Green Tree Borough Greentree Rd (SINC-UP) Project Summary

REGIONAL TRAFFIC SIGNAL PROGRAM CYCLE 3

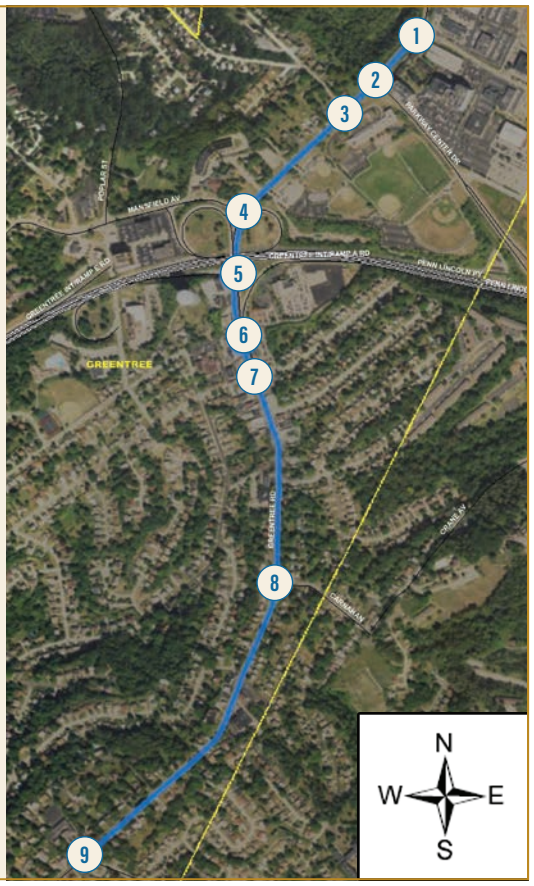
The Southwestern Pennsylvania Commission's (SPC) Regional Traffic Signal Program was established to assist local municipalities with improving traffic signal operations by optimizing signal timings and upgrading existing signal equipment. **The Greentree Borough Signals In Coordination with Equipment Upgrades (SINC-UP) Project** is a traffic signal project with the goal of optimizing signal operations at intersections along the Greentree Rd (SR 121) corridor while considering all users of the intersections [See map below for project area].

PROJECT LOCATION

Allegheny County

1. Greentree Rd (SR 121) & McKinney Ln
2. Greentree Rd (SR 121) & Parkway Center Dr
3. Greentree Rd (SR 121) & Warriors Rd
4. Greentree Rd (SR 121) & Mansfield Ave
5. Greentree Rd (SR 121) & I-376 EB Off-Ramp
6. Greentree Rd (SR 121) & Roseberry Way
7. Greentree Rd (SR 121) & Manilla Ave
8. Greentree Rd (SR 121) & Carnahan Rd
9. Greentree Rd (SR 121) & Potomac Ave

Combined Corridor Length: Approx. 1.40 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, many intersections received new signal controllers and/or cabinet assemblies, battery backup and/or electrical services, and emergency vehicle preemption. Ethernet Radios and/or Global Positioning Satellite antenna and receivers were installed at the intersections to allow for coordination. Coordination of traffic signal is one of the most cost effective ways of improving traffic flow along a corridor.

