



July 15, 2016

Mr. Robert Pingar, P.E., Township Manager & Director of Engineering
Westtown Township
1039 Wilmington Pike
West Chester, PA 19382

**RE: Jacqueline Drive Traffic Calming
Post Implementation Data Summary Memo**

Dear Mr. Pingar:

Per your request, we have evaluated speed data and enforcement data along Jacqueline Drive that were collected both before and after the installation of three traffic calming measures implemented in the summer and fall of 2015. This memo serves to summarize the data and to offer general conclusions about the effectiveness of the mitigation measures that have been implemented.

Background Information

The posted speed limit on Jacqueline Drive is 25 MPH. In response to concerns about cut-through traffic volume, speeding and resident safety along Jacqueline Drive between Old Wilmington Pike and South New Street, the following traffic calming measures were installed in 2015:

- Stop signs on Jacqueline Drive at the Supplee Way intersection (installed June 22, 2015)
- Permanent radar speed message sign located between #3 and #5 Jacqueline Drive, facing westbound traffic (installed July 15, 2015)
- Neighborhood gateway sign at the east end of Jacqueline Drive, “Residential Neighborhood, 25 MPH Speed Limit Strictly Enforced” (installed November 3, 2015)

Westtown Township collected speed data using a temporary radar speed sign on Jacqueline Drive before any of these traffic calming measures were installed, and then using the permanent radar speed sign after it was installed. The temporary speed sign was placed at #3 Jacqueline Drive (facing westbound traffic) in November 2014. This is the same location where the permanent speed sign was later installed. In addition, the WEGO Police Department provided crash data and enforcement data for traffic violations on Jacqueline Drive beginning on January 1, 2015. Using this data, we can evaluate and compare conditions both before and after installation of the traffic calming measures.

Speed Data Summary

- Speed data for westbound traffic (the direction of the heavier cut-through volume) was collected at #3 Jacqueline Drive on the following dates:
 - Pre-Implementation using temporary speed sign: November 11-12, 2014 (Tuesday and Wednesday)
 - Post-Implementation using permanent speed sign: November 9, 2015 through June 27, 2016
- The location of the radar speed sign is toward the east end of Jacqueline Drive, in a straight section of roadway near the top of a hill (westbound traffic in a slight downhill grade).
- Pre-Implementation vs Post-Implementation Speed Data is summarized in Table 1.



Table 1: Westbound Speed Data for Pre- and Post-Implementation of Traffic Calming

Metric	Pre-Implementation (11/11/14 – 11/12/14)	Post-Implementation (11/9/15 – 6/27/16)	% Increase or Decrease
Average Speed (24-hour average)	24 MPH	21 MPH	-12%
85 th Percentile Speed (24-hour average)	27 MPH	25 MPH	-7%
Average Speed (4-6 PM)	24.0 MPH	24.5 MPH	+2%
% Vehicles Exceeding 25 MPH	32%	36%	+4%

- Note that the results in Table 1 only include two days of data for the Pre-Implementation condition because that is all that was available in this location.
- The data shows that, after the traffic calming measures were implemented, average and 85th percentile speeds decreased by 12% and 7% respectively.
- Average speeds during the heavy-volume PM peak period (4-6 PM) were fairly consistent between the before and after conditions (increased by 2%).
- The percentage of vehicles exceeding 25 mph increased slightly (by 4%).

Enforcement Data Summary

- Data for traffic citations on Jacqueline Drive included stop sign violations and speeding violations, for the period from January 1, 2015 through May 30, 2016.
- Overall during this time period (roughly 17 months), there were 156 citations and 41 warnings for traffic violations on Jacqueline Drive. Of these, there were 8 stop sign citations and 130 speeding citations. The remaining citations were for other types of violations.
- Warnings were not associated with any specific type of violation.
- Most of the individual violation data provided did not include a specific location along Jacqueline Drive.
- Stop Sign Violations: Of the 8 stop sign citations, only 1 was issued prior to the installation of stop signs on Jacqueline Drive at Supplee Way. The other 7 citations were issued after the stop signs were installed in June 2015. 5 of these 7 citations were issued in August and September 2015. All 8 stop sign citations were issued on different dates.
- Speeding enforcement efforts conducted by WEGO police officers along Jacqueline Drive include both directions of travel and have most frequently occurred at locations east of Supplee Way. Speeding enforcement has also occurred at locations west of Supplee Way, although not as often.
- Speeding Violations (generally in excess of 10 MPH over the posted speed limit):
 - 130 speeding citations were issued between January 1, 2015 and May 30, 2016.
 - 45 were issued on 20 different dates during the 5+ months prior to installation of the stop signs on June 22, 2015
 - 9 were issued on 4 different dates during the 3+ weeks between the stop sign installation and the radar speed sign installation (July 15, 2015)
 - 49 were issued on 22 different dates during the 3+ months between the radar speed sign installation and the neighborhood gateway sign installation (November 3, 2015)
 - 27 were issued on 19 different dates during the nearly 7 months after the neighborhood gateway sign installation



Crash Data Summary

- Data for crashes on Jacqueline Drive was provided for the period from January 1, 2015 through May 30, 2016.
- Overall during this time period (roughly 17 months), there were four (4) crashes on Jacqueline Drive. Of these:
 - One (1) was a due to a driver swerving to avoid a deer.
 - One (1) was caused by driver distraction.
 - One (1) was a collision involving a vehicle backing out of a driveway.
 - One (1) involved a delivery truck that backed into a parked vehicle in a driveway.
 - There were zero (0) speed-related crashes.

Based on the data, the installation of traffic calming measures on Jacqueline Drive and the continued speed enforcement by the WEGO Police Department has resulted in a reduction in speeds (average daily and 85th-percentile) at the location where speed data was collected. There were also fewer speeding violations in the nearly 7 months after the last traffic calming measure was installed than there were in the nearly 6 months leading up to the installation of the first traffic calming measure. In summary, the data shows that the traffic calming and speed enforcement measures have been moderately effective in reducing speeds on Jacqueline Drive. It is noteworthy that the speeds recorded at the radar speed sign were nearly equal to, and generally less than the 25 MPH posted speed limit. Finally, in this same timeframe, there have not been any speed-related crashes along Jacqueline Drive either before or after installation of the traffic calming measures.

I trust that the foregoing will assist Westtown Township in their evaluation of traffic conditions along Jacqueline Drive.

Feel free to contact me directly with questions or concerns by phone at 610-640-3500 or by email at ajparker@mccormicktaylor.com.

Regards,

A handwritten signature in black ink, appearing to read "Andrew J. Parker".

Andrew J. Parker, P.E., PTOE
Traffic Engineer