Proceedings of the
76th Annual Road School

Held at
Purdue University, March 6-8, 1990

ROAD SCHOOL CO-CHAIRMEN
C. F. Scholer, Professor
School of Civil Engineering
Director, Highway Extension and
Research Project for Indiana
Counties and Cities

and

K. C. Sinha, Professor
School of Civil Engineering
Research Engineer, Joint Highway
Research Project

Edited by

William B. McDermott