

RD&T Technology Facilitation Action Plan

Adaptive Control Systems (ACS)

PRODUCT

Description of Product : This project will produce three algorithms for real time, adaptive signal control. Two of the algorithms are designed primarily for arterial networks and one is for closely spaced grid networks such as those found in the CBD of large metropolitan areas.

Intended User: State, metropolitan, and local public agencies that operate and maintain traffic signal systems

Distribution methods: These signal control algorithms will be available for purchase from the developers, the University of Arizona, PB Farradyne, Inc. and the University of Pittsburgh. The evaluation reports will be made available in the electronic documents library.

Alternative Formats:

Delivery Dates: Evaluation reports from the Tucson, AZ and Chicago, IL field tests - December 2000.
Evaluation report from Seattle, WA field test - September 2001

PROGRAM/PRODUCT SUPPORT

CBU Contact(s):

Pam Crenshaw, Operations CBU, 202/366-1482

Jon Obenberger, Operation CBU, 202/366-2221

Bob Rupert, Operations CBU, 202/3662-2194

Resource Center Contact(s):

John Tolle, Midwest Resource Center

Steve Clinger, Eastern Resource Center

Division Office Contact(s):

Alan Hansen, Arizona Division Office

Tom Jennings, Virginia Division Office

Mike Morrow, Utah Division Office

Other Contact(s):

Jaris White, Virginia Department of Transportation

Chris Kreuger, City of Chicago Department of Transportation

Bob Hunt, City of Tucson Department of Transportation

Brian Martin, Washington State Department of Transportation

OUTREACH

Conference Presentations: Numerous presentations of the control strategies and the test results at TRB, ITS America, ITE, INFORMS, ASCE

Publications: ITE Journal, Transporter

Other Outreach Activities: Demos of the laboratory evaluation using CORSIM have been done at the TRB annual meetings, ITS America annual meetings, TRB Signal Systems Mid-Year Committee meeting, and ITE Annual meeting

TRAINING

Materials Needed: TBD

Instructor Requirements: A traffic engineer with experience in traffic signal systems and advanced controller technology. The instructor should be able to quantify the needs of the participants in terms of congestion, spill-back, over saturation, etc. He/she should also be able to understand the benefits and limitation of the ACS strategies. Knowledge and a clear understanding of the technical details and hardware and software requirements of the 2070 controller is also required.

Schedule of Training/Workshop/Briefing: TBD

Intended Audience: State, metropolitan, and local traffic engineers and planners that need information to make an informed decision as to whether or not the ACS control strategies are the right choice for their areas of jurisdiction.

Alternative Formats: Computer-based assessment of needs and requirements and decision making tool

PROGRAM INTEGRATION

CBU Contact:

Jon Obenberger, Operations CBU, 202/366-2221

Pam Crenshaw, Operations CBU, 202/366-1482

Bob Rupert, Operations CBU, 202/366-2194

Research Contact: Deborah Curtis, Operations R&D, 202/493-3267

Raj Ghaman, Operations R&D, 202/493-3270

Follow-up Activities: Integration of the new signal control algorithms developed under this project into CORSIM. Integration of the ACS with the Traffic Estimation and Prediction (TrEPS) program and the Ramp Metering System (RMS) 2000 program.

