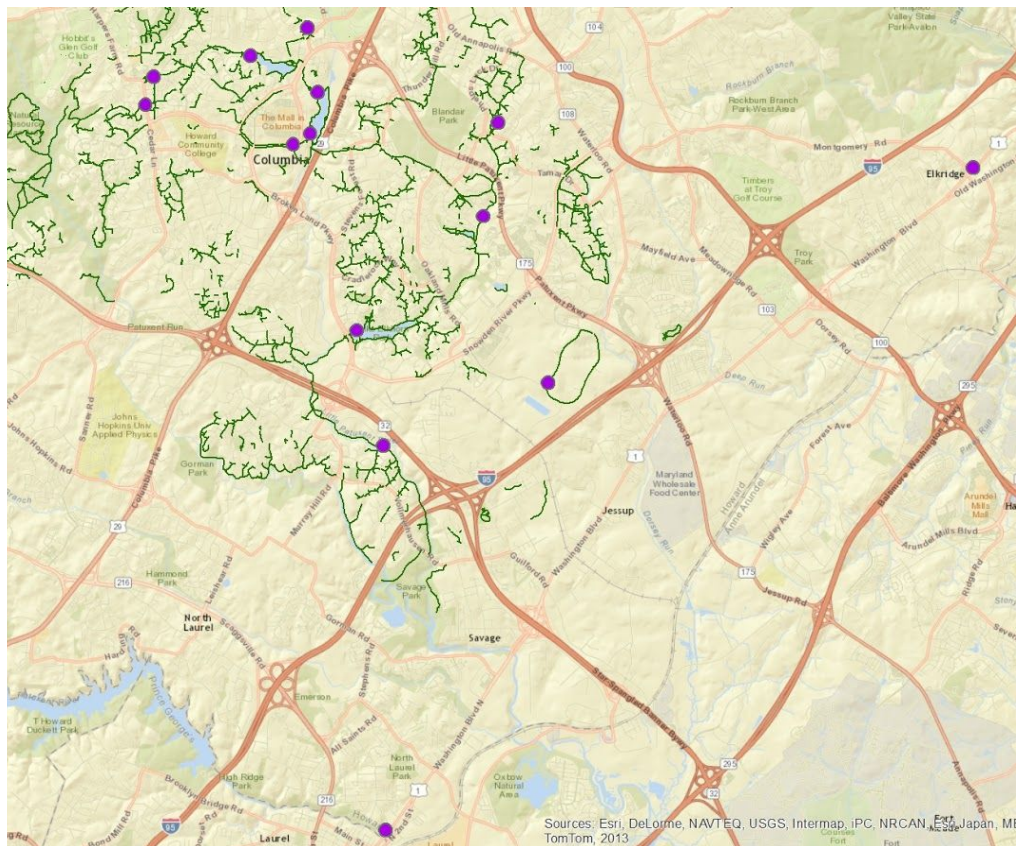


Image Source: Columbia Association, Office of Planning and Community Affairs

Trend Analysis

Volunteers recorded pedestrians, bicyclists and other active transportation users at the count locations. As with any volunteer effort, there are times when volunteers were not able to honor their commitment, and thus a handful of counts were not completed. This has an obvious impact on the total number of users counted at a particular location. For this reason, two-hour averages are used to analyze bicycle and pedestrian usage over time.

Inclement weather also impacts counts, as well as comparisons to previous years. This year, one weekday had thunderstorms during the count period compared to last year where there were no days of inclement weather. This played a role in the total number of people counted.

Pedestrian Counts

Downtown Columbia had the largest number of pedestrians counted (two-hour average) on the weekend, with 566. Lake Elkhorn had the largest on the weekday, with 241. The largest increases from 2016 to 2017 for both weekday and weekend counts occurred at the Downtown Columbia location, with 36 on the weekday and 252 on the weekend. It should be noted that Downtown Columbia only had one weekend count instead of two, which happened to fall on the Capital Jazz Festival weekend. The largest percent increase from 2016 to 2017 for weekday counts also occurred at Downtown Columbia, with a 150 percent increase. Tamar Drive had the largest percent increase from 2016 to 2017 for weekend counts, with 156 percent. Comparing the initial pedestrian counts in 2014 with 2017 results, Lake Kittamaqundi South had the largest weekday increase of 736 percent and Lake Kittamaqundi north had the largest weekend increase with 237 percent.

