RD&T Technology Facilitation Action Plan

Ramp Metering Software Package (RMS 2000)

PRODUCT

Description of Product : Ramp Metering Software Package that provides for the design, simulation and real-time operation of freeway ramp metering. Includes surveillance data processing techniques. This is a tool that will allow design and off-line benefit testing before deployment as well as operation of the software in a traffic management center (TMC). This tool will address both recurring and non-recurring congestion by having predetermined metering rates that are adjusted as conditions vary too far from the norm as happens with an incident.

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Intended User: Researchers and implementers of freeway traffic surveillance and ramp metering software. State and local traffic management center operators and designers.

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Distribution methods: CD ROM via McTrans

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Alternative Formats: Potential limited design version available through download on the web.

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Delivery Dates: January 31, 2001

PROGRAM/PRODUCT SUPPORT

CBU Contact(s):
Jon Obenberger, Operations CBU, 202/366-2221
Pam Crenshaw, Operations CBU, 202/366-1482
Bob Rupert, Operations CBU, 202/366-2194

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Resource Center Contact(s): John Tolle, Midwest Resource Center

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Division Office Contact(s): Alan Hansen, Arizona Division Office

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Other Contact(s): Pitu Mirchandani, University of Arizona

OUTREACH

Conference Presentations: Investigate possibility of a demo of the software at TRB.

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Publications: Project reports, including: System Functional Specification Algorithm Development, Software Requirements Specification, Program Documentation, Users Manual, Simulation Testing Report, Field Testing Report and a Final Project Report due in increments with the Final report due January 31, 2001.

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Other Outreach Activities:

TRAINING

Materials Needed: Users Manual; additional training material should be developed from the set of publications cited above.

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Instructor Requirements: Understanding of freeway surveillance and control techniques, traffic network modeling, freeway simulation (CORSIM)

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Schedule of Training/Workshop/Briefing: TBD

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Intended Audience: Could be several types: (1) researchers, with emphasis on algorithms, software and simulation; (2) implementers, with emphasis on software and real-time operation; and (3) users (traffic engineers) with emphasis on design and simulation.

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Alternative Formats: (1) For researchers: Classroom presentations of technical principles and algorithms, with demonstrations of simulations. (2) For implementers: classroom presentations of the software architecture and real-time operation techniques, with demonstrations using the real-time emulation capability. (3) For traffic engineers, classroom presentations of design techniques, supplemented with simulations and emulations of real-time performance.

PROGRAM INTEGRATION

CBU Contact:
Jon Obenberger, Operations CBU, 202/366-2221
Pam Crenshaw, Operations CBU, 202/366-1482
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Research Contact: Deborah Curtis, Operations R&D, 202-493-3267

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Follow-up Activities: Integration of the new ramp metering algorithms developed under this project into CORSIM. Integration of the RMS 2000 with the Dynamic Traffic Assignment (DTA) program and the Adaptive Control System (ACS) program.