Automated Data Collection Approach

Preliminary IIIB Deliverable

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AUTOMATIC DATA COLLECTION METHOD

FAST-TRAC Phase IIA Non-Contractual Deliverable

The overall approach for collecting data, both automatic and manual, for the Technical Performance Evaluation is shown in the attached chart, called "Data Collection Methods." All items marked "IVS -- In Vehicle Storage" constitute the automatic data collection.

The automatic data collection will occur in three sets of vehicles:

(1) the UM van, for systematic testing of the state of the system.

(2) the yoked vehicle that has an Ah-Scout unit aboard, where it will be teamed with position location (and speed) information gathered from separate equipment.

(3) 10 Natural Use vehicles, where each driver will have the equipment for one month prior to installation of Ah-Scout and one month of Ah-Scout use.

The UM van is already equipped, and has been used for all testing, but requires that an operator be present.
The yoked vehicle will be equipped and tested in summer, 1995.
The 10 Natural Use vehicles will be delayed until late 1995 or 1996.

The data will be collected using special "VUC"* software originated by Siemens, and running on IBM 486-level computer (or equivalent). We have tested this software under varying temperature conditions and found satisfactory operation. Whereas the software presently requires manual startup and exiting keyboard operations, we have designed and built a circuit which implements unattended operation, thus making it suitable for use in Natural Use vehicles.

* German Acronym for software specially written in Germany by Siemens for Ali-Scout systematic diagnostic purposes.

TECHNICAL PERFORMANCE EVALUATION

Data Collection Methods

System Performance During Field Tests:	1-Van	2-YK	10-UM	60-NU	800-NU
System Breakdowns:					
IVU		VR	VR	VR	VR
Beacon/Controller	DB	ML	ML	ML	ML
Communication Lines	DB	ML	ML	ML	ML
TOC/Computational		SR	SR	SR	SR
VRC Experienced:					
Download Success Rate	IVS	IVS			10 IVS
Upload Success Rate	IVS	IVS			10 IVS
Mode of Operation (btw. 1st & last beacons)	IVS	IVS			10 IVS
Critical System Conditions:					
Message Cycle Delay		SR	SR	SR	SR
No. of vehicle Probes Active		SR	SR	SR	SR
No. of Incidents via Manual		SR	SR	SR	SR
Trip Performance During Field Tests:					
Travel Times	IVS				10 IVS
Speed Profile	IVS				10 IVS
Off-Line Performance Data:					
IVU	**VR,TS**	**VR,TS**	**VR,TS**	**VR,TS**	**VR,TS**
Beacon/Controller & IR	**DB**				
TOC				**SR,TS**	**SR,TS**

(UM) DB:Drive-By Sampling, IVS:In-Vehicle Storage, TS:Test Sampling, VR:Subject Verbal Reports; (Siemens) ML:Maintenance Logs, SR: System Records