

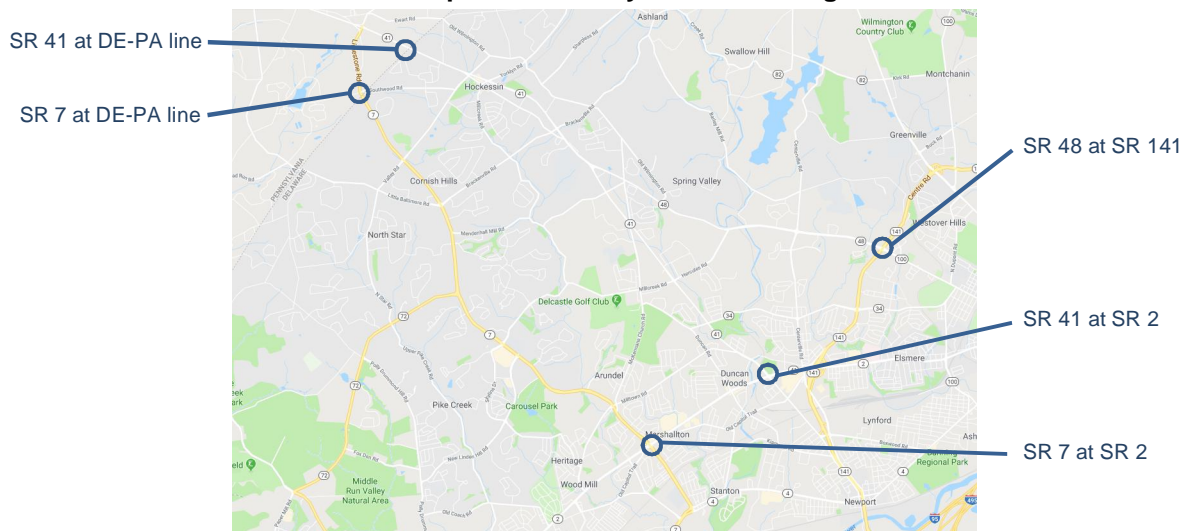
SR 7, SR 41, SR 48 TRUCK STUDY MARCH 24, 2020

Senate Resolution No. 10 (SR 10), sponsored by Senators Delcollo and Lavelle, was passed by the 149th General Assembly of the Delaware State Senate. SR 10 created a Special Committee to study and make recommendations regarding truck traffic along SR 41, SR 48, and SR 7 in New Castle County. Per SR 10, the Special Committee was directed to study and make recommendations regarding how to reduce the number of trucks traveling along these roadways and improvements in engineering, infrastructure, education, and enforcement that can improve the quality of life for those who live along these roadways. In a report published January 12, 2018, the Committee made recommendations to DelDOT and the General Assembly, which included **Recommendation #4: Conduct a feasibility study of restricting trucks on SR 7, SR 41, and SR 48 during specified times, in specified directions, and based on loaded versus unloaded conditions, determining impacts to, and improvements needed, on alternate routes.**

TRACKING STUDY

Based on Recommendation #4, a truck tracking study was organized to follow heavy trucks headed south into Delaware from Pennsylvania on SR 7 and SR 41, as well as trucks headed north on SR 7, SR 41, and SR 48 at the intersections of SR 2 and SR 141, respectively. Based on diurnal automatic traffic recorder truck counts and further validated via peak-hour turning movement counts previously collected, the peak heavy truck volumes occur from 7:00 AM to 9:00 AM and 2:00 PM to 4:00 PM (see appendices for detailed truck counts). The origin/destination study was conducted on Tuesday, March 26, 2019 and included approximately 10 vehicles following trucks during each peak period. Vehicles followed trucks starting at the 5 key locations, as shown in Figure 1. The trucks were tracked until they left the study area. For the tracking study, only heavy trucks with three axles or more were followed, as these are the trucks that would potentially be restricted. Because it is not feasible for laypersons without extensive commercial vehicle training to determine whether a truck was loaded or unloaded, that data was not included in this tracking study.

**FIGURE 1
Site Location Map with Five Key Truck Tracking Locations**



In total, 149 trucks were tracked during the study.

- Of the 26 trucks that continued south on SR 7 southbound from the state line, 21 (81%) stayed on SR 7 until SR 2, 2 (8%) made local stops, and 3 (11%) turned onto westbound SR 72 (Paper Mill Road).
- Of the 26 trucks headed northbound on SR 7 at the intersection of SR 2, 19 (73%) continued on SR 7 until the state line.
- Of the 46 trucks that continued south on SR 41 southbound from the state line, 34 (74%) continued onto SR 41 until SR 2, and 9 (20%) continued onto SR 48.
- Of the 26 trucks headed northbound on SR 41 at the intersection of SR 2, 25 (96%) continued on SR 41 until the state line; 1 made a local stop at the Coffee Run Condos.
- Of the 25 trucks headed northbound on SR 48 at the intersection of SR 2, 21 (84%) continued on SR 48 until the state line; 4 (16%) made local stops.

See appendices for detailed information about each truck route.

ALTERNATE SIGNED TRUCK ROUTE

Alternate routes were analyzed to determine whether there are feasible options to reroute trucks instead of taking state routes. The primary alternative for trucks to take from Pennsylvania to Delaware is using US 1, US 202, and I-95, as seen in Figure 2. The “detour” route is approximately 12 miles longer than using Delaware state routes. Travel time runs were conducted during the AM peak (7-9 AM) and PM peak (3-5 PM) from US 1 at PA 41 to the I-95 interchange at SR 141 using SR 7, SR 41, and SR 48 versus using the “detour” route. The “detour” route was between 11 and 20 minutes longer during peak hours than using SR 7, SR 41, and SR 48, as seen in Table 1.

FIGURE 2
Site Map with Potential Alternate Truck Route

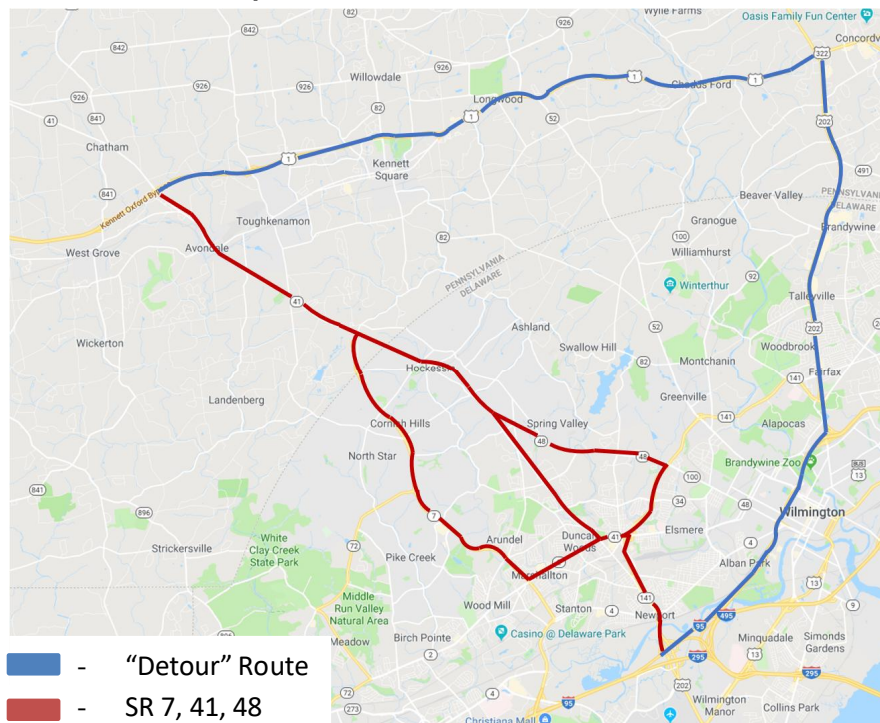


TABLE 1
Average Travel Time Comparison

Timeframe	PA to DE using State Routes	PA to DE Alternate Route	PA to DE Travel Time Difference	DE to PA using State Routes	DE to PA Alternate Route	DE to PA Travel Time Difference
7-9 AM	28:25	39:52	+11:27	27:23	47:38	+20:15
3-5 PM	27:56	45:49	+17:53	29:17	48:29	+19:12
Off-peak	27:40	42:00	+14:20	27:40	42:00	+14:20

Based on the travel times and volumes of heavy trucks during peak and off-peak times, the values of time (VOT) were calculated. The VOT for heavy trucks to take the detour route would be approximately \$5,030 for northbound traffic per day and \$5,180 for southbound traffic per day. The operating costs for heavy trucks to take the detour, assuming that they travel approximately 35 miles per hour (on average), would be \$6,780 for northbound trucks and \$7,240 for southbound trucks. The calculations are summarized in Table 2. The total daily user cost associated with restricting trucks on SR 7, SR 41 and SR 48 is approximately \$25,000 per day.

