

Ramp Management & Control Handbook

Project Fact Sheet

Project Purpose

The primary purpose of this project was to develop a comprehensive handbook that serves as a technical reference to provide guidance and recommended practices on managing and controlling traffic on ramps with freeway facilities. This comprehensive technical reference discusses the impacts that roadway improvement planning, designs, roadway and traffic monitoring, real-time operation, evaluation, and reporting have on the performance and management of traffic at freeway ramps. The use or application of these recommended practices will, in time, serve to enhance the use and effectiveness of various ramp management and control operational strategies and techniques.

Project Significance

The handbook is needed to provide guidance and best practices on subjects that relate to ramp management and control plans. There have been decades of investigation and development of approaches to improve ramp and freeway operations. However, before this handbook was developed no single resource was available that provided a comprehensive presentation of guidance and recommended practice on this subject. This project taps into the small number of transportation professionals who have first-hand knowledge and experience regarding ramp management and control.

Intended Audience

This handbook will benefit individuals that are involved in the planning, design, monitoring, operation, evaluation, and reporting of the performance and influence of managing traffic at freeway ramps. These individuals may be classified as either primary or secondary users.

Primary Users:

- TMC Managers.
- Decision Makers.
- Engineers.
- Planners.
- Operations Staff.
- Designers.

Secondary Users:

- Consultants.
- Contractors.
- Researchers.

“Our region first installed ramp metering in our state's largest urban area in the early 1980s and we have steadily expanded the system since then. Other, smaller cities in our state have seen the benefits and are planning ramp meter systems. Every evaluation of the system has shown reduced accidents, reduced delay and increased volumes when metering was installed. No other traffic management strategy has shown the consistently high level of benefits in such a wide range of deployments from all parts of the country.”

**- Pete Briglia
Puget Sound Regional
Council and Chair of
the TRB Freeway
Operations Committee**





“Ramp Management is one of the most powerful tools for managing freeway operations within an urban area. When asked which ITS element it would choose (if Mn/DOT was allowed only one) an official from Mn/DOT (Glenn Carlson-Twin Cities Metro District) said “ramp metering”, without question. A recent “test” in the Twin Cities, where the ramp meters were turned off and then turned back on (after the public demanded it), seems to confirm that perception.”

- Joel Marcuson
Chair, Freeway
Management and
Operations Committee

Key Topics

- Benefits of Ramp Management.
- Ramp Management Strategies.
- Inter- and Intra-Agency Readiness.
- Implementing Strategies.
- Maintenance and Operations.
- Public Information and Outreach.
- Planning Considerations.
- Design Considerations.
- Case Studies.

Handbook Organization

The Handbook is organized into the following chapters.

- Chapter 1: Introduction.
- Chapter 2: Ramp Management and Control Overview.
- Chapter 3: Ramp Management and the Traffic Operations Program.
- Chapter 4: Preparing for Successful Operations.
- Chapter 5: Ramp Management Strategies.
- Chapter 6: Developing and Selecting Ramp Management Strategies and Plans.
- Chapter 7: Implementing Strategies and Plans.
- Chapter 8: Operation and Maintenance of Ramp Management Strategies.
- Chapter 9: Ramp Performance Monitoring, Evaluation and Reporting.
- Chapter 10: Planning and Design Considerations.
- Chapter 11: Case Studies.

Other Project Deliverables

In addition to this handbook a number of outreach materials have been prepared and made available. These materials include:

- Project Presentation.
- Tri-fold Project Brochure.
- Project Primer.
- List of Frequently Asked Questions and Answers.

Project Contacts

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Project Website

Additional information related to this project or associated project deliverables can be accessed at the FHWA Freeway Management Program website:

<http://ops.fhwa.dot.gov/freewaymgmt/index.htm>