Midland Borough (SINC-UP) Project Summary

REGIONAL TRAFFIC SIGNAL PROGRAM CYCLE 3

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 Midland Borough 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 Midland Ave (SR 68) corridor while considering all users of the intersections [See map below for project area].

PROJECT LOCATION

Beaver County

1. Midland Ave (SR 68) & Spring Ln
2. Midland Ave (SR 68) & 3rd St
3. Midland Ave (SR 68) & 6th St
4. Midland Ave (SR 68) & 7th St
5. Midland Ave (SR 68) & 8th St
6. Midland Ave (SR 68) & 10th St
7. Midland Ave (SR 68) & 12th St

Corridor Length: Approx. 1.20 miles

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, all intersections received new modern controller cabinet assemblies and audible emergency pre-emption systems. All intersections also received new LED pedestrian and vehicular signal heads. Global Positioning Satellite antenna and receivers were installed at the 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.

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PROJECT PARTNERS

Federal Highway Administration

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Midland Borough

Beaver County

Whitman, Requardt & Associates, LLP

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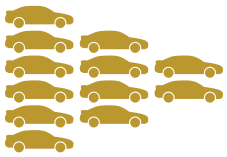
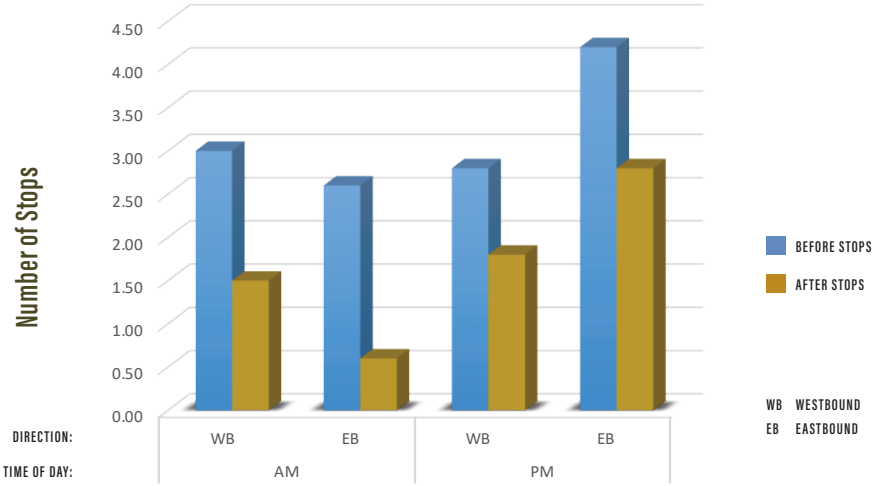
Travel Improvements:

The results showed that the average travel time improved by 10%. The average number of vehicular stops decreased by 50%.



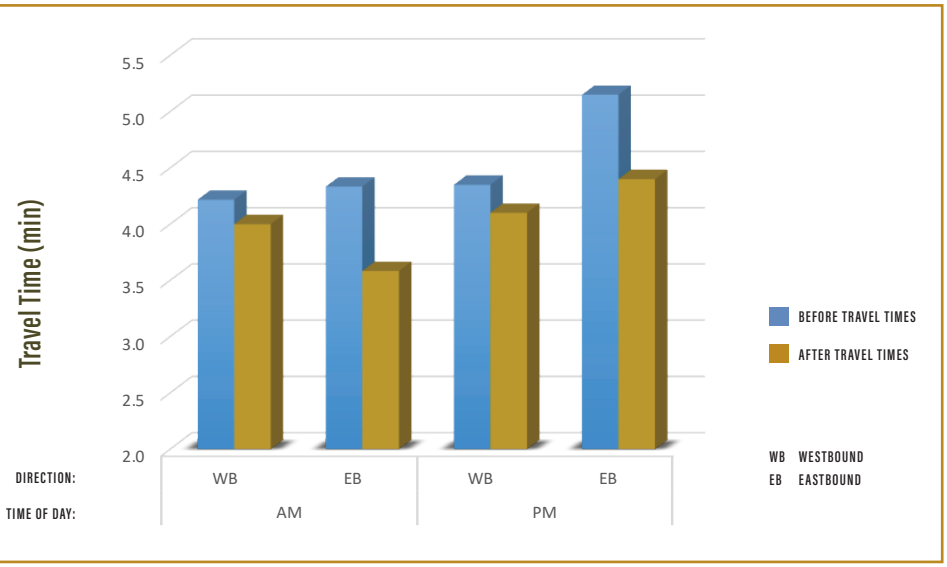
5,700 to 8,000 vehicles travel this corridor on an average day

Number of Stops*: Before and After Comparison



Stops are from end to end travel time run on Midland Avenue. It does not include side street, left turns, or mid-corridor entrance.

Travel Time: Before and After Comparison



Prior to this SINC-UP Project, motorists typically experienced frustration of consecutive stopping at traffic signals due to the uncoordinated signals. This retiming project coordinated the traffic patterns through these intersections which alleviated consecutive stopping and reduced the motorist's frustration. This project also installed emergency pre-emption system to improve emergency vehicle response time.

Summary of First Year Benefits

18,725

Reduced Vehicle Hours of Travel

17,880 gallons

Reduced Fuel Consumption

Reduced Total Pollutant Emissions

1,624,368

Reduced Number of Stops

Total Benefit*

$420,970

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

Benefit Cost Ratio

5:1

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

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