International Collaborative Research in ITS Field

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(key word) probe data, evaluation tools and methods, international standard

1. Introduction

Intelligent Transport Systems Division is conducting the collaborative research with US and EU in ITS (Intelligent Transport Systems) field. Between Japan and US, we have had the workshop with Department of Transportation every year since 1993 and Japan-US task force meeting comprised of practitioners was set up in 2009 and is held several times a year. Between Japan and EU, we have had the workshop with Communications Networks, Content and Technology office every year since 1994. At the same time we exchange our opinions for making the collaborative research plan through teleconference. In this paper, we will report the trend and results especially about three fields of "probe data", "evaluation tools and methods" and "international standard", which are agreed to be examined before anything in the collaborative research between Japan and US.

2. Trend and result of research

"Probe data"：through Japan-US task force meeting, we discussed the comparison of probe systems and probe data items between Japan and US and the application candidates enabled by probe data, and put the mid-term report of collaborative research in October, 2012. The summary of the mid-term report was presented and the fact sheets were distributed at ITS World Congress Vienna 2012. Hereafter, we will rank the application candidates, define the services of selected applications and arrange the issues in realizing the system. Then we plan to pull the final report together by ITS World Congress Tokyo 2013.

"Evaluation tools and methods"：in October, 2012, we agreed to the collaborative research plan where we conduct the comparison and analysis of evaluation indicators and measurement methods in experiments or simulation cases on cooperative systems of both sides (Japan and US), the preparation of the definitions of terms, the classification and systematization of evaluation indicators and measurement methods, and the arrangement of issues and lessons learned from the

List The Application Candidates Enabled by Probe Data

	Application
1	Estimate traffic managemanet measures (e.g., travel time, speed, delay)
2	Identify bottlenack locations
3	Identify accident-prone locations
4	Identify road closures
5	Detect stopped vehicles or obstacles on the roads
6	Identify duration of congestion
7	Determine pavement traction conditions
8	Identify HazMat vehicles
9	Incident management/Emergency response
10	Route guidance
11	Traveler information
12	Intelligent signal systems
13	Freight operations
14	Transit operations
15	Intelligent network (freeway/arterial) flow optimization
16	Eco-Signal Operations
17	Eco-Lanes
18	Dynamic Low Emissions Zone
19	Road and infrastructure deterioration diagnosis

measurement of evaluation indicators, etc. We plan to put the mid-term report of this collaborative research by ITS World Congress Tokyo 2013.

"International Standard"：as an observer, we keep on attending "standardization working group" of "technical task force" on standardization of cooperative ITS, one of the cooperation fields between EU and US governments. Thus we collect information and offer our knowledge about "security management" and "communications protocol."

3. Development hereafter

Based on the result of the research so far, we will conduct the collaborative research by trilateral cooperation of Japan, US and EU hereafter.

(reference)
1) factsheets of the mid-term report on prove data
http://www.its.dot.gov/factsheets/us_japan_pro bedata.htm