TABLE 2
“Detour” Route Daily Costs

	Daily Heavy Truck Volume	Delay Cost (+11-20 min)	Operating Cost (+12 mi)	Total Daily Truck User Cost
DE to PA	701	\$5,030	\$6,780	\$11,810
PA to DE	748	\$5,180	\$7,240	\$12,420
Total				\$24,230

PREVIOUS NIGHT-TIME RESTRICTION STUDIES

Anecdotal “lessons-learned” can be taken from the City of New Castle where similar night-time truck restrictions and detours were proposed on behalf of the Dobbinsville community. At a formal public workshop, there was 69% opposition for the suggested night-time restrictions, many of whom were truck drivers stating that the night-time restrictions would cause significant hardships on their routes and local businesses (e.g., requests were made to “cut back” any restriction to as early as 3 AM; truckers sent in calculations for expenses associated with increased travel times). There was also strong opposition from the surrounding communities (aside from Dobbinsville) where the night-time trucks would be detoured, stating that night-time restrictions would merely transfer the same noise problems (e.g., *“I [...] would not appreciate the extra truck traffic forced to travel past my home [...] since this is also the time that I sleep, along with the residents of Dobbinsville”*). Similar responses would be expected if night-time restrictions were proposed for SR 7, SR 41, and SR 48, as the “detour” route would upset the surrounding communities (i.e., residential and commercial areas along US 1 and US 202). Consequently, any type of night-time “detour” or restriction would require extensive communication and logistical planning with local communities and businesses to reschedule deliveries during hours outside the night-time prohibition window. These inherent impacts are not captured in the Table 2 costs; however, they could be substantial to the trucking companies and local small businesses along SR 7, SR 41, and SR 48.



FINDINGS

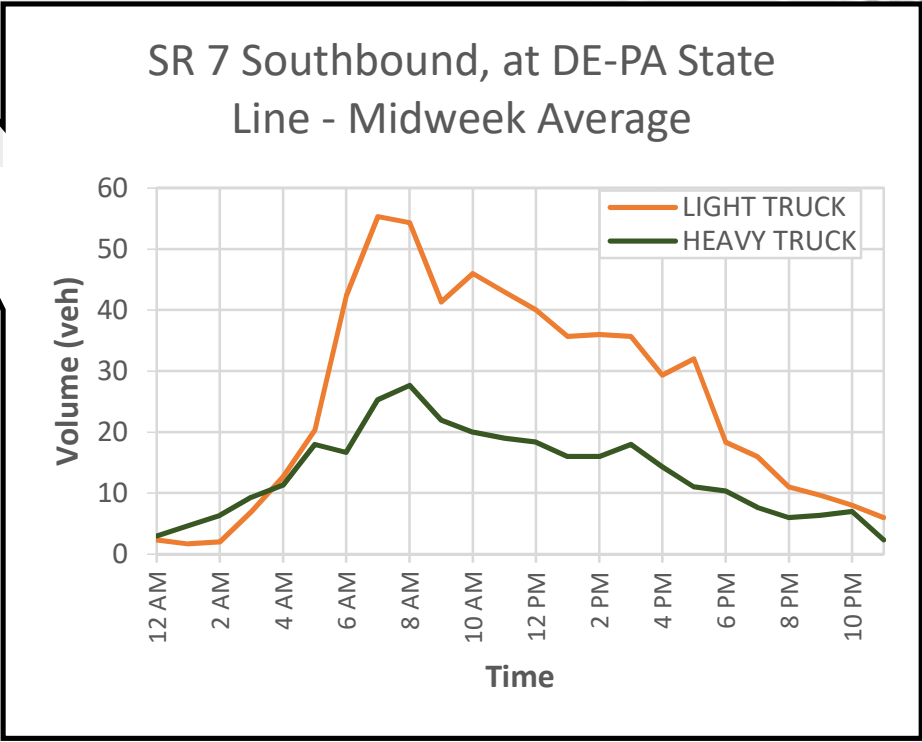
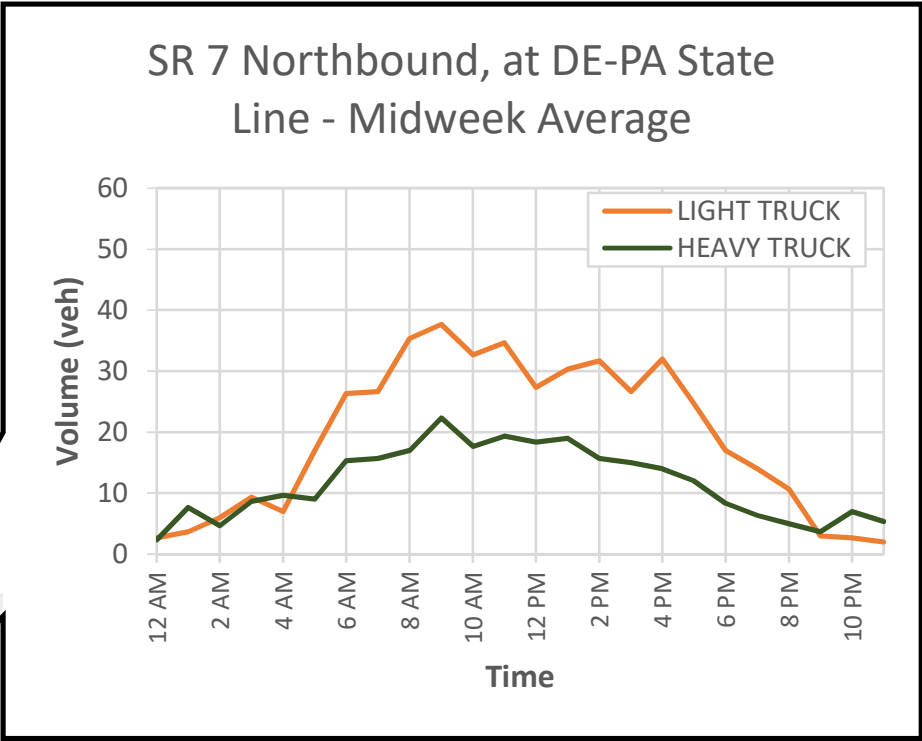
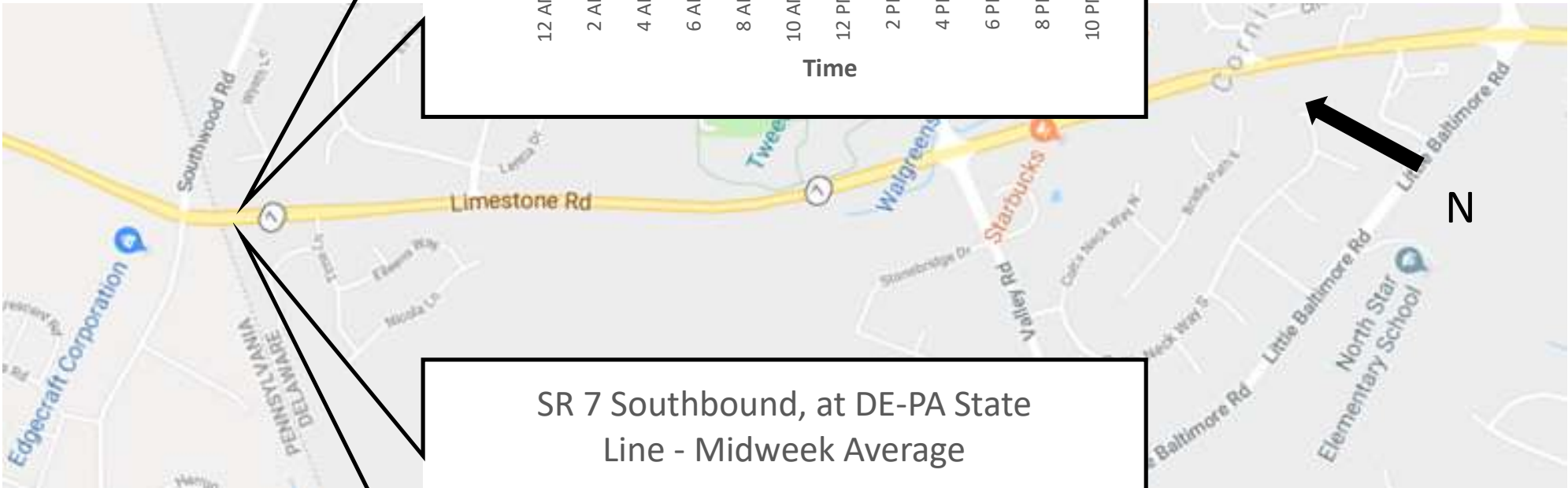
The alternate truck route is not a conclusive solution to the heavy truck volumes on SR 7, SR 41, and SR 48 because it will likely transfer all the current quality of life concerns from the state routes to the alternate route. In addition, the transfer of the trucks to the alternate route would cause intrinsic damages to the motorists on US 202, US 1, and I-95. The high cost of the “detour” route to commercial truck fleets would cause them to seek secondary and tertiary back roads which are not suitable for trucks leading to additional quality of life concerns. The “detour” route would also require coordination with Pennsylvania Department of Transportation (PennDOT) as the “detour” routes would change truck traffic patterns especially on Pennsylvania-maintained roadways; however, PennDOT has expressed no interest in changing their existing truck traffic patterns on Delaware’s behalf.

