

Vinton Pedestrian Counts

July 27, 2020

The Virginia Department of Transportation launched a statewide bike/ped count program in the fall of 2020 and has provided Eco-Vision MultiModal EcoCounters, some accessories, training, and data management to RVARC. Vinton identified two priority locations for pedestrian counts near signalized intersections that are receiving pedestrian improvements through the Pedestrian Safety Action Plan program: 1) Gus Nicks Boulevard/Washington Avenue and Pollard Street and 2) Hardy Road and Vinyard Road.

Several planners and citizens walked along Gus Nicks Boulevard, Washington Avenue, and Pollard Street through downtown Vinton in 2019 to review pedestrian accommodations. Gus Nicks Boulevard has average annual daily vehicle traffic (AADT) of 21,000, Washington Avenue 20,000, and Pollard Street 6,000. The #35/#36 bus serves Pollard Street and Washington Avenue. Downtown locations that generate pedestrian traffic include the library, the post office, City Hall, the Farmers Market, restaurants, bars, retail, and offices. New developments including the recently finished Billy Byrd Apartments, construction underway at Vinton Motors, and desired development of Gish Mill are expected to generate more pedestrian activity. The counter was initially mounted on a signpost on Pollard Street near Washington Avenue but it had to be moved because a glass window was reflecting automobile traffic toward the infrared sensor. It was placed on Pollard Avenue near Lee Street (Figure 1). Pedestrian counts were collected February 13 – June 11, 2020. This counter was intended to collect data for one month, but it was still in place when the COVID-19 state of emergency began, and leaving it in place allowed analysis of the effect of the pandemic on pedestrian traffic.



Figure 1. Location of counter. Left: Standing on the west side of Pollard Street facing northbound. Right: Facing south.

Hardy Road has 12,000 AADT and is also served by the #35/#36 bus. Destinations in and near Lake Drive Plaza generate pedestrian activity, including fast food restaurants, a grocery store, and Rosie's Gaming Emporium. Vinton staff installed a signpost on Hardy Road that the counter could be mounted to (Figure 2). Pedestrian counts were collected February 8 – March 15, 2020.



Figure 2. Location of counter. Left: Standing on the north side of Hardy Road facing east. Right: Facing west.

Ideally, permanent counters collect data for a full year so that day-of-year factors can be applied to the raw data from temporary counters such as these to calculate Average Annual Daily Traffic for that location. In July 2019, Virginia Tech professor Dr. Steve Hankey partnered with RVARC to install four pedestrian counters at two locations. After examining travel patterns, the two counters at 10th Street NW near the Lick Run Greenway were selected to provide day-of-year factors to the Vinton pedestrian counts because the travel characteristics of that location are more similar than the other location (Campbell Ave SW) to the Vinton locations. Day-of-year factors were determined for each of the two 10th Street NW counters by dividing the day's count for each counter by the average of 365 days of counts for that counter. The day-of-year factor was the average of the two counters' day-of-year factors. Each day's counts on each of the Vinton locations were divided by the day-of-year factor for the corresponding date. The adjusted counts were averaged to calculate the annual average daily pedestrian traffic at each location.

