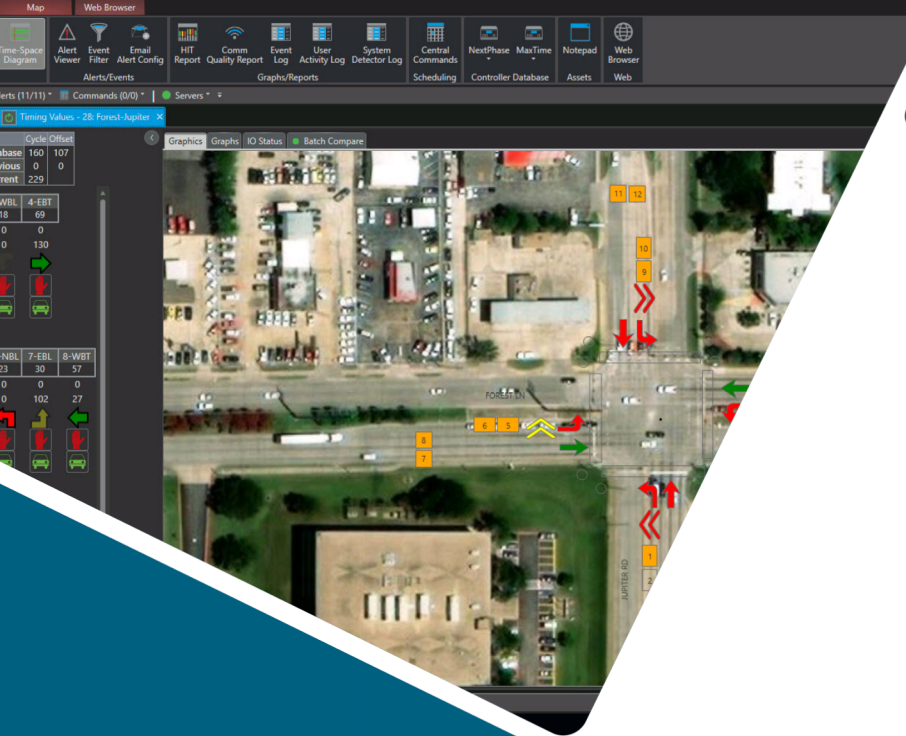


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Kimley»»Horn

# SMART CITIES

TECHNOLOGY FORUM

## ATSPM & Signal Retiming

»»KITS

A Kimley-Horn Software Solution

»»Kadence

A Kimley-Horn Software Solution

»»Traction

A Kimley-Horn Software Solution

# Traditional Retiming

## Collect Data

- Typically one day of data
- Costs money to collect

## Model Corridor

- Adjust signal timing based on traffic volumes

## Implement

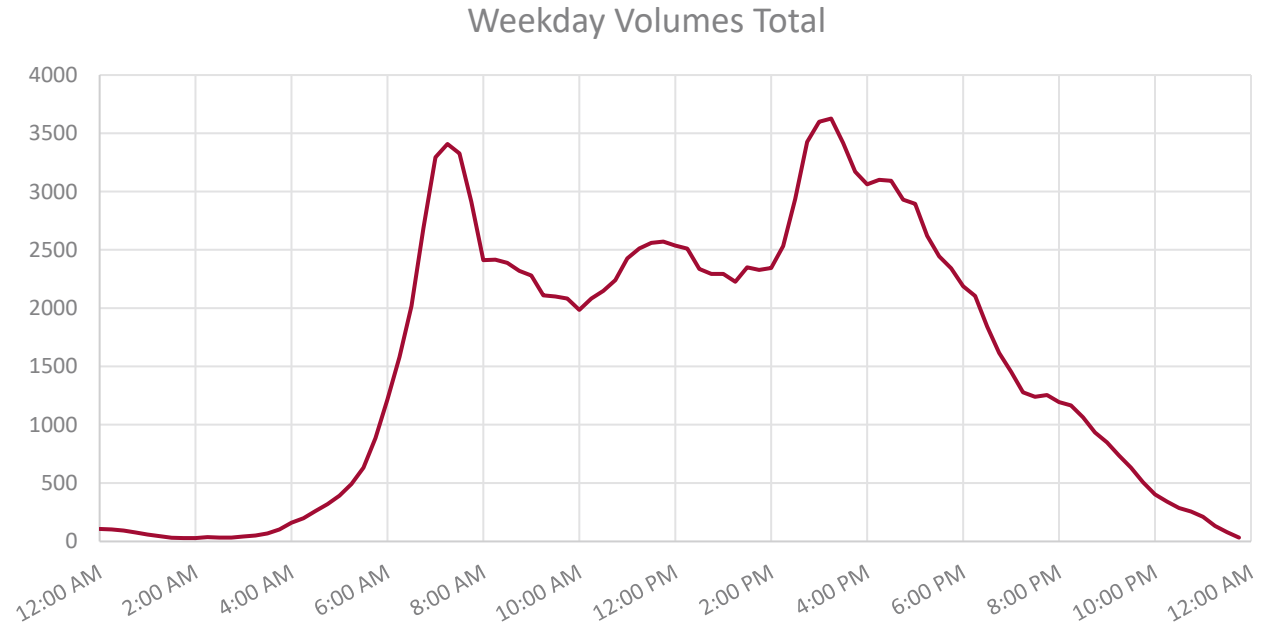
- Monitor in the field

## Fine Tune

- Make changes based on field observations

# ATSPM for Signal Timing

- Unlimited count data available
- Metrics helpful for decision making
  - Split Failure
  - Arrivals on Green
  - Delay



Date Selection

Start Date: 10/7/2023 8:00 AM

End Date: 10/9/2023 6:00 PM

Refresh Date

Create Chart

	Eastbound			Westbound			Northbound			Southbound			Vehicle Total			
	T	R	Total	L	T	R	Total	L	T	R	Total					
8:00 AM	23	7	30	0	60	1	61	3	0	1	4	1	0	2	3	123

# Pros and Cons

ATSPM
<b>Pros</b>
Unlimited data
Data driven decisions
Easily tracked improvements
<b>Cons</b>
“Information overload”
Requires configuration

Traditional Retiming
<b>Pros</b>
Less analysis of data
Established Process
<b>Cons</b>
Limited, costly data collection
Engineering judgement based

# Configuration Requirements/Reports

- Detectors must be configured correctly