In summary, there is no such thing as an “ideal” truck route; relief on the restricted route comes at the expense of creating new issues on the alternate routes and increasing driver frustration and commercial trucking and local small business costs. These collective concerns are not only applicable to 24/7 route restrictions but also other suggested considerations of SR 10, Recommendation #4: restrictions by time-of-day (e.g., night-time truck prohibition zones), uncommon enforcement determinations including loaded versus unloaded truck routes, and “trucker expectancy” challenges of directional truck restrictions. In conclusion, it is not feasible to implement truck restrictions along SR 7, SR 41, or SR 48.



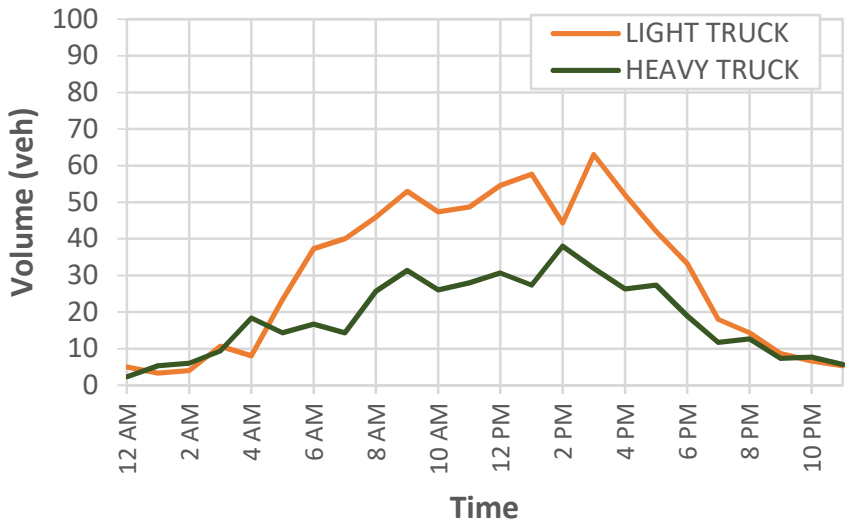
APPENDIX

Data Collection: June 2017 ATR Data

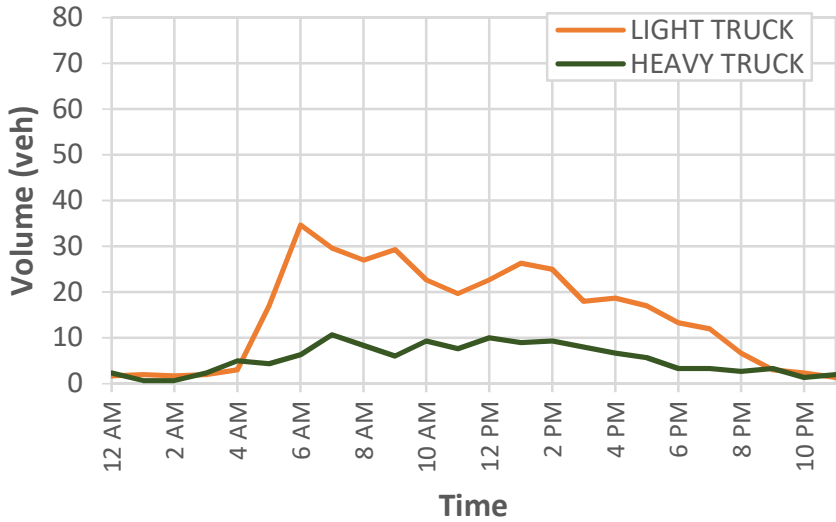


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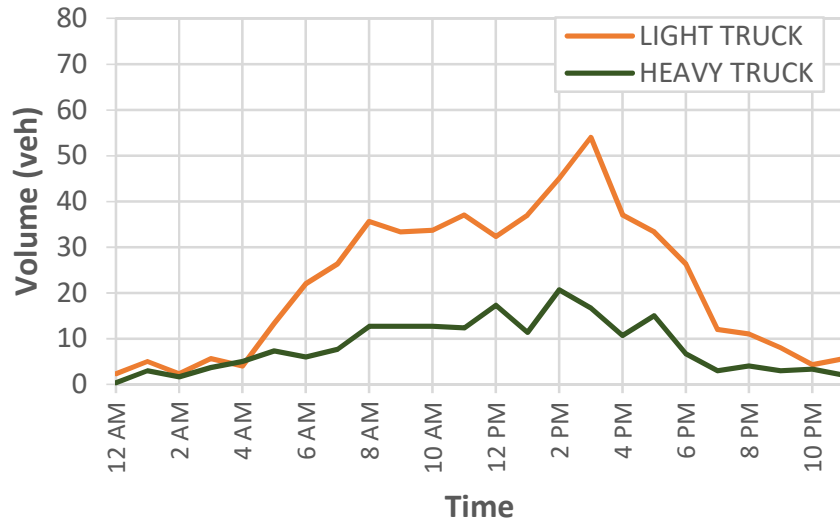
SR 41 Northbound, at DE-PA State Line - Midweek Average