Comparison	2014 Weekday Average (2 hours)	2015 Weekday Average (2 hours)	2016 Weekday Average (2 hours)	2017 Weekday Average (2 hours)	2014 <i>Weekend</i> Average (2 hours)	2015 <i>Weekend</i> Average (2 hours)	2016 <i>Weekend</i> Average (2 hours)	2017 <i>Weekend</i> Average (2 hours)
Downtown Columbia	N/A	54	24	60	N/A	93	314	566
Wilde Lake	57	73	74	99	87	136	75	110
Lake Elkhorn	160	321	306	241	303	205	157	297
Lake Kittamaqundi North	37	116	167	136	63	166	162	212
Lake Kittamaqundi South	22	156	201	184	111	130	139	203

Jackson Pond	60	116	110	101	75	88	58	102
Tamar Drive	17	37	46	33	33	24	34	87
Pratt Bridge	N/A	N/A	94	88	N/A	N/A	71	66
Gateway	61	89	94	88	N/A	N/A	N/A	N/A

Three count locations are at the overpasses. Last year, the Harpers Farm Road count location had limited and unreliable count data, so the 2016 field is left N/A. Overall, significantly more people use the Columbia Road and Cedar Lane overpasses compared to the Harpers Farm Road overpass. This is a result of their location. The Columbia Road and Cedar Lane overpasses provide direct access from neighborhoods to elementary schools, while the Harpers Farm Road overpass provides access to the Harper’s Choice Village Center. Anecdotally, it is noted that more people cross at-grade on the street rather than the bridge at the Harpers Farm Road overpass location. This is likely because school-age children are not the dominant users at this location and the overpass route is not a direct crossing.

Roadway Overpass Locations: Pedestrians

Pedestrian Roadway Overpass Locations	2016 Weekday Average (2 hours)	2017 Weekday Average (2 hours)
Harpers Farm Road Overpass	N/A	11
Columbia Road Overpass	63	66
Cedar Lane Overpass	180	203

Two count locations are located on the Route 1 corridor at the intersection of Montgomery Road in Elkridge and North Laurel Road in Laurel. Of the 14 count locations in the program, these are the only two that collect pedestrian and bicyclists movement along a street. The two-hour averages are nearly identical during the AM and PM from 2016 and 2017, with the exception of the North Laurel PM two-hour average. This is due to a significant increase in pedestrians counted at the North Laurel location in the afternoon on Wednesday, May 31, which nearly doubled the PM average from the previous year. It should be noted that the data could not be verified with the volunteer and was not seen on other dates/times in this location.

Route 1 Pedestrians

Count Locations	2016 AM Average	2016 PM Average	2016 Total	2017 AM Average	2017 PM Average	2017 Total

Montgomery Road	10	19	39	9	20	88
North Laurel Road	24	44	135	22	84	211

Bicyclists

Lake Kittamaqundi North had the highest two-hour average total of bicyclists counted on the weekend with 60, and also saw the greatest increase of bicyclists from 2016 to 2017 with 120 percent.

Lake Elkhorn had the highest two-hour average total bicyclists counted on the weekdays, with 37. However, this is a decline from last year's average of 62. This is likely a result of the inclement weather during the 2017 counts. The largest two-hour average increase in bicyclists on the weekdays occurred in Downtown Columbia, with a 226 percent increase. Comparing the initial pedestrian counts in 2014 with 2017 results, Lake Kittamaqundi South had the largest weekday increase of 533 percent, or 16 bicyclists, and Lake Kittamaqundi North had the largest weekend increase of 122 percent, or 33 bicyclists.

