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 Butler Township and City of Butler Signals In Coordination with Equipment Upgrades (SINC-UP) Project is a traffic signal project with the goal of optimizing signal operations at intersections along the SR 68/356 & Hansen Ave corridors 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

As part of this project, many intersections received new signal controllers or controller assemblies and emergency vehicle preemption. SR 68/356 & Hansen Ave intersection received a full signal upgrade. Global Positioning Satellite antenna and receivers were installed at multiple intersections to allow for time-based coordination. Coordination of traffic signals is one of the most cost effective ways of improving traffic flow along a corridor.
Travel Improvements:
The results showed that eastbound SR 356 travel time improved approximately 10%, 20%, and 25% during the AM, Midday, and PM peaks respectively.

The SR 68/365 corridor was coordinated prior to this SINC-UP Project, however over time traffic patterns and volumes changed creating delay and additional stopping along the corridor. This retiming project updated the coordination which alleviated consecutive stopping and reduced the motorist’s frustration. A twice per cycle northbound left turn was also added to the Hansen Ave & Whitestown Rd intersection to reduce queuing and delay.

Number of Stops*: Before and After Comparison

Travel Time**: Before and After Comparison

Summary of First Year Benefits

235,668
Reduced Vehicle Hours of Travel

176,087 gallons
Reduced Fuel Consumption

997,134
Reduced Total Pollutant Emissions

$4,709,511
Total Benefit***

Benefit Cost Ratio
23:1

*Stops are from SR 356 end to end travel time run from Moraine Pointe Plaza to Campus Ln. It does not include side street, left turns, or mid-corridor entrance.

**SR 356 travel time run from Moraine Pointe Plaza to Campus Ln.

***reduced travel time, emissions, stops & fuel consumption