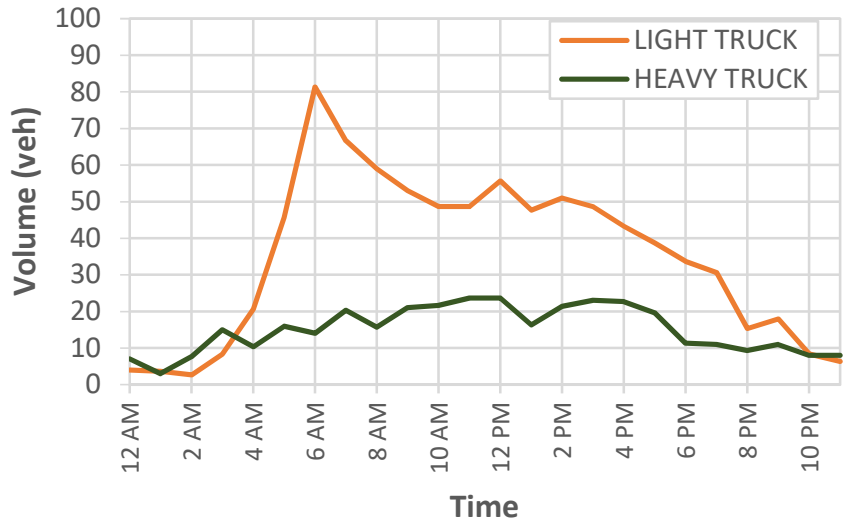
SR 48 Eastbound, South of SR 41- SR 48 Split - Midweek Average



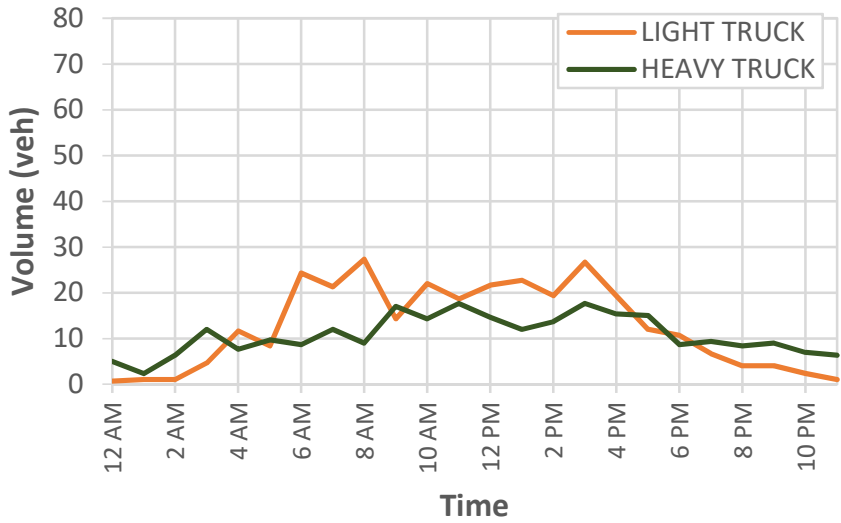
SR 48 Westbound, South of SR 41- SR 48 Split - Midweek Average



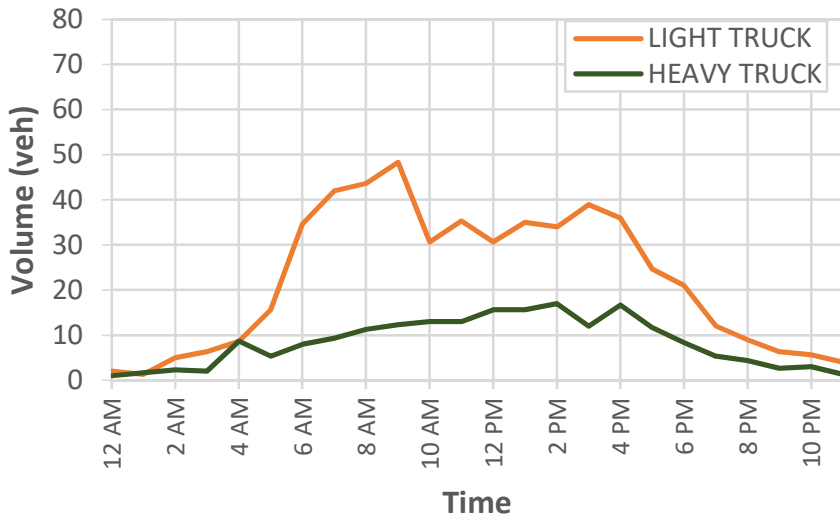
SR 41 Southbound, at DE-PA State Line - Midweek Average



SR 41 Southbound, North of SR 41- SR 48 Split - Midweek Average

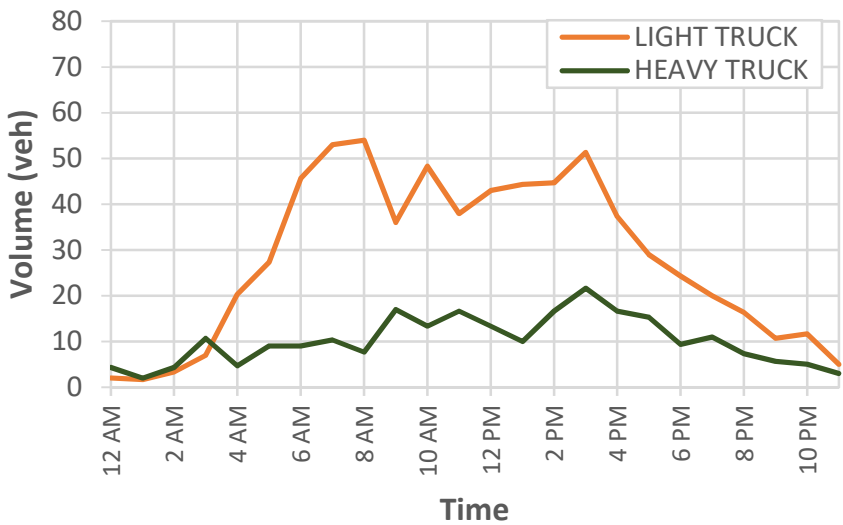


SR 41 Northbound, North of SR 41- SR 48 Split - Midweek Average

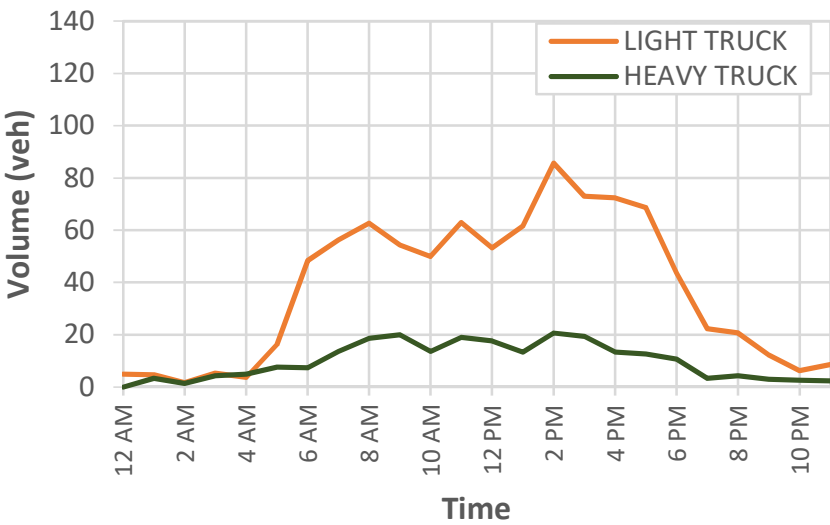


Data Collection: June 2017 ATR Data

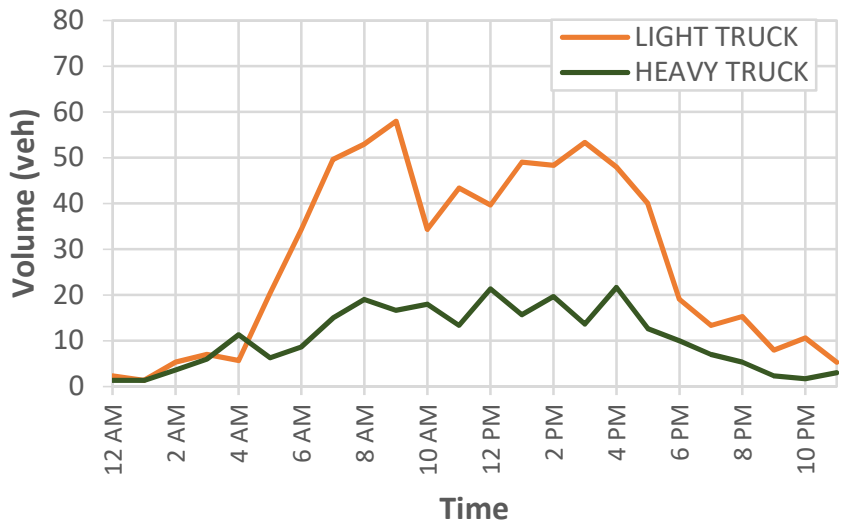
SR 41 Southbound, North of SR 2 -
Midweek Average