**Good data**  **Good results**

- Certain reports necessary
  - Turning Movement Counts
  - Arrival on Green
  - Purdue Split Failure

# Results



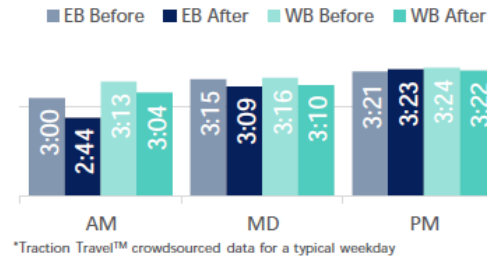
## Plum Creek Parkway Performance Metric Summary



### Project Achievements (Annual)

- 10,447 VEHICLE HOURS** of travel time saved
- \$200,662** time-value equivalent user savings
- 50,605 LBS** reduction in pollutant emission

### Travel Time Savings



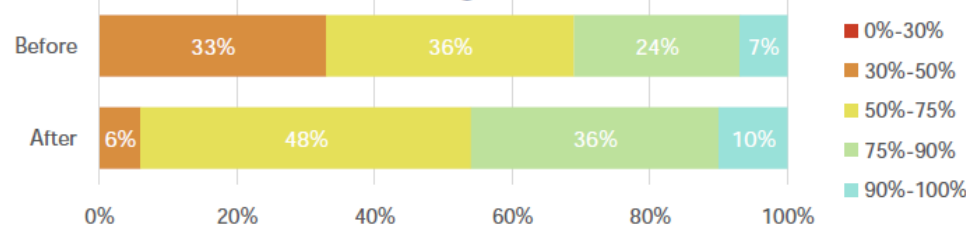
**Split Failures**  
**34% REDUCTION**  
of weekday split failures

**7% REDUCTION**  
of weekend split failures  
\*Calculated from all phases at all signals on the corridor

**Travel Time Index**  
Post Implementation  
**1.501**  
**AVERAGE TTI**  
in the westbound direction

**1.250**  
**AVERAGE TTI**  
in the eastbound direction  
\*Calculated from BlueToad™ device data for all time periods

### Arrival on Green Percentage



# Next Steps

- “Live” dashboard for results
  - Traction Metrics, etc.
- Selection of corridors based on data driven analysis

The background is a solid teal color. It features several abstract, overlapping geometric lines in a slightly darker shade of teal. One line is vertical, another is horizontal, and a third is diagonal, creating a grid-like structure. A fourth line is a thick, curved shape that intersects the other lines, resembling a stylized letter 'Y' or a similar symbol.

**Thank you!**