

INDOT's ATIS Program

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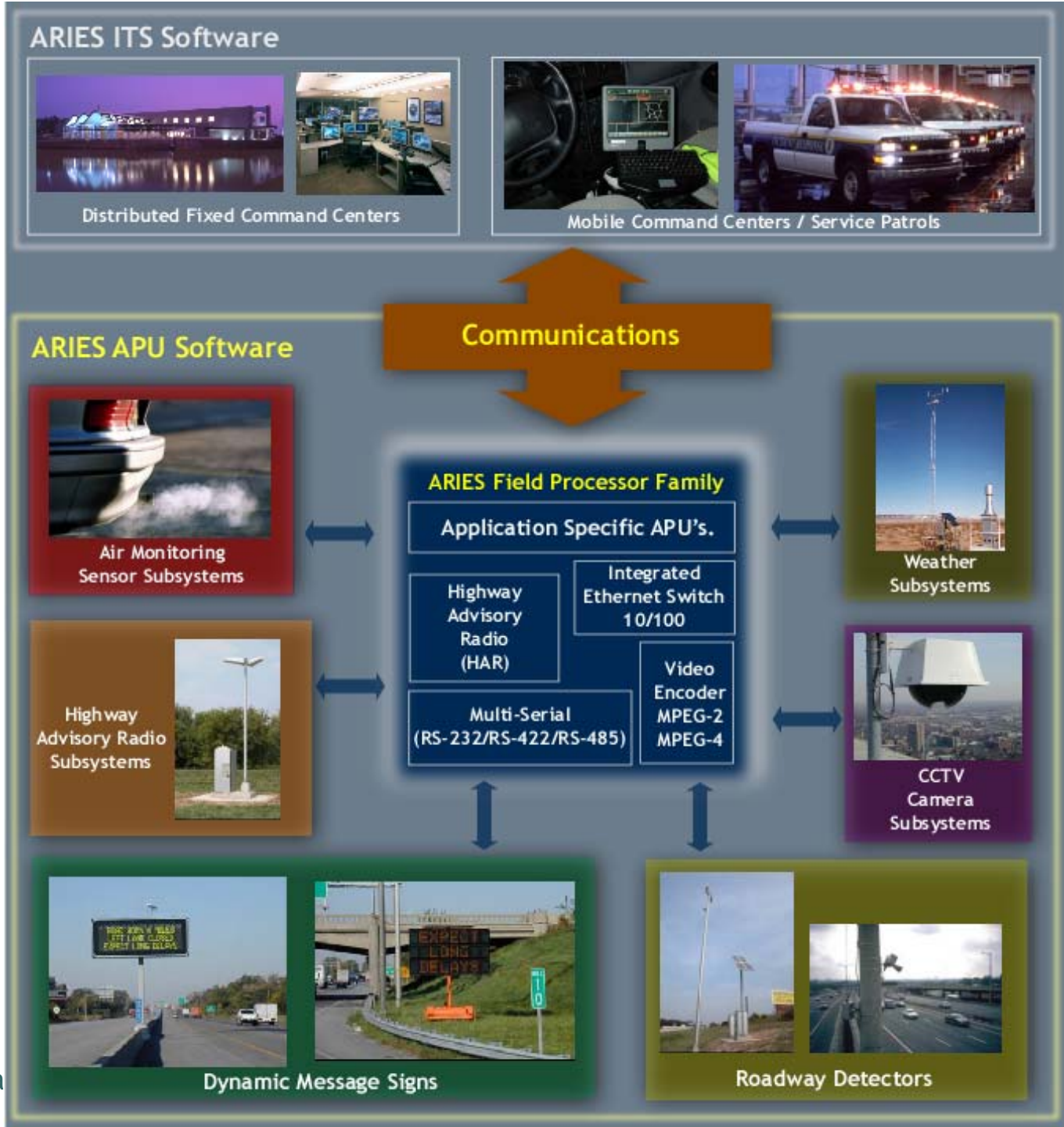
Automated Traveler Information System

- INDOT's Automated Traveler Information System (ATIS) is an rules based expert system that was developed for the Borman Expressway Advanced Traffic Management System.
- Having expanded to statewide utilization INDOT uses it to control over 200 traveler information devices including: HAR, DMS, pagers and email address groups.





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Motivation & Requirements (1996)

- Needed an easy to use non-technical interface for updating traveler information devices from incident response vehicles using low speed communication devices.
- Considerations:
 - Variety of device types and vendors
 - Pre-NTCIP
 - Starting Freeway Service Patrol during time of significant government downsizing.





● **ATIS Message Types**

- Automated Incident Messages
 - Majority of system interactions are of this type (> 95%). Messages are created automatically based on simple user input.
- Custom Messages
 - Cover special situations that do not involve lane restrictions or supplement automated messages with specific information or directions.





● Custom ATIS Messages

- Custom ATIS messages allow for any text to be assembled into the library for scheduling by privileged user. Include:
 - Amber Alerts
 - Air Quality Action Days (CMAQ \$)
 - Special Event Trailblazing (Indy 500, etc)
 - Detailed incident info or instructions
 - Detour Routes
 - Complex Geometrics



● Automated Messages

- Based on a relational database of devices, roadways, incident descriptors and users with privilege levels.
- Pre-defined message templates are populated and scheduled based on simple user input about the incident.
 - Roadway, direction, mile marker, lanes affected, estimated duration, cause, consequence, etc...
 - Input does not require knowledge of traveler information infrastructure.



● System Benefits

- Fast.
- Works well in distributed environments.
- Consistent message structure.
- Avoids misspelling and scheduling errors.
- Extends production of human resources through multi-tasking.
- Improves accuracy of information data as entry point can be co-located with the restriction.
- Allows for rapid training of new employees.



● System Limitations

- One size doesn't always fit all situations.
- Prioritization challenges exist in cases where multiple incidents exist downstream from a DMS device.
 - Example: Some lanes closed 2 miles ahead versus all lanes closed 10 miles ahead.



● | **Future Enhancements**

- Dual Linear Referencing
 - Mile Marker
 - Nearest Interchange Cross Street
- Use of traffic flow data in triggering automated messages and/or aiding in the prioritization of message presentation.



● For more information...

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