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# ***Evaluation Strategy Briefing:***

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## ***ADMS Virginia***

***presented by***

***Science Applications International Corporation***

***Cambridge Systematics, Inc.***

***University of Washington***

***May 8, 2003***

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# ***ADMS Virginia Evaluation Strategy Briefing - Agenda***

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- ***Presentation Overview – David Register, SAIC***
  - ***Opening Comments/Introductions – James Pol, FHWA***
  - ***Evaluation Goals, Schedule, and Initial Resource Allocation – Rich Margiotta, CSI***
  - ***Management Plan and Staffing – David Register***
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# ***Overall Goals of the Evaluation***

- **How does use of an ADMS improve both Operations and non-Operations applications?**
  - **Can the procedures and the software be expanded statewide AND effectively transferred to other areas of the country?**
  - **What kind of effort is involved in designing, developing, maintaining, and improving an ADMS?**
  - **Subgoal: Highlight ADMS as an Operations project**
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# ***Evaluation Principles***

- **Focus on items of greatest interest to the ADUS community**
  - **Evaluate items for each Build**
    - **Provides information to the community on a regular basis**
    - **Have identified 12 components to evaluate**
  - **Leverage data collection done by FOT personnel**
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# ***What Aspects of the FOT Should We Evaluate? Build 1: “Data Quality”***

- 1. What is the accuracy of the field equipment for collecting traffic data?**
    - Need to control for installation and maintenance, if possible
    - Need independent estimates of volumes and speeds (e.g., spot checks with radar or other calibrated device)
    - Relationship between spot speeds and travel times (floating car runs)
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# ***What Aspects of the FOT Should We Evaluate? Build 1: “Data Mechanics”***

## **2. How effective are the automated procedures at catching data errors?**

- Based on independent estimates of volumes and speeds
- Identify patterns and conditions where procedures succeed and fail

## **3. How accurate are the imputation procedures?**

- Use “jackknife” tests to compare imputed data to actual data
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# ***What Aspects Should We Evaluate?***

## ***Build 2: “User Access and Performance”***

### **4. How effective is the user interface?**

- Perception and experience of different users (e.g., data formats and reporting functions)
  - What are the transaction times for users? How often is it used and by whom? How much data is transferred?
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# ***What Aspects Should We Evaluate?***

## ***Build 2: “User Access and Performance”***

### **5. How is the ADMS functioning?**

- Are metadata adequate (i.e., useful to stakeholders) and in conformance with standard practice? Is the data structure expandable and transferable?
  - What is the time lag between data “occurrence” and database update? Have multiple data types been successfully fused? Did the addition of new types require extensive changes? How effectively have location referencing issues been addressed?
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# ***What Aspects Should We Evaluate?***

## ***Build 3: “User Applications”***

- 6. Use of performance measures and “Traffic Fundamentals” by Operations and Planning personnel**
  - Especially trends reporting vs. investment decisions
- 7. Evacuation planning support**
- 8. Incident management support**
- 9. Travel demand forecasting and air quality modeling**

***\*\*\* May have to eliminate 1-2 of these \*\*\****

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# ***What Aspects Should We Evaluate?***

## ***Build 3: “User Applications” (cont.)***

### **■ Interviews with Project Personnel**

- Accessibility/usability concerns (extended from Build 1, especially fusion issues)**
  - Has use of the data improved your current applications or allowed you to extend them?**
  - Are the data of higher quality than what you used before? Have they provided broader coverage?**
  - Have “usual” data collection costs decreased because of data from the ADMS?**
  - What role does Operations play in the operation use of the ADMS**
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## ***What Aspects Should We Evaluate? All Builds: “Cost, Effort, and National Relevance”***

**10. Costs and/or levels of effort for each Build and individual component**

**11. Training/awareness required for users**

**12. Is the hardware/software configuration adequate and expandable**

- Performance statistics
  - Data structures
  - Projected growth in data processing load
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# ***What Is Left Out of the Evaluation?***

- **Discussion: Degree to which system performance changes are documented**
  - **Leaving out for now, given focus of the ADMS**
  - **“Few Good Measures”**
    - **Travel Time**
    - **Safety**
    - **Fuel/Emissions**
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# ***Required Support from FOT Team***

