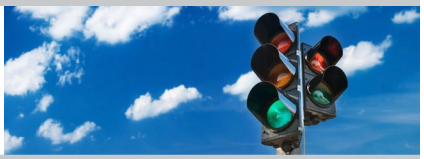
Southwest Washington Regional Transportation Council

Regional Signal Timing Plans



SIGNAL TIMING AS A TSMO STRATEGY

Regional Signal Timing is a low-cost transportation system management and operations (TSMO) strategy that focuses on operational improvements to maintain and enhance the performance of the existing transportation system without adding roadway capacity. The goal is to get the most performance out of the transportation facilities that can be quickly implemented at relatively low cost. Signal timing can reduce congestion and often makes streets more appealing and easier to navigate for both businesses and the general public.

PROJECT GOALS

IMPROVE TRAFFIC FLOW

IMPROVE AIR QUALITY AND REDUCE EMISSIONS

ENHANCE SAFETY

REGIONAL SIGNAL TIMING PLANS

The Bipartisan Infrastructure Bill established the Carbon Reduction Program, a new regionally competitive grant program managed by RTC. The CRP authorizes grant funding for projects designed to reduce transportation emissions. RTC was awarded funds to develop signal timing to improve traffic flow, safety, and air quality in the Clark County urban area.

Major tasks are to prioritize and identify signalized pilot corridors for retiming, to review/update and deploy traffic signal timings, and produce reports on the performance of the pilot corridors.

PURPOSE OF SIGNAL TIMING

Retiming traffic signals can reduce congestion, fuel consumption, and travel times, and produce benefits to the traveling public. Optimizing the local intersection traffic signal timings can reduce delays by providing a green light for vehicles that need it. Drivers can benefit from updated signal timing because they can travel through multiple traffic signals with fewer stops. Improved signal timing reduces delay, travel times, fuel consumption, and emissions. In addition, the cost to design, implement, and fine-tune new signal timings is low compared to major construction.

PILOT CORRIDORS FOR IMPROVEMENT

Signals are being retimed and evaluated in the following corridors:

- SR-503 South *(119th Street to Fourth Plain Boulevard)*
- Mill Plain Boulevard *(104th Avenue to 192nd Avenue)*
- Fourth Plain Boulevard East *(SR-503 to 162nd Avenue)*
- 162nd/164th South *(SR-14 to Mill Plain Boulevard)*
- 18th Street *(I-205 NB Ramp to 162nd Avenue)*
- SR-503 North *(119th Street to 244th Street)*
- 162nd/164th North *(Mill Plain Boulevard to 78th Street)*

PILOT CORRIDORS MAP

State Route 503 South

Image Source: Google

CORRIDOR OVERVIEW

The project reviewed the existing signal system along State Route 503 South, from Fourth Plain Boulevard to 119th Street plus the signal at Fourth Plain Boulevard & NE 121st Avenue in the City of Vancouver, Washington. Updated signal timing plans were developed for 10 signalized intersections within the project corridor.

Signals: 10
AADT: ~37,500
Posted Speed: 40 MPH
Transit Route and Frequency: Route 7, ~30 min

RE-TIMING BENEFITS

- Improve traffic flow along the project corridor
- Minimize delays for side streets and left-turn phases

BENEFITS

SAFETY

TOTAL STOPS REDUCED BY 6%.*

COORDINATED SIGNAL TIMING HAS BEEN ASSOCIATED WITH UP TO A 17% REDUCTION IN CRASHES OF ALL SEVERITIES.

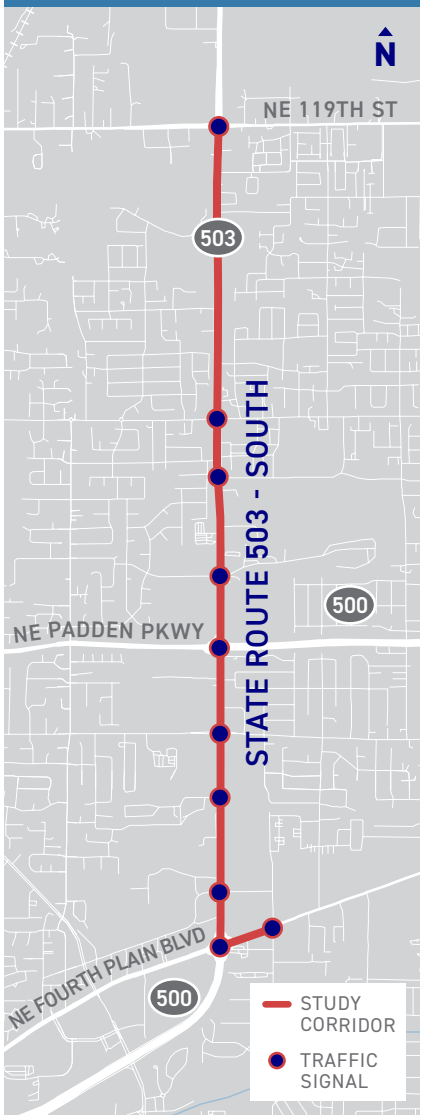
**PM peak period savings.*

TRAVEL TIME SAVINGS

	NORTHBOUND	SOUTHBOUND
AM	↓ 4%	↓ 25%
MIDDAY	↓ 7%	↓ 16%
PM	↓ 4%	↓ 23%
DAILY (24HR)	↓ 2%	↓ 13%
WEEKEND	↓ 14%	↓ 9%

EMISSIONS

	EMISSIONS REDUCTION
AM	↓ 3%
MIDDAY	↑ 1%*
PM	↓ 7%
WEEKEND	↑ 1%*

**Emissions include all vehicles on or accessing the corridor and are sensitive to stop locations. Some improvements shifted delay to side streets reducing travel time but slightly increasing emissions.*

CORRIDOR LOCATION