Comparison	2014 Weekday Average (2 hours)	2015 Weekday Average (2 hours)	2016 Weekday Average (2 hours)	2017 Weekday Average (2 hours)	2014 Weekend Average (2 hours)	2015 Weekend Average (2 hours)	2016 Weekend Average (2 hours)	2017 Weekend Average (2 hours)
Downtown Columbia	N/A	12	5	16	N/A	10	8	5
Wilde Lake	10	10	11	13	28	30	40	21
Lake Elkhorn	21	46	62	37	87	64	40	23
Lake Kittamaqundi North	3	16	21	15	27	33	27	60
Lake Kittamaqundi South	3	22	21	19	37	42	42	39
Jackson Pond	10	25	12	14	28	28	25	17
Tamar Drive	5	20	20	18	26	45	43	14
Pratt Bridge	N/A	N/A	32	29	N/A	N/A	54	23
Gateway	0	2	2	29	N/A	N/A	N/A	N/A

Overall, the pedestrian roadway overpass count locations did not see a lot of bicycle use.

Roadway Overpass Locations: Bicyclists

Roadway Overpass Locations - Bicyclists	2016 Weekday Average (2 hours)	2017 Weekday Average (2 hours)
Harpers Farm Road	N/A	0.5
Columbia Road	2	0.5
Cedar Lane	0	4

The two Route 1 locations had fewer bicyclists compared to the pedestrian count. Both the AM and the PM count location two-hour averages are nearly identical from 2016 to 2017, showing consistent bicycle use patterns.

Route 1 Bicyclists

Count Locations	2016 AM Average	2016 PM Average	2016 Total	2017 AM Average	2017 PM Average	2017 Total
Montgomery Road	1	4	5	1	3	13
North Laurel Road	6	7	20	7	8	30

Demographics

Similar to the previous year, the highest percentage of youth were at the Columbia Road and Cedar Lane overpass pedestrian bridges, with 64 percent and 65 percent respectively of the total count. This is due to their proximity and direct safe access from nearby neighborhoods to local elementary schools. The lowest youth percentage occurred at the Gateway office park, which is expected given that it is entirely employment-related uses. The highest percentage of older adults were found at Lake Kittamaqundi North (12 percent) and Wilde Lake (11 percent). The Route 1 locations had the highest percentage of males, with 89 percent at the North Laurel intersection and 74 percent at the Montgomery Road intersection. The highest percentage of females were at the Cedar Lane overpass pedestrian bridge and Downtown Columbia.

Demographics of All Count Locations (Pedestrians and Bicyclists)

Count Locations	Youth Average Percentage	Older Adult Average Percentage	Percent Female	Percent Male
Downtown Columbia	3%	1%	53%	47%
Wilde Lake	12%	11%	50%	50%
Lake Elkhorn	13%	10%	51%	49%
Lake Kittamaqundi North	13%	12%	50%	50%

Lake Kittamaqundi South	12%	5%	50%	50%
Jackson Pond	19%	6%	41%	59%
Tamar Drive	8%	3%	26%	74%
Pratt Bridge	8%	3%	39%	61%
Gateway	0%	2%	43%	57%
Columbia Road	64%	0%	48%	52%
Cedar Lane	65%	0%	54%	46%
Route 1 North Laurel	14%	2%	11%	89%
Route 1 Elkridge	16%	3%	26%	74%

Summary and Lessons Learned

The fourth annual Bicycle and Pedestrian Count Program was successful and resulted in valuable information for Columbia Association and Howard County’s Office of Transportation. However, this year presented a couple more challenges than 2016. There was one day of inclement weather, which limited data collection Wednesday, May 31, whereas the previous year had no days of inclement weather. Also, a few more count locations did not have a volunteer register or the volunteer did not show-up compared to the previous year. Fortunately, each location was able to get at least one weekend count and two weekday counts to provide measurable data.

The Bicycle and Pedestrian Count Program has typically begun on Memorial Day weekend and continued into the first week of June. Historically, this week period is free from other programmed events on CA open space that might impact bicycle and pedestrian count data. While not a challenge in the past, this year proved difficult to recruit volunteers to count on Memorial Day weekend. Next year, consideration should be given to alternative weeks in spring that are near Memorial Day weekend to provide similar count data with the opportunity to recruit more potential volunteers.

Later this year, Columbia Association and Howard County’s Office of Transportation will augment the information collected through the Bicycle and Pedestrian Count Program with two permanent automated pathway user counters after securing a grant to help fund the project earlier this year from the state of Maryland. They will be installed at Lake Elkhorn and near the Route 29 pedestrian bridge in Oakland Mills. The grant also helped fund six mobile automated pathway counters, which will rotate in various locations around Columbia and Howard County.