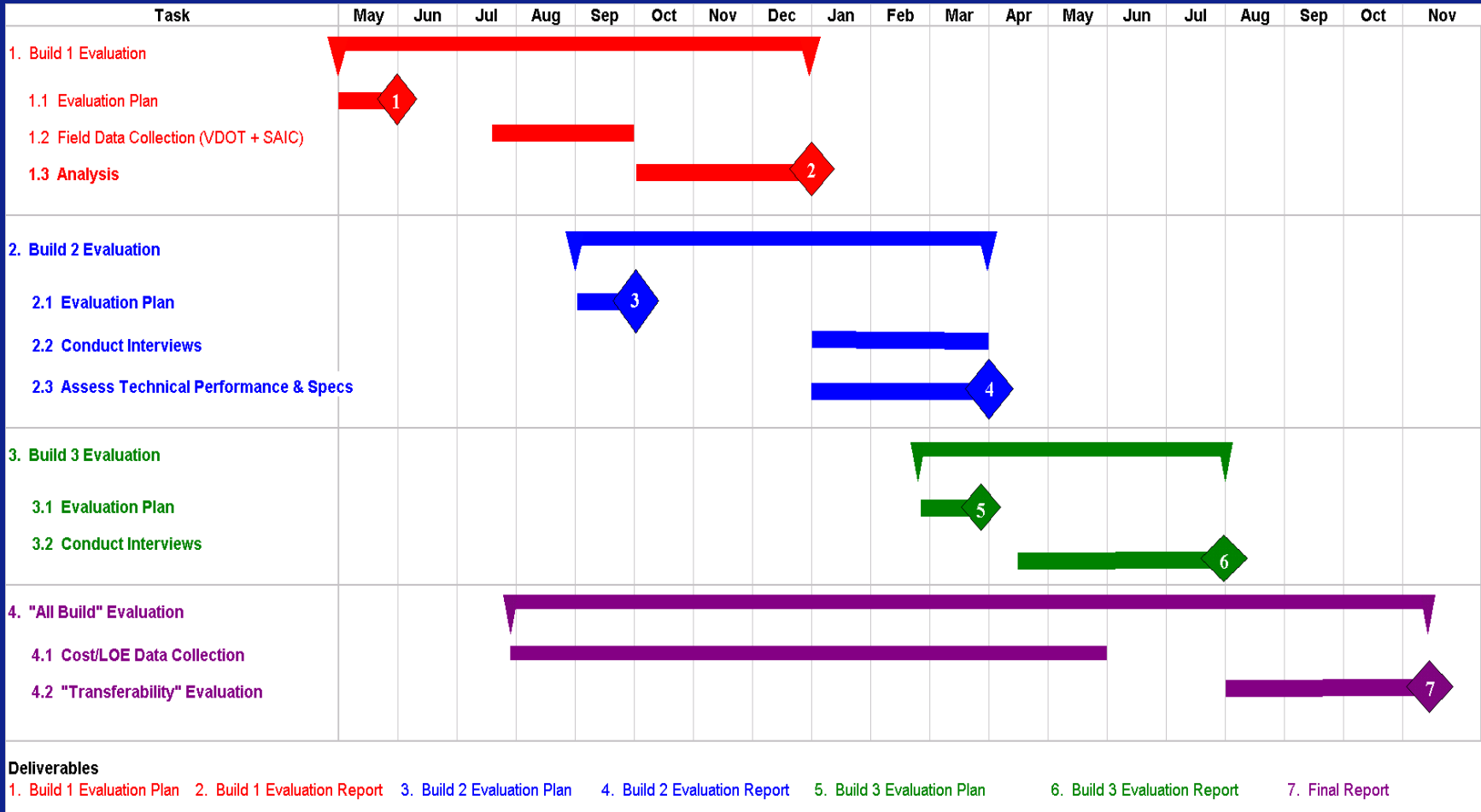
- **Field data collection to support data accuracy tests**
  - **Documentation of software, especially algorithms**
  - **As-needed runs of QC software**
  - **Provision of data at various points in the processing “stream”**
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# ***Required Support from FOT Team***

- **ADMS Functions**
    - **Timestamping of processing steps**
    - **User statistics**
      - Usage by type of application by stakeholder group (number of accesses, amount of data transferred)
  - **Access to personnel for interviews**
  - **Detailed logs of hours spent by labor category and for each major component of the ADMS**
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# Evaluation Schedule



# ***Project Team Allocation of Resources***

<b>Task</b>	<b>Hours</b>
<b>0. Kickoff Meeting and Evaluation Briefing</b>	<b>56</b>
<b>1. Build 1 Evaluation</b>	<b>29%</b>
1.1 Evaluation Plan	54
1.2 Field Data Collection (VDOT + SAIC)	150
1.3 Analysis	274
<b>2. Build 2 Evaluation</b>	<b>29%</b>
2.1 Evaluation Plan	37
2.2 Conduct Interviews	280
2.3 Assess Technical Performance & Specs	156
<b>3. Build 3 Evaluation</b>	<b>18%</b>
3.1 Evaluation Plan	37
3.2 Conduct Interviews	260
<b>4. "All Build" Evaluation</b>	<b>15%</b>
4.1 Cost/LOE Data Collection	143
4.2 "Transferability" Evaluation	106
<b>Total</b>	<b>1653</b>