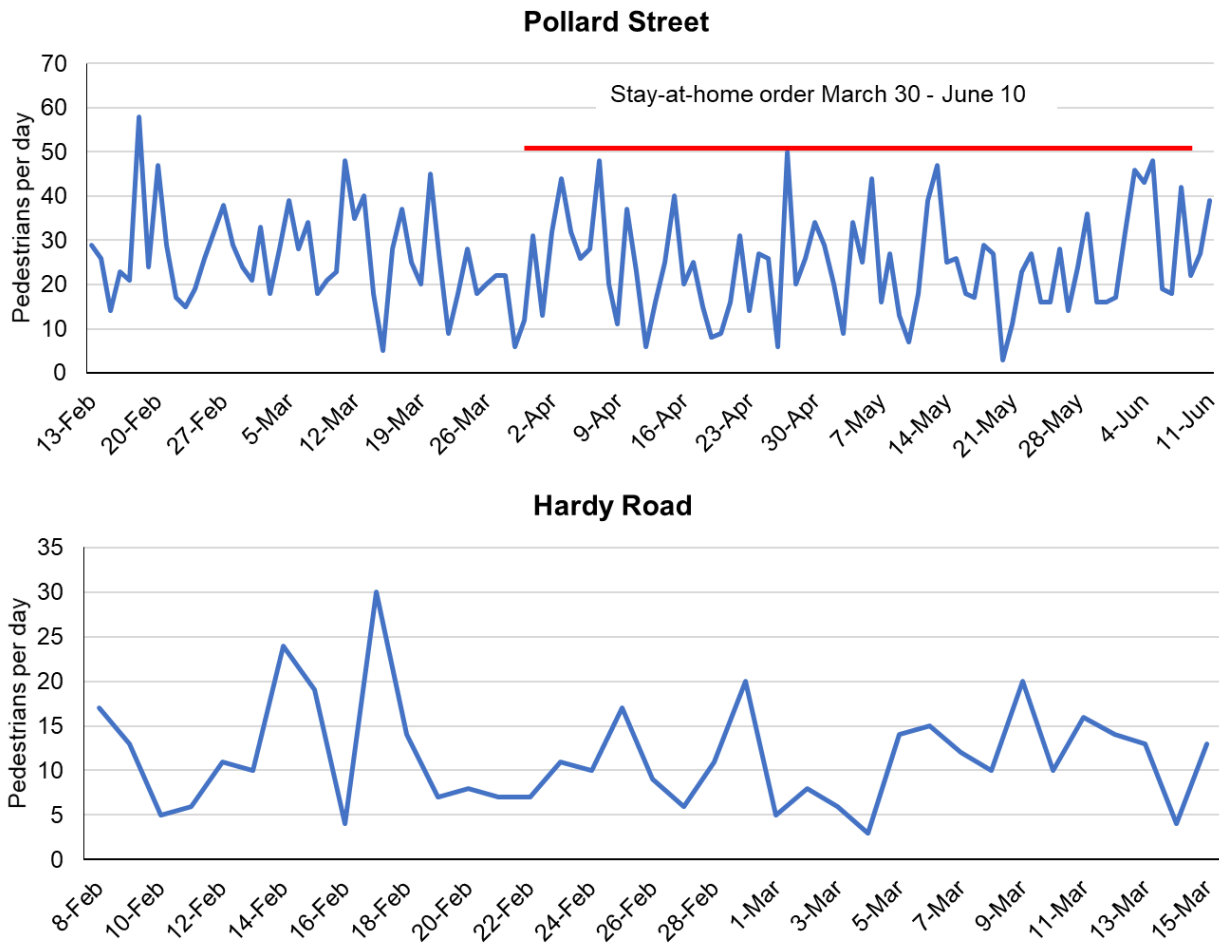


Figure 3. Daily counts not adjusted by day-of-year factor.

After adjusting each day's count with the day-of-year factor, the Average Annual Daily Pedestrian Traffic for Pollard Street was 27.0 and for Hardy Road 11.3. The raw counts ranged from 3 to 58 for Pollard Street and 3 to 30 for Hardy Road (Figure 3). Pedestrian traffic on Pollard Street was unaffected by the COVID-19 state of emergency: Average Annual Daily Pedestrian Traffic of 26.4 from February 13 – March 22 vs. 27.4 from March 30 – June 10. The governor closed schools on March 23 and issued the stay-at-home order on March 30 and reopening began June 10.

Daily traffic patterns were analyzed. On Pollard Street, pedestrian traffic was lowest on Sundays (47% below average) and almost higher Tuesday – Friday, reaching a peak 26% higher than average on Friday (Figure 4). On Hardy Road, Mondays and Fridays were 26% and 21% higher than average while Wednesdays and Sundays were about 20% below average (Figure 4).

Hourly pedestrian traffic on Pollard Street showed a morning peak at 9:00 am and a lower lunch peak from 12:00 pm – 2:00 pm (Figure 5). On Hardy Road, pedestrian traffic rose steadily from 5:00 am with peaks at 12:00 pm and 4:00 pm.

