December 31, 1993 (report date)

A COMPARISON OF IVHS PROGRESS
IN THE UNITED STATES, EUROPE, AND JAPAN

by

Robert L. French, R. L. French & Associates (USA)
E. Ryerson Case, E. R. Case & Associates (Canada)
Yoshikazu Noguchi, IVHS AMERICA Distinguished International
Fellow assigned from JSK (Japan)
Christopher Queree, MVA Systematica (UK) Kentaro
Sakamoto, IVHS AMERICA Distinguished International Fellow
assigned from Sumitomo Electric (Japan)
Ove Sviden, ARISEeeig (Sweden/Belgium)

Prepared by

R. L. French & Associates 3815 Lisbon St., Suite 210 Fort Worth, TX 76107

for

IVHS AMERICA
400 Virginia Ave., SW, Suite 800
Washington, DC 20024-2730
James Costantino, Project Monitor

Approval Draft Issued February 18, 1994





TABLE OF CONTENTS

FOREWORD

PR	Ċ,	マス	~5
PK	Ŀ	r	LÆ

EXEC	UTIVE SUMMARY	ES-1
1.0	INTRODUCTION	1-1
	1.1 Background	1-1
	1.2 Approach	1-2
	1.3 Scope	1-4
	1.4 Nomenclature	1-5
	1.5 Report Organization	1-8
2.0	COMPETITIVE CONCERNS	2-1
	2.1 Mobility 2000	2-1
	2.2 U.S. Office of Technology Assessment	2-1
	2.3 U.S. Department of Transportation	2-2
	2.4 U.S. General Accounting Office	2-2
	2.5 Transportation Research Board	2-2
	2.6 U.S. Congress	2-3
	2.7 Library of Congress	2-3
3.0	PREVIOUS ASSESSMENTS	3-1
	3.1 JSK Association	3-1
	3.2 DRIVE SECFO	3-2
	3.3 Technology Transfer Institute	3-5
	3.4 Institute of Transportation Engineers	3-5
	3.5 IVHS AMERICA	3-6
	3.6 UK Transport and Road Research Laboratory	3-7
	3.7 England Department of Transport	3-8



4.0	EARLY INITIATIVES: 1960-1985	4-1
	4.1 United States	4-1
	4.2 Europe	4-6
	4.3 Japan	4-7
5.0	CONTEMPORARY DEVELOPMENTS: 1985-1993	5-1
	5.1 New Foundations: 1985-1987	5-1
	5.1.1 Europe	5-1
	5.1.2 Japan	5-4
	5.1.3 United States	5-6
	5.2 Passages: 1988-1990	5-7
	5.2.1 Europe	5-7
	5.2.2 Japan	5-9
	5.2.3 United States	5-10
	5.3 Current Directions: 1991-1993	5-11
	5.3.1 Europe	5-13
	5.3.2 Japan	5-14
	5.3.3 United States	5-15
6.0	INDIVIDUAL MEASURES	6-1
	6.1 Funding	6-1
	6.1.1 United States	6-1
	6.1.2 Europe	6-3
	6.1.3 Japan	6-5
	6.2 Organization	6-6
	6.2.1 United States	6-6
	6.2.2 Europe	6-9
	6.2.3 Japan	6-12



6.3 Research and Testing	6-14
6.3.1 United States	6-15
6.3.2 Europe	6-15
6.3.3 Japan	6-18
6.4 System Architecture and Standards	6-19
6.4.1 United States	6-20
6.4.2 Europe	6-22
6.4.3 Japan	6-23
6.5 Marketing and Deployment	6-24
6.5.1 United States	6-24
6.5.2 Europe	6-26
6.5.3 Japan	6-27
6.6 Institutional and Legal Issues	6-29
6.6.1 United States	6-31
6.6.2 Europe	6-32
6.6.3 Japan	6-33
6.7 Planning	6-34
6.7.1 United States	6-34
6.7.2 Europe	6-36
6.7.3 Japan	6-37
7.0 FINDINGS AND CONCLUSIONS	7-1
7.1 Major Factors Affecting IVHS Support	7-1
7.1.1 Policy Support	7-2
7.1.2 Organizational Arrangements	7-3
7.2 Other Findings	7-4
7.3 Conclusions	7-5
7.4 Recommendations	7-6



ACKNOWLEDGMENTS

REFERENCES

GLOSSARY

APPENDICES

- A. IVHS AMERICA
- B. Congressman Frank R. Wolf's Questions
- C. IVHS Categories
- D. Ove Sviden, "ARISE: Automobile Road Information System Evolution," Swedish National Road Association (1986).
- E. Lyle Saxton, "Mobility 2000 and the Roots of IVHS," IVHS Review, pp. 11-26 (Spring 1993).
- F. Hans-Peter Glathe, "PROMETHEUS Common European Demonstration: A Tool to Prove Feasibility," Proceedings of the IVHS AMERICA 1993 Annual Meeting, pp. 174-179.
- G. Peter O'Neill, "The DRIVE Programme of the European Community," Automotive Design Engineering, pp. 298-307 (1993).
- H. Federico Filippi, "ERTICO's Present Strategy on Advanced Transport Telematics," Proceedings, PTRC Summer Annual Meeting, Volume P367, Developments in European Land Use and Transport, pp. 115-123 (1993).
- I. Hironao Kawashima, Haruki Fujii, and Kozo Kito, "Some Structural Aspects on the Info-mobility Related Projects in Japan," SAE Technical Paper Series, No. 911676 (1991).
- J. Sadao Takaba, "Current Status of the IVHS/RTI Programs in Japan," Proceedings of the IVHS AMERICA 1993 Annual Meeting, pp. 280-285.
- K. Edward J. Krakiwsky, "Comparison of IVHS Navigation Systems in North America, Europe, and Japan" (1993).
- L. Robert L. French, "The Evolution of Automobile Navigation Systems in Japan,' Proceedings, Institute of Navigation 49th Annual Meeting, pp. 69-74 (1993).



DOCKET

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

