Minnesota

Location – Minneapolis-St. Paul, Minnesota

Results of 2001 study of Ramp Metering Effectiveness

In September 2000, all 430 ramp meters were turned off in the Twin Cities region in response to a mandate from the MN State Legislature, following citizen complaints and questions raised by State Senator Dick Day; namely, do ramp meters work?

Objectives

- To fully explore effectiveness of ramp meters; meter "wait time" was also a key concern
- To respond to citizen's questions and identify public perception of ramp metering
- To involve a citizens advisory board to ensure credibility of the study

Process and Findings

Cambridge Systematics was hired by MnDOT to perform the study, inclusive of getting pre-study data and incorporating any/all citizen input and ensuring a transparent process. Five weeks of "before" speed and crash data, et al, was recorded. The ramps were shut off for a pre-determined "transition" period and then turned back on for five weeks of "after" data gathering.

- Without meters
  - A 9% reduction in freeway volume; a 22 % increase in travel times; a 26% increase in crashes (even after adjusting for prior seasonal rates)
  - Most survey respondents believed traffic had worsened
- After the study: 20% wanted meters left off; 10% want them "returned"; 70% want modifications

Lessons Learned / Changes Implemented

- Neither "all" nor "nothing" was deemed best, but a new, modified approach was adopted:
  - Fewer meters than before the study were turned back on (location candidacy was tightened and superfluous meters were removed)
  - Hereafter, meters would wait no more than 4 minutes on local ramps or 2 minutes on freeway-to-freeway ramps
  - Vehicles queued back to city streets will be "released" (meters temporarily shut off) and meter operation will better-respond to congestion-only times via improved use of detectors