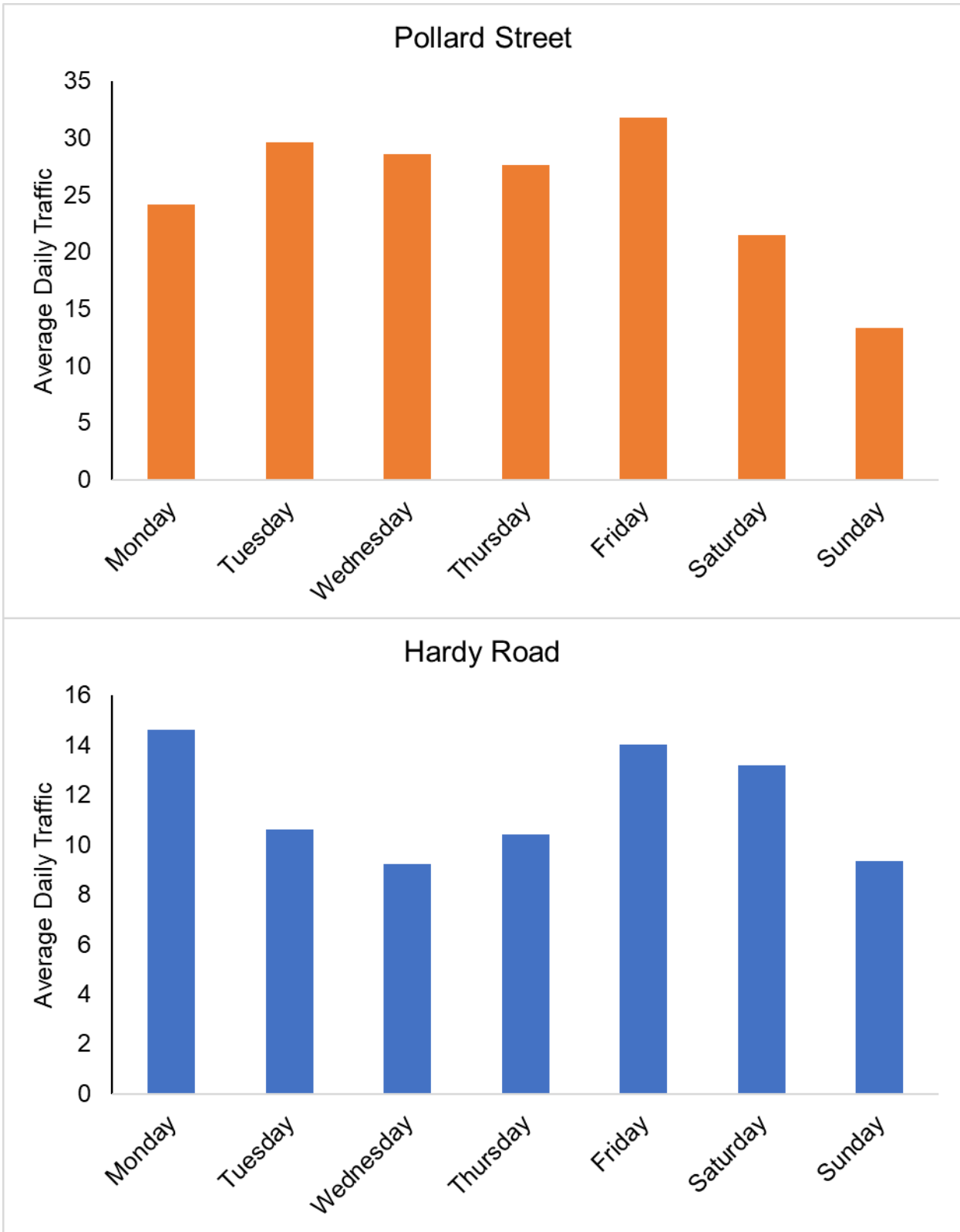


Figure 4. Day of week average daily pedestrian traffic.

