

support different teams working in parallel to sketch out IVHS architecture. The number of teams would be narrowed the second year to focus on designing those system that appear most feasible and to identify the benefits and costs of these. At the same time, the committee recommended a consensus building process that would involve all the major stakeholders. This consensus building process would reach out to all groups and organizations to ensure that they understand the issues, process, and have an opportunity to participate in the development of the system architecture.

### **INFORM System Hardware and Software**

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Mr. Baxter presented an overview of the INFORM system architecture. He covered the operational objectives of the system, the development of the system architecture, and the process for adoption. Major points covered included:

- The first step to understanding the complex system architecture needed in any ITMS project is to understand what the system is trying to accomplish. Once the objectives, which are often relatively simple, are outlined, the system can be designed and developed to meet these.
- The INFORM system was built around the integrated motorist information system (IMIS). The system has built on this with functions and enhancements added over time. The operational goal of IMIS, which was more a control and information system, was to marry a freeway traffic management system with an arterial street traffic management system.
- The INFORM corridor includes more than one longitudinal freeway, which made it an ideal setting for the demonstration. Initially, the project focused on balancing the utiliza-

tion of capacity between those freeways and the major arterials in the corridor.

- The selected architecture for the system was to implement the freeway controls for all the facilities using one rule-based system architecture. A rule-based architecture basically means that a set of rules is developed and adopted that apply to each of the freeway management segments. The simplest rules, which might address failed equipment, will apply to a large number of problems that the system has to process. Other sets of rules are then developed for other issues. A table or matrix format is used to illustrate these, so that each type of problem or occurrence has a rule to cover the appropriate response.
- The integration of the freeway traffic management system and the urban traffic control system was accomplished through the use of shared memory. This approach was a relatively simple process, but at the time it represented a new technique. It allowed for the coordination of strategies for freeway-to-freeway diversions, freeway-to-arterial coordination, and the interface of ramp metering and freeway and arterial operations.
- Other elements, such as the master controller for the 75 variable message signs, were added to the system. Automated message generation, capacity balancing through traffic diversion, and surface-street sensitive ramp metering are three areas the INFORM system focused on.
- Although the hardware is now outdated, the basic approach and concepts utilized in the development of the INFORM system do provide a good model for other areas.