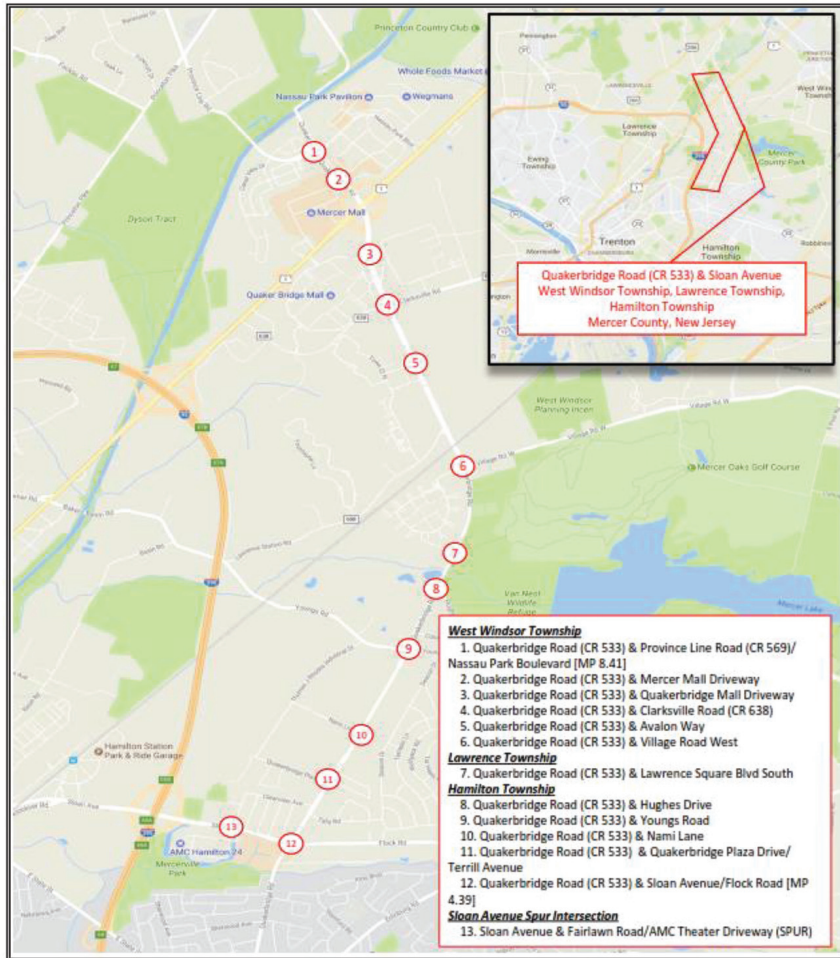


DVRPC NEW JERSEY COUNTY SIGNAL RETIMING INITIATIVE

Quakerbridge Road (CR 533) and Sloan Avenue



LOCATION MAP
 DVRPC NEW JERSEY SIGNAL TIMING INITIATIVE
 CR 533—QUAKERBRIDGE ROAD CORRIDOR
 AND SLOAN AVENUE AT FAIRLAWN ROAD/AMC THEATER DRIVEWAY
 WEST WINDSOR TOWNSHIP, LAWRENCE TOWNSHIP,
 HAMILTON TOWNSHIP, MERCER COUNTY



Traffic signal retiming work has been completed at thirteen (13) signalized intersections along Quakerbridge Road (CR 533) in Hamilton, Lawrence, and West Windsor Townships in Mercer County, including the intersection of Sloan Avenue at Fairlawn and AMC Driveway. Work started in May 2018, following completion of Phase 1 of the contract which evaluated candidate corridors within Mercer County and established a consensus priority list. The updated timing plans, adjustments to cycle lengths, splits, and offsets, and additional time-of-day coordination patterns were completed by December 15, 2018.

Data Collection/Analysis

The Consultant team used ADT counts to determine the number of system programs. Through use of Sychro/SimTraffic 8.0 and TruTraffic, the team provided traffic demand accommodations throughout the day.

Implementation

During the months of November and December 2018, optimized timing plans were implemented within thirteen (13) controllers within the project limits and broken into zones. The team verified each controller maintained a common time standard.

Fine Tuning

Split adjustments were made to manage queue spillback and lane blockage for movements and intersections that were over capacity. Offset adjustments were made by conducting travel time runs along the corridor using Tru-Traffic and a GPS unit.

Peak Hour Travel Time and Delay Comparison

Direction		AM Peak		Mid-day Peak		PM Peak		Weekend Mid-day Peak	
		Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)	Travel Time (s)	Delay (s)
Southbound	Existing	470	147	512	189	710	387	530	206
	Implemented	427	103	475	152	699	375	494	171
	Difference	-44	-44	-37	-37	-12	-12	-36	-36
	% Difference	-9%	-30%	-7%	-20%	-2%	-3%	-7%	-17%
Northbound	Existing	519	195	490	166	548	225	709	386
	Implemented	418	94	465	141	499	176	494	171
	Difference	-101	-101	-25	-25	-49	-49	-215	-215
	% Difference	-19%	-52%	-5%	-15%	-9%	-22%	-30%	-56%
Both Directions	Existing	490	166	501	178	629	306	602	278
	Implemented	422	99	470	147	599	275	494	171
	Difference	-67	-67	-31	-31	-30	-30	-107	-107
	% Difference	-14%	-41%	-6%	-17%	-5%	-10%	-18%	-39%

Northbound: Sloan Avenue to Province Line Road
Southbound: Province Line Road to Sloan Avenue