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# ***Management Plan***

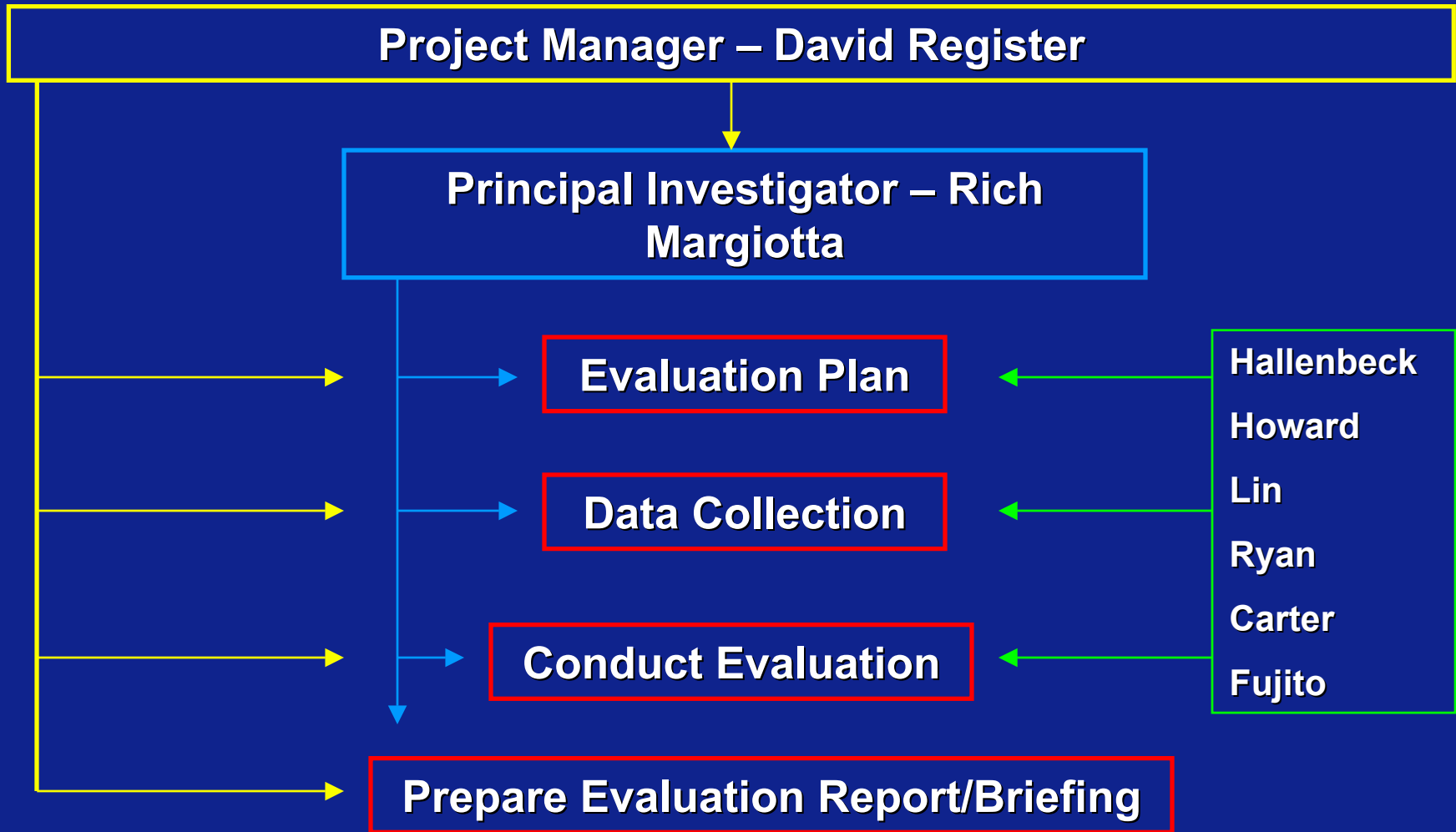
- **Project Team Structured to Ensure Focused Management**
  - **Close Coordination with COTR and Substantial Progress Reporting**
  - **Proven Review and Quality Assurance Process**
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# ***Project Team Structured to Ensure Focused Management***

- **SAIC Team Consists of Overall Project Manager and Principal Investigator**
  - **Project Manager Focuses on Overall Effort**
    - **Involvement in each task assures understanding of project issues**
  - **Principal Investigator Responsible for Individual Tasks**
    - **Can focus on successful completion of task work**
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# Project Team Staffing



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# ***Close Coordination with COTR and substantial Progress Reporting***

- **Propose Bi-Weekly Conference Calls with COTR**
  - **Telecon with Project Team Following Receipt of Project Team Deliverables (prior to submittal of evaluation team comments to FHWA)**
  - **Quarterly Telecon with Project Team**
  - **Weekly Progress Reports to FHWA**
  - **Monthly Progress Reports**
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# ***Proven Review and Quality Assurance Program***

- **Work Structure Includes Three Level Review Prior to Submission of Deliverables to FHWA**
  - **IPASII Management Structure Includes Oversight of Evaluation Team Project Manager**
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