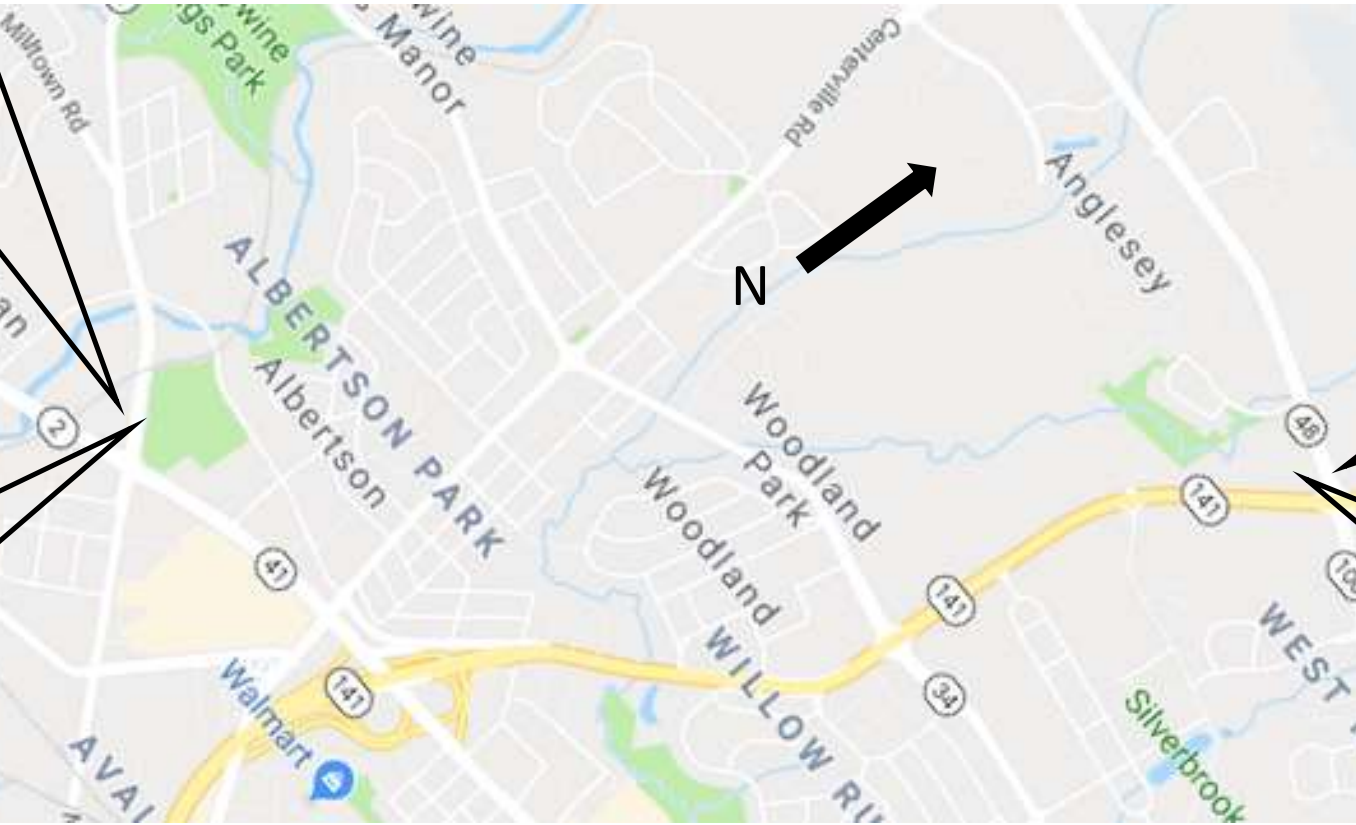
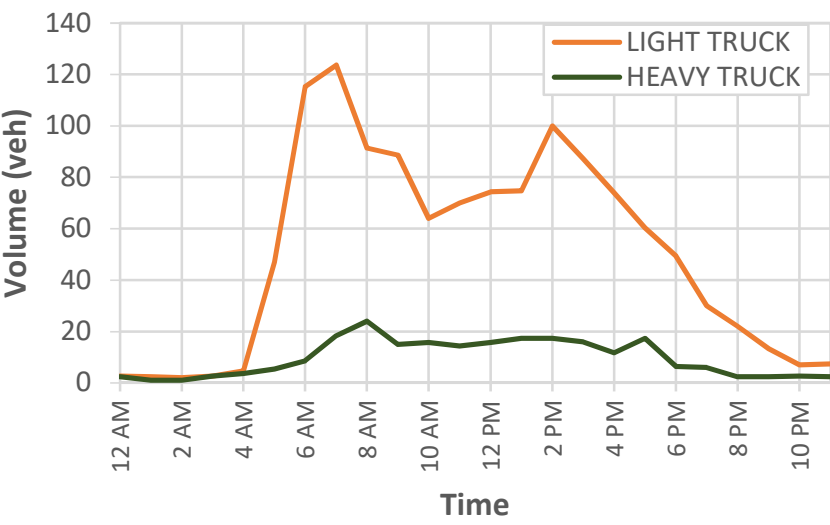
SR 48 Westbound, North of SR 141 -
Midweek Average



