CSAH 17 SIGNAL OPTIMIZATION

Edina, MN

CLIENT:
Hennepin County Public Works

REFERENCE:
Eric Drager, PE
Traffic Operations Engineer
(612) 596-0309

SERVICES PROVIDED:

- Data Collection
- Existing Conditions Analysis
- Corridor Modeling
- Optimized Signal Timing
- Timing Implementation
- Field Fine-tuning

CONSTRUCTION COST:
N/A

Project Description:

The County State Aid Highway (CSAH) 17 (France Avenue) Optimization and Implementation project included two interconnected systems between the TH 62 North Ramps and 84th Street in Edina. The project entailed many unique characteristics:

- Two system interchanges – TH 62 and I-494
- Exclusive signalized intersections for Southdale Mall
- Major Regional Hospital with close access to the TH 62 interchange
- Signalized intersection spacing ranging between one tenth to one quarter mile
- Heavy congestion, especially in the vicinity of the system interchanges

Roles and Responsibilities:

The corridor was characterized by significant volume demand (both commuter and commercial destination) and a high volume of vehicles turning onto the corridor during the peak periods. The primary project goal was to improve progression along France Avenue during both peak and off periods. Although the system cycle lengths were reduced during most of the day, the goal was successfully achieved through optimized timing plans that better maximized flow, reduced the the duration of congestion, and better managed the turn lane queues. Beyond using left turn lead/lag optimization, several other signal timing strategies were used to improve:

- Lane utilization issues at 78th Street and Minnesota Drive
- Capacity concerns at American Boulevard and 84th Street
- Trunk Highway 62 interchange Operations

End Result:

The timing plans were implemented and fine tuned in May, 2007. A few highlights include:

- Improved travel times (both directions) of up to 18% in the AM Peak and 24% during the PM
- A 50% decrease in the average number of stops during the PM Peak
- A benefit/cost ratio estimated at **43:1**

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