The Southwestern Pennsylvania Commission’s (SPC) Regional Traffic Signal Program was established to assist local municipalities with improving traffic signal operations by optimizing signal timings and upgrading existing signal equipment. The Cranberry Township, Seven Fields Borough and Adams Township Signals In Coordination with Equipment Upgrades (SINC-UP) Project is a signal equipment upgrade and retiming project with a goal of optimizing signal operations at intersections along the Freedom Road and SR 228 corridor while considering all users of the intersections. [See map below for project area].

Traffic Signal Coordination:
- Improves safety because vehicles stop less often, which reduces the probability for rear-end crashes
- Benefits the environment by reducing vehicle emissions
- Reduces travel costs by reducing the amount of time stopped at red lights
- Saves money at the gas station by reducing fuel consumption

This project included the installation of Ethernet Radio systems to improve communications back to Cranberry Traffic Management Center. In addition, new LED pedestrian countdown signals and emergency vehicle preemption systems were install at some intersections to improve safety and improve emergency response times. Improvements have prepared the corridor for future responsive or adaptive signal operations.
Travel Improvements:
The results show that the peak travel times in both directions were, on average, reduced by 8%. Westbound travel time was reduced by 16%. There was a combined 16% reduction of delay for all users during the peak periods.

This the third time in eight years that this corridor was optimized under the SPC Signal Program. This iteration of optimization focused on reducing the cycle lengths across the peaks provide more timing plans that accounted for Friday and Sunday peak traffic, and to utilize different phasing sequences by time of day for a handful of intersections. The shorter cycles allowed for users on the side street and left turn to have less delay. Varying the phasing sequences by time of day allowed for peak specific two-way progression.

Summary of First Year Benefits**
**Weekday Midday/PM Peaks and Saturday Peak

- 222,956 Reduced Vehicle Hours of Travel
- 67,587 gallons Reduced Fuel Consumption
- 6,714 kg Reduced Total Pollutant Emissions

Total Benefit***
***reduced travel time, emissions & fuel consumption

- $4,079,307

Benefit Cost Ratio
24:1

https://www.spcregion.org/trans_ops_traff_vids3.asp

Cranberry Twp, Seven Fields Borough and Adams Twp
Freedom Road / SR 228 (SINC-UP) Project Summary

OCTOBER 2018

27,000 to 34,600 vehicles travel this corridor on an average day

Number of Stops*: Before and After Comparison

Number of Stops for WO # 06 Freedom Road / PA 228

Travel Time: Before and After Comparison

Travel Time for WO # 06 Freedom Road / PA 228

** reduct travel time, emissions & fuel consumption

* Stops are from end to end travel time runs on Freedom Rd and SR 228. It does not include side street, left turns, or mid-corridor entrance.