

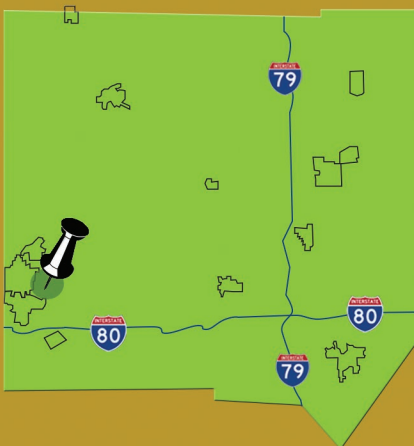


SR 18 (Hermitage Rd) Traffic Signal Retiming Project

CITY OF HERMITAGE SIGNAL RETIMING PROJECT

PROJECT LOCATION:

MERCER COUNTY



CITY OF HERMITAGE CONTACT INFORMATION

City of Hermitage
800 North Hermitage Road
Hermitage, PA 16148

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Development
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PROJECT PARTNERS:

Shenango Valley Area Transportation Study

Federal Highway Administration

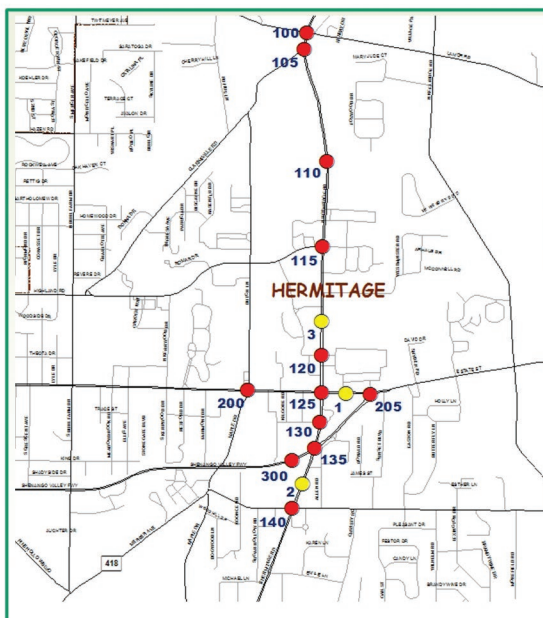
Pennsylvania Department of Transportation,
District 1-0

City of Hermitage

Whitman, Requardt, & Associates, LLP

The Shenango Valley Area Transportation Study (SVATS) MPO funded the development of a signal retiming project along a 2.2 mile portion of State Route 18 (Hermitage Road) as well as two (2) nearby intersections along Business Route 62 (State Street) and one (1) intersection on U.S. Route 62 (Shenango Valley Freeway) for the City of Hermitage.

The City of Hermitage SR 18 Signals In Coordination Project is a signal retiming project with the goal of optimizing signal operations along the SR 18 corridor while considering all users of the intersections.



Intersection 100 - SR 18 and Lamoar Road

Intersection 105 - SR 18 and Dutch Lane / Sheetz Driveway

Intersection 110 - SR 18 and Wal-Mart Drive

Intersection 115 - SR 18 and Highland Road

Intersection 120 - SR 18 and Indian Run Rd / Mall Drive

Intersection 125 - SR 18 and E State Street

Intersection 130 - SR 18 and Glimcher Boulevard / Hermitage Square

Intersection 135 - SR 18 and Shenango Valley Freeway

Intersection 140 - SR 18 and Morefield Road

Intersection 200 - E State Street and Maple Drive / Dutch Lane

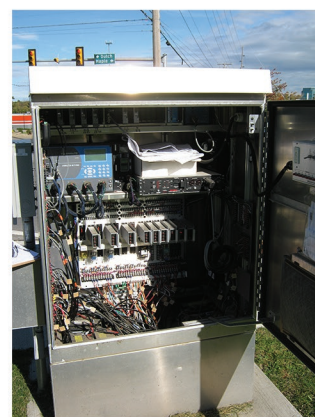
Intersection 205 - E State St & Shenango Valley Freeway / Mall Drive

