



Twin Cities Ramp Meter Evaluation

evaluation plan

prepared for

Minnesota Department of Transportation

prepared by

Cambridge Systematics, Inc.

with

SRF Consulting Group, Inc.
N.K. Friedrichs Consulting, Inc.

September 25, 2000

evaluation plan

Twin Cities Ramp Meter Evaluation

prepared for

Minnesota Department of Transportation

prepared by

Cambridge Systematics, Inc.
1300 Clay Street, Suite 1010
Oakland, California 94612

September 25, 2000

Table of Contents

1.0	Project Background.....	1-1
2.0	Evaluation Team	2-1
3.0	Evaluation Objectives.....	3-1
4.0	Performance Measures and Evaluation Methodologies	4-1
4.1	Evaluation Measures.....	4-1
4.2	Overview of Evaluation Methodologies	4-4
5.0	Test Plan for Field Data Collection.....	5-1
5.1	Corridor Selection Process	5-1
5.1.1	Identify the Corridor Selection Criteria	5-2
5.1.2	Identify Candidate Corridors	5-2
5.1.3	Apply Corridor Selection Criteria and Select Corridors To Be Studied.....	5-3
5.2	Field Data Collection Plan.....	5-3
5.2.1	Field Data Collection Schedule	5-11
5.2.2	Evaluation Objectives	5-12
5.3	Field Data Analysis Plan	5-28
5.4	Field Data Management Plan	5-29
5.4.1	Field Data Collection, Transfer, and Storage.....	5-29
5.4.2	Field Data Security	5-29
5.4.3	Configuration Control	5-29
5.4.4	Documentation of External Influences.....	5-30
5.4.5	Quality Control and Quality Assurance	5-30
6.0	Test Plan for Focus Groups and Surveys.....	6-1
6.1	Qualitative Research – Focus Groups.....	6-1
6.2	Quantitative Research – Traveler Surveys.....	6-3
7.0	Test Plan for Benefit/Cost Analysis.....	7-1
8.0	Test Plan for Secondary Research.....	8-1
9.0	Schedule, Meetings, and Deliverables	9-1
9.1	Project Schedule.....	9-1
9.2	Meetings.....	9-2
9.3	Reports and Presentations.....	9-3

List of Tables

3.1	Evaluation Goals and Objectives	3-2
4.1	Evaluation Measures	4-2
5.1	Candidate Corridors for Ramp Meter Evaluation	5-4
5.2	Candidate Corridors for Ramp Meter Evaluation Versus Criteria	5-7
5.3	Field Data Collection Schedule	5-11
5.4	Ramps Selected for Manual Field Data Collection.....	5-21
5.5	Summary of Performance Measures and Data Sources	5-28

List of Figures

2.1	Evaluation Team	2-3
5.1	Candidate Corridors for Ramp Meter Evaluation	5-6
5.2	Twin Cities Corridors Selected for Detailed Evaluation	5-10
5.3	I-494 Corridor	5-15
5.4	I-35W Corridor	5-16
5.5	I-94 Corridor	5-18
5.6	I-35E Corridor.....	5-19
9.1	Project Schedule	9-2