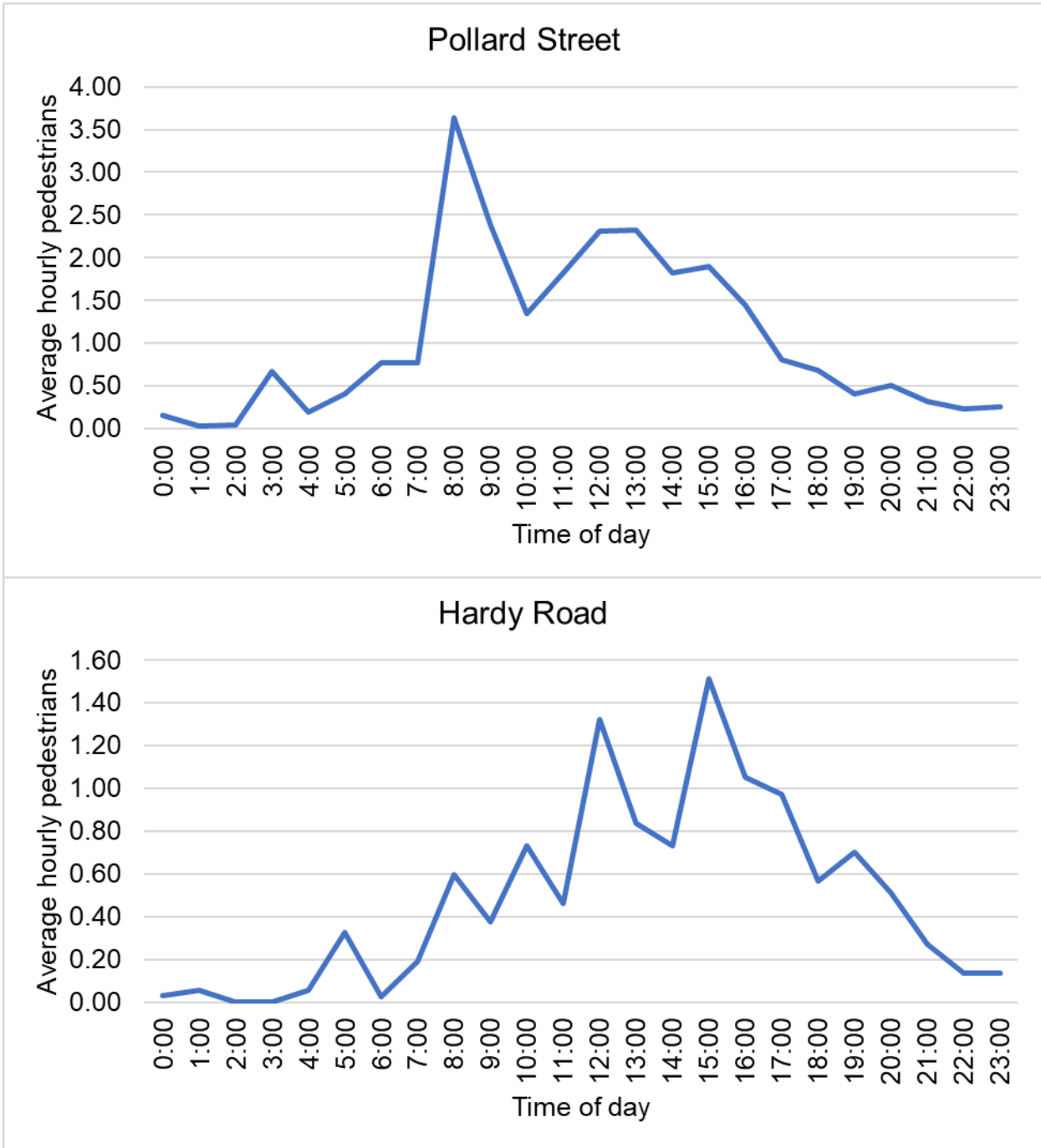


Figure 5. Average hourly pedestrian traffic (not adjusted for day-of-year factor which is only relevant to daily counts).