Intersection 300 - Shenango Valley Freeway and Glimcher Boulevard

SR 18 CORRIDOR LENGTH: APPROX. 2.2 MILE

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 use





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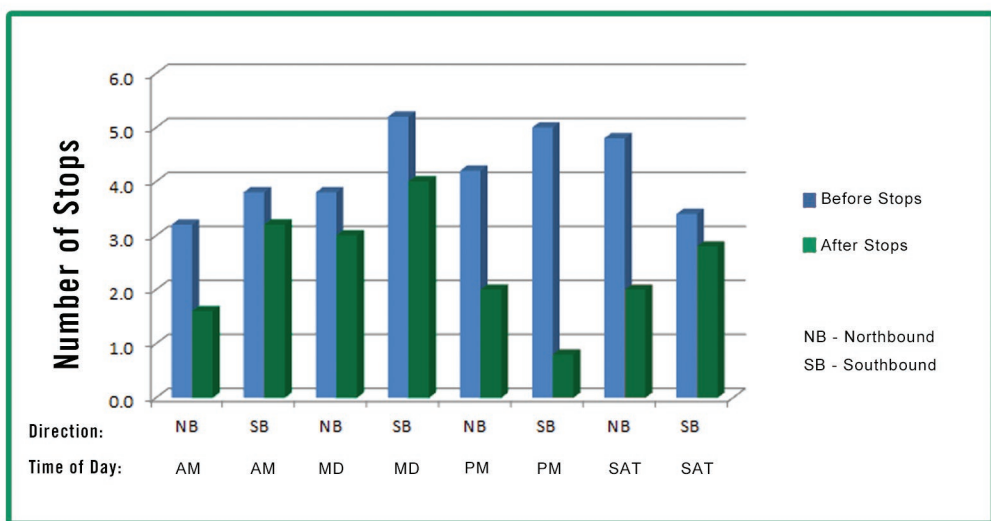
Travel Improvements:

The results show that the Peak-Hour travel times were reduced significantly. Travel times typically decreased by 1.3 to 1.7 minutes, with an average 21% improvement in travel time. Also, there were approximately 40% fewer stops along SR 18, and an average 55% decrease in signal delays.

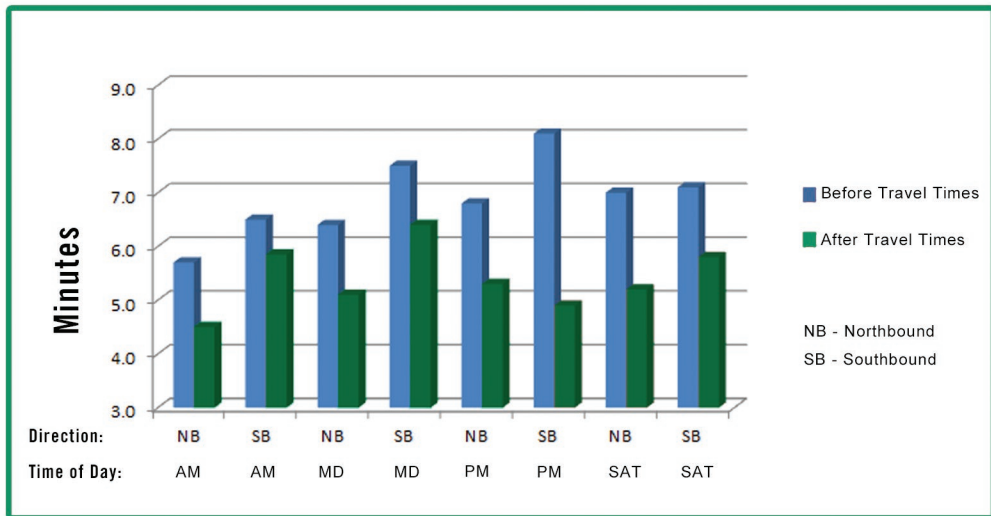


23,300 vehicles
travel this corridor
on an average day

Number of Stops: Before & After Comparison



Travel Time: Before & After Comparison



Summary of First Year Benefits

124,692



Reduced Vehicle hours of travel

183,915 gallons



Reduced Fuel Consumption

13,006 kg



Reduced Total Pollutant Emissions

5,466,368



Reduced Number of Stops

Total Benefit*

\$ 3,095,410

*reduced travel time, emissions,
stops & fuel consumption

Benefit Cost Ratio:

62:1

Prior to this signal retiming project, motorists typically experienced moderate delays and the frustration of consecutive stopping at traffic signals. This project coordinated the traffic patterns among these intersections which alleviated consecutive stopping, which reduced the frustration of consecutive stopping for motorists. In addition, a Special School plan was implemented for school arrivals that helped eliminate back-ups onto SR 18.