SR 41 Northbound, North of SR 2 -
Midweek Average

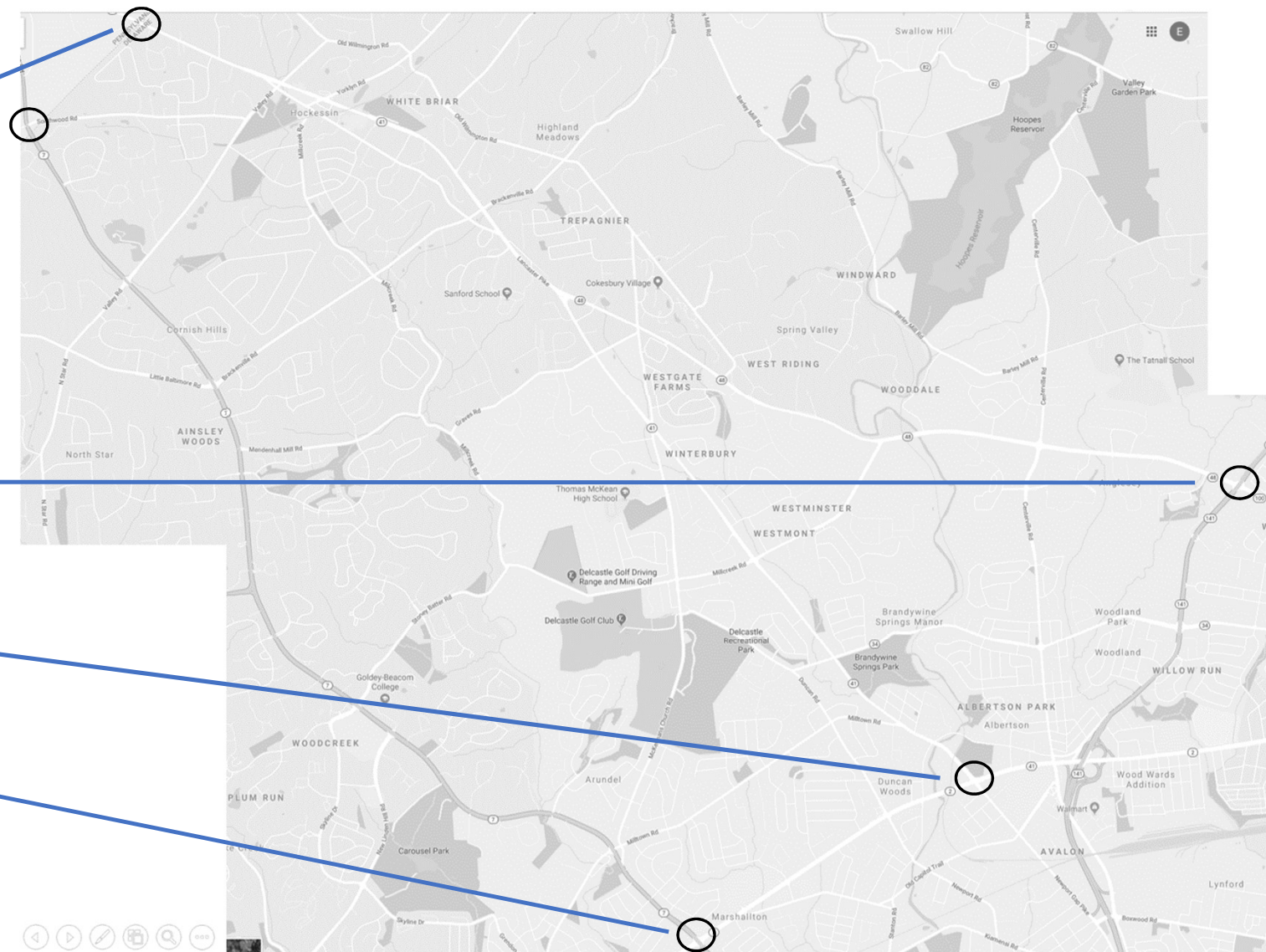


SR 48 Eastbound, North of SR 141 -
Midweek Average



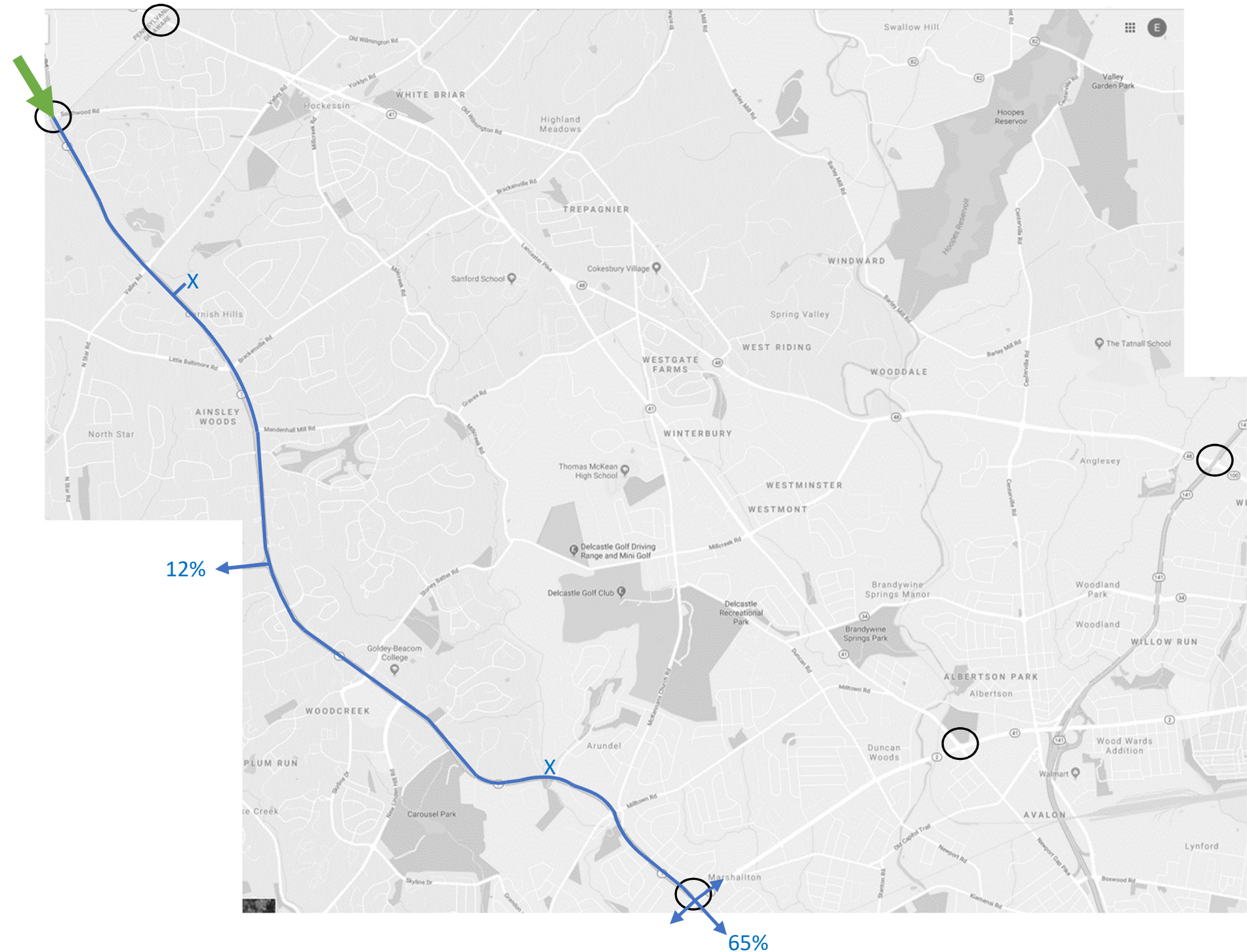
SR 7/41/48 Truck Following Study

- Date: Tuesday, March 26, 2019
- Times: 7 AM - 9 AM & 2 PM - 4 PM
- 10 collectors
- Origins:
 - SR 41 at DE-PA line
 - SR 7 at DE-PA line
 - SR 48 at SR 141
 - SR 41 at SR 2
 - SR 7 at SR 2



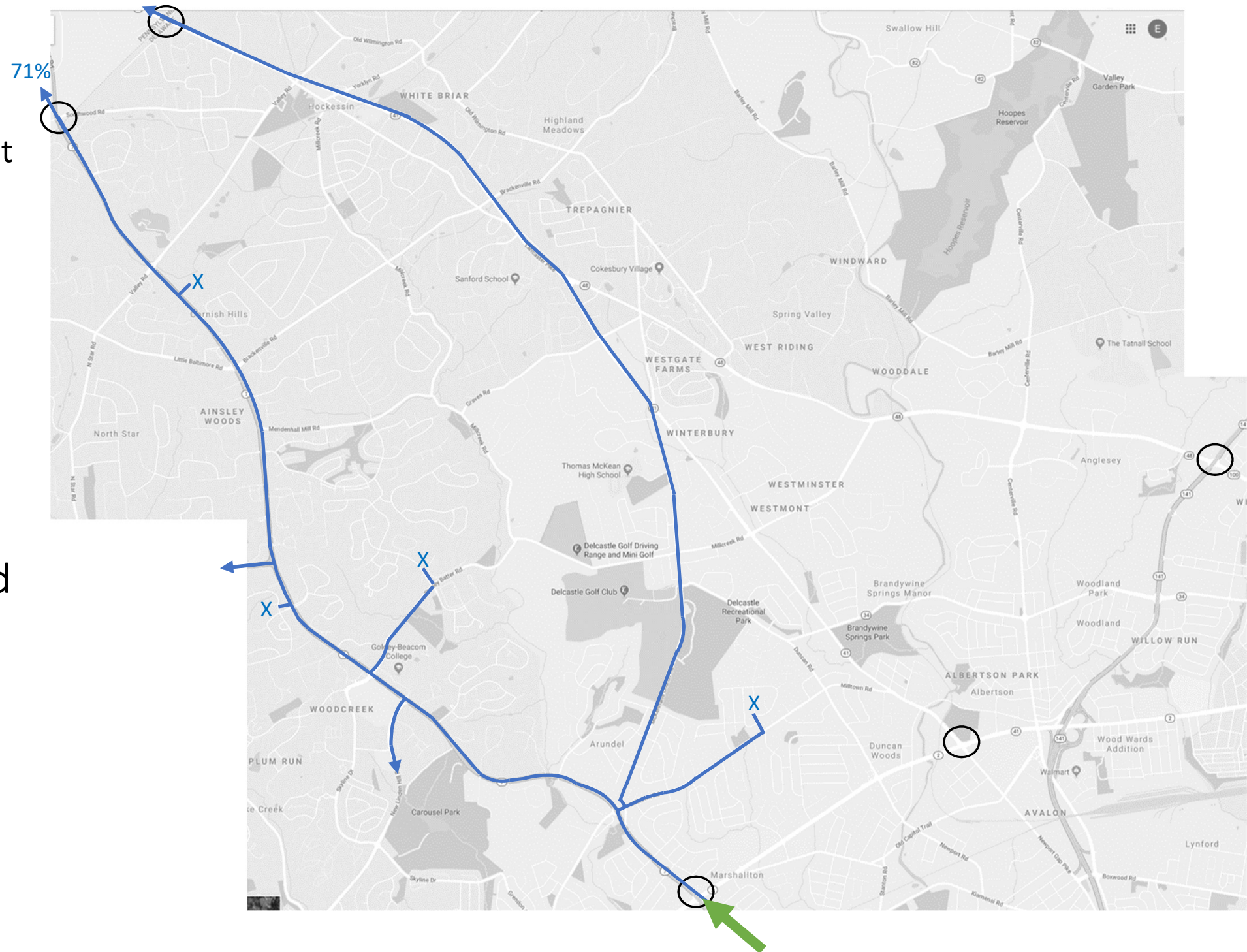
SR 7 – Trucks continuing on SR 7 SB from DE-PA line (26 trucks)