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PROJECT PARTNERS

Federal Highway Administration

Pennsylvania Department of Transportation, District 11-0

Allegheny County

Green Tree Borough

Whitman, Requardt & Associates, LLP

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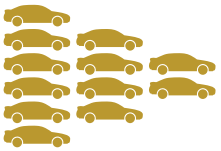
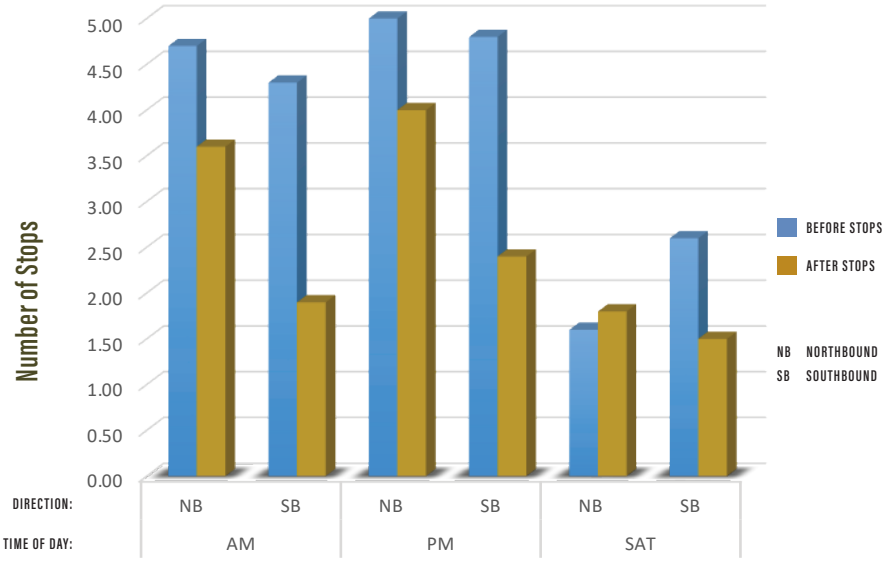
Travel Improvements:

The results showed the average PM Peak travel time improved over 20%. On average, southbound stops improved by 50% during the weekday peaks.



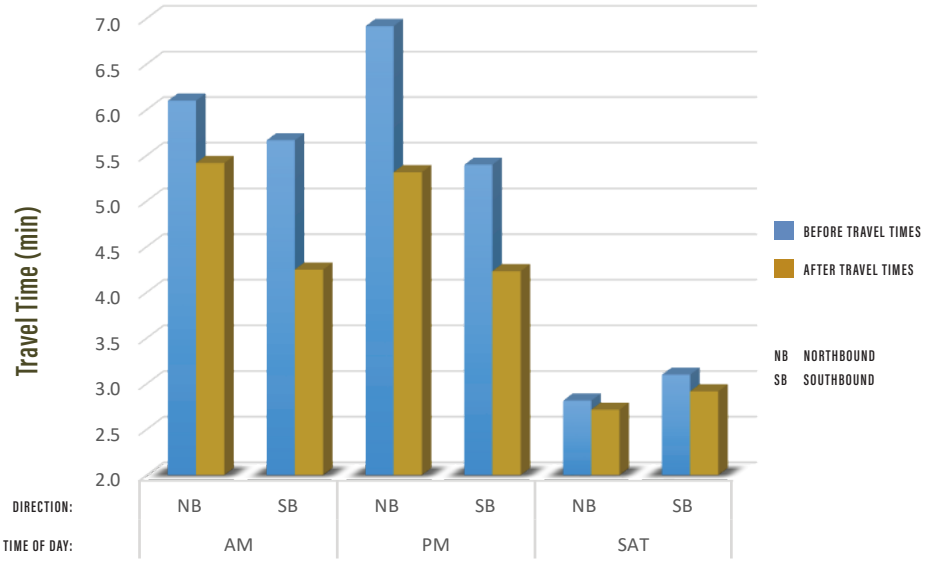
17,800 to 24,500 vehicles travel this corridor on an average day

Number of Stops*: Before and After Comparison



** Stops are from end to end travel time run between Potomac Ave and McKinney Ln. It does not include side street entrance.*

Travel Time**: Before and After Comparison



***Weekday travel time runs were performed between Potomac Ave and McKinney Ln. Saturday travel time runs were performed between Potomac Ave and Mansfield Ave.*

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 among these intersections which alleviated consecutive stopping and reduced the motorist's frustration.

Summary of First Year Benefits

253,752

Reduced Vehicle Hours of Travel

239,300 gallons

Reduced Fuel Consumption

Reduced Total Pollutant Emissions

4,558,678

Reduced Number of Stops

Total Benefit***

$5,328,887

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

Benefit Cost Ratio

51:1

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

DECEMBER 2019