

Outline of the Design for the Enhanced Highway Congestion Monitoring Program

Findings

The Pilot Program was completed with a total of eleven (11) volunteers participating and seven (7) volunteers collecting one week or more of data each using the GPS system.

The hardware and the software used for the pilot are working as anticipated.

Volunteers from state and local government

- Announcing the need for volunteers at Travel Forecasting Subcommittee, Commuter Connections Subcommittee and TPB Technical Committee, led to two volunteers from state and local government and one consultant from TFS.

Volunteers from the Commuter Connections Rideshare Database

- With minimal outreach (59 letters sent to the Commuter Connections Rideshare database during August), we received positive response from 3 members and one signed the liability waiver and collected data.

Volunteers from the COG staff also participated

Since the enhanced program will be collecting data from hundreds of volunteers over time, the storage, retrieval and analysis needs of the GPS collected travel time data needs a robust and well designed database.

- Staff successfully utilized the GPS data collected in the pilot program, but the goal of 80 volunteers throughout the year, collecting one week of data at two seconds interval for a minimum of two trips a day, will result in a database of enormous size.
- The creation of a travel time database and linkages to our GIS and network databases is still under development.

Additional Work

- Analysis of additional GPS data from the "Household Travel Survey" in Maryland.

Proposed Program

The program will remain a route based program, but will embellish the current "tour based approach" with entire origin-destination data collected over a week by volunteers.

- "Hybrid" data collection program (using paid drivers collecting data for one day on each route and supplemented by volunteers collecting am peak, pm peak for 5 working days)

- This approach will provide a more comprehensive picture than the traditional methods.
- While this approach involves “predefining” areas of congestion rather than starting from scratch, it will provide an illustration of trends through time for this sample of the region

New route system to be built upon the existing system (drop routes and add routes as needed)

- The roads that are currently in the monitoring program will be examined for inclusion in the new route system. Traffic counts, model data (such as v/c ratio) and state/local input will be used to determine new roads to be dropped/added to the program.

Multiple years to cover all the routes, as is done now

- Currently, the program has a three year cycle. Depending on the number of new miles included in the program, this could change.

Design and publication of a website to recruit volunteers (government agencies and possibly from the Commuter Connections database)

- This will be the primary site for the program following letter/email outreach, and will include details of the congestion monitoring program, the routes to be studied, past reports and findings, data collection instruction, liability waiver, and other administrative documents.
- Volunteer sign up; selection of participants will be based on review of the origin-destination of volunteers and matching with the routes to be studied.
- A 3 week cycle is envisioned for data collection and turnaround for the GPS units, leading to approximately 80 data collection events throughout the year.

Discussion on the presentation of data in the report

- The findings will be presented in an annual report
- The report format will be similar to previous reports, showing aggregate LOS for tours/facilities, as well as detailed segment information.

Attachments

- 1) Table showing routes studied under the current program
- 2) Map of the routes

Routes in The Current Arterial Highway Congestion Monitoring Program

9/21/07 item # 4

Jurisdiction	FY 2000 (PM) FY 2003 (PM)	Mileage	FY 2004 (PM) FY 2004 (PM)	Mileage	FY 2002 (PM)	Mileage	Total
	Routes		Routes		Routes		
District of Columbia	Wisconsin Ave.	4.1	Canal Rd/M St.	3.7	Connecticut Ave.	4.0	
	Pennsylvania Ave.	1.1	7th St./Georgia Ave	3.4	16th St.	6.1	
	17th Street	0.7	Georgia Ave.	3.3	K St./New York Ave.	4.2	
	Independence Ave.	1.9	Constitution Ave./Louisiana Ave. ²	2.4	Nebraska Ave./	2.2	
	I St.	0.8	Penn Ave./Branch Ave.	3.7	Military Road		
H St.	0.6			L St.	1.2		
15th St.	0.7			Penn Ave./Const-15ht)	0.9		
				14th St.	1.0		
	Total	9.9		16.5		19.6	46.0
Maryland	MD 355	15.3	MD 4	11.5	Georgia Ave -1	9.5	
	MD 198	5.0	MD 586	5.4	MD 28	6.5	
	MD 117	6.8	MD 450	12.8	MD 5	11.9	
	MD 197	14.7	MD 144	4.1	MD 193	4.2	
	Total	41.8		33.8		41.2	116.8
Virginia	US 50	23.0	VA 234	22.4	VA 7100	19.7	
	VA 123	27.7	VA 28 ¹	17.1	US 29	21.9	
	US 15	12.5	VA 120	8.1	US 1	18.8	
		Total	63.2	76.8		60.4	200.4
TOTAL		114.9		127.1		121.2	363.2

Routes in the Current Arterial Highway Congestion Monitoring Program