- 2 made local stops
 - 1 at the Lantana Square Shopping Center
 - 1 pulled over on the shoulder of SR 7 south of Concord Drive
- 3 turned right onto SR 72 (Paper Mill Rd)
- 21 stayed on SR 7 until SR 2 (Kirkwood Hwy)
 - 17 stayed straight onto SR 7 (Limestone Rd)
 - 2 turned right onto SR 2 WB
 - 2 turned left onto SR 2 EB



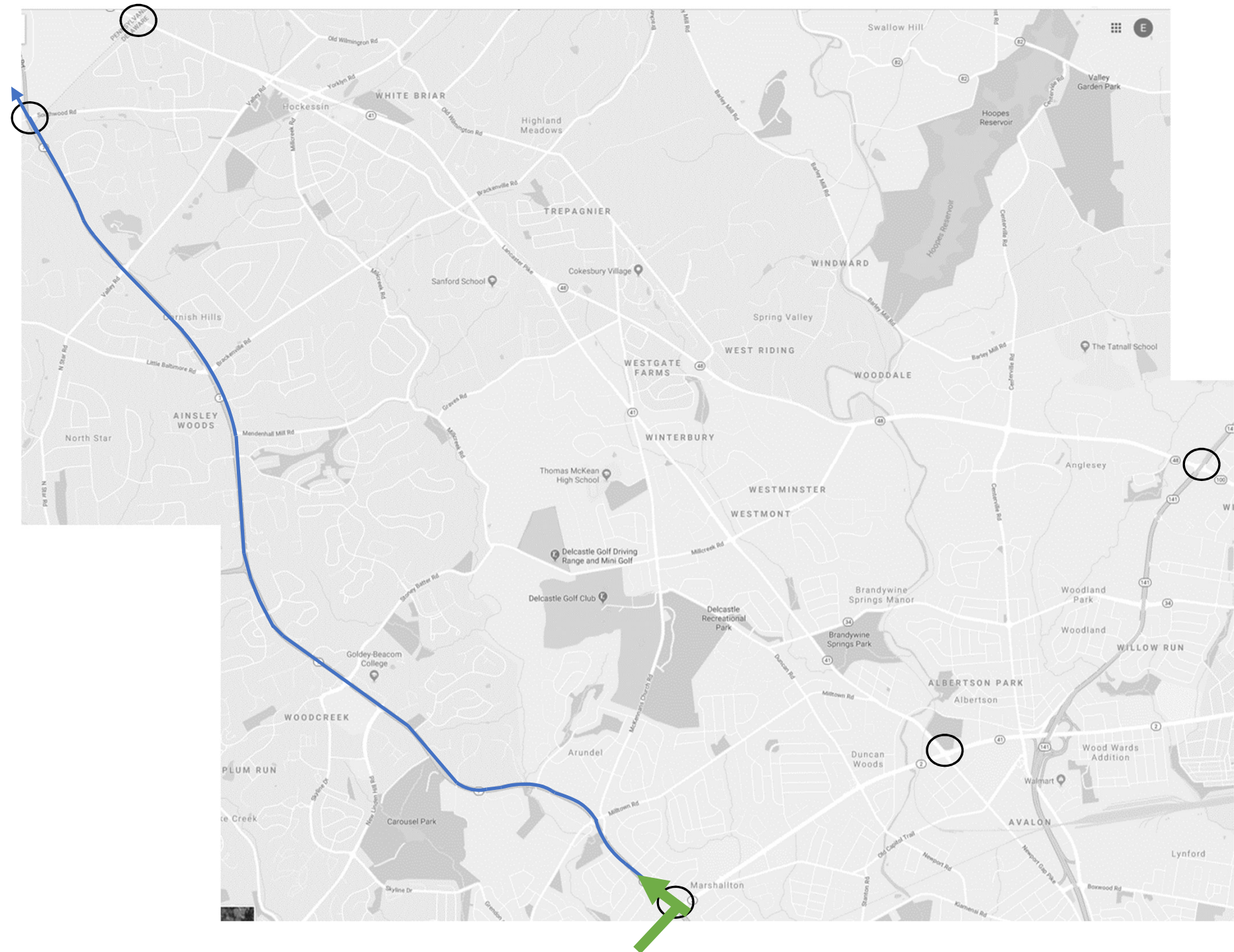
SR 7 – Trucks on SR 7 at SR 2 continuing straight on SR 7 (24 trucks)

- 17 stayed on SR 7 until DE-PA Line
- 2 turned right onto Milltown Road
 - 1 went to McKennans Church Road to get to SR 41 NB towards the DE-PA Line
 - 1 went to Robino Drive
- 1 turned right into Lantana Square
- 1 turned left onto SR 72
- 1 turned left onto Steven Lane
- 1 turned right onto Stoney Batter Road to get to Middleton Drive
- 1 turned left on New Linden Hill Road



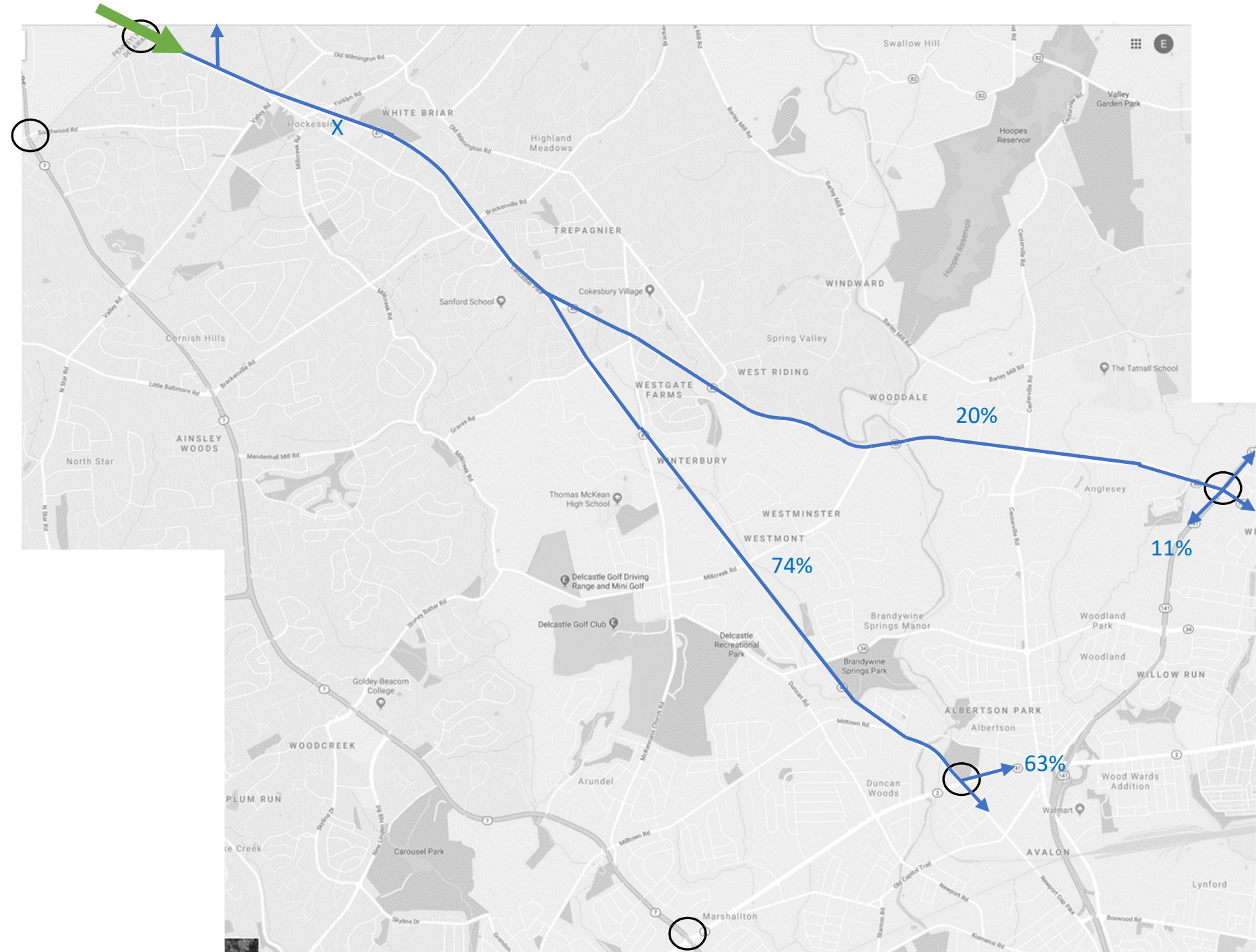
SR 7 – Trucks on SR 2 turned left on SR 7 NB (2 trucks)

- Both stayed on SR 7 until DE-PA Line



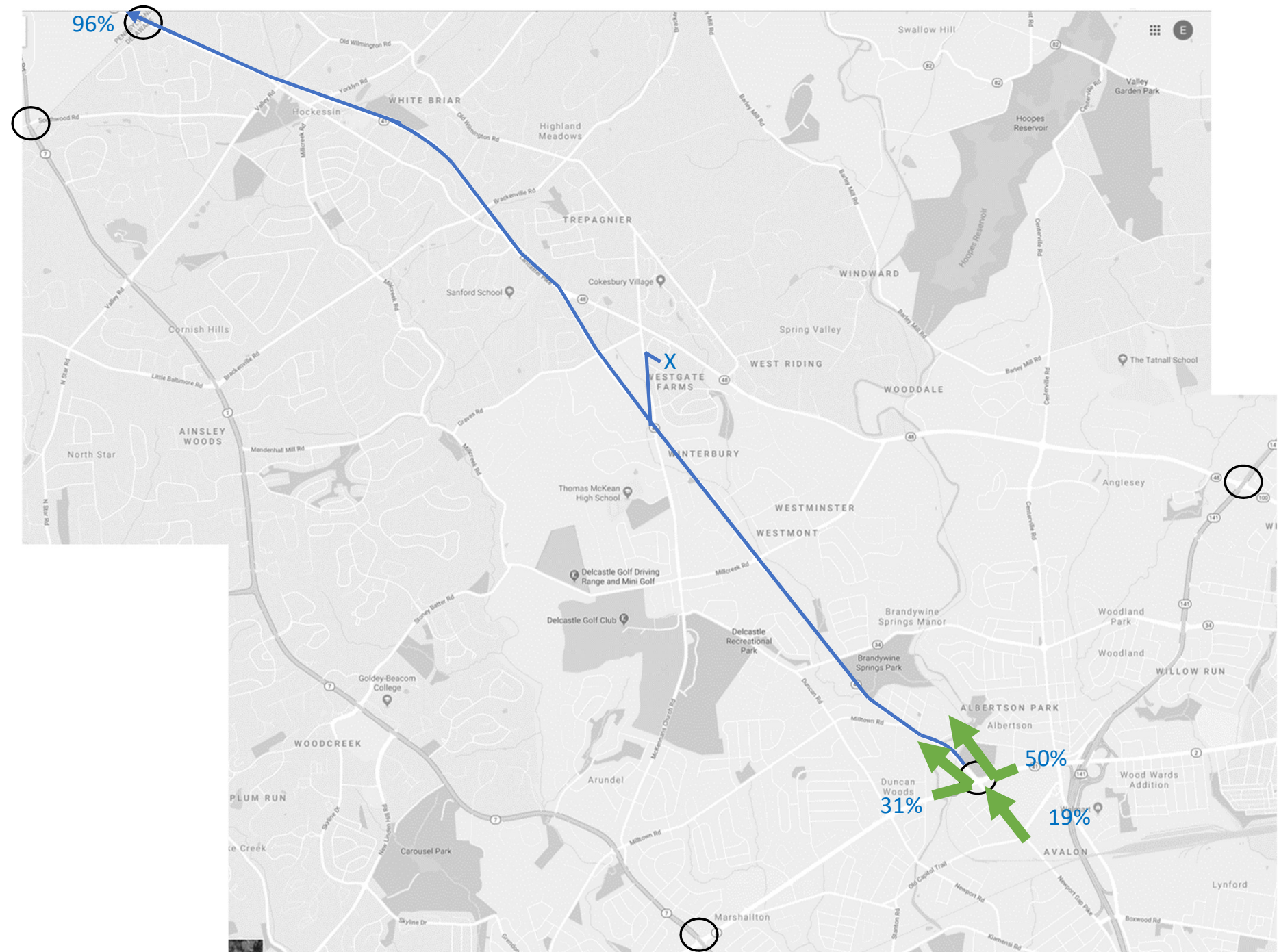
SR 41/48 – Trucks continuing on SR 41 SB from DE-PA line (46 trucks)

- 34 stayed on SR 41 until SR 2 (Kirkwood Hwy)
 - 29 turned left onto SR 2 EB
 - 5 stayed straight onto Newport Gap Pike
- 9 continued onto SR 48 until SR 141
 - 5 turned right onto SR 141 SB
 - 2 turned left onto SR 141 NB
 - 2 stayed straight onto SR 100 (Lancaster Pike)
- 3 made local stops
 - 2 at John R Stinson & Sons off of McGovern Road
 - 1 at the Shoppes of Hockessin



SR 41 – Trucks continuing on SR 41 NB from SR 2 (26 trucks)

- 13 turned right onto SR 41 NB
 - All stayed on SR 41 until DE-PA line
- 8 turned left onto SR 41 NB
 - 7 stayed on SR 41 until DE-PA line
 - 1 went to the Coffee Run Condos off of Loveville Road
- 5 stayed straight from Newport Gap Pike onto SR 41 NB
 - All stayed on SR 41 until DE-PA line



SR 48 – Trucks continuing on SR 48 NB from SR 141 (25 trucks)

- 21 turned left onto SR 48 NB
 - 18 stayed on SR 48 until DE-PA line
 - 1 turned left on Centerville Rd to get to Agilent Technologies
 - 1 turned right on Centerville Road
 - 1 pulled into the construction site south of Hercules Road
- 2 turned right onto SR 48 NB
 - All stayed on SR 48 until DE-PA line
- 2 stayed straight from Lancaster Pike onto SR 48 NB
 - 1 stayed on SR 48 until DE-PA line
 - 1 turned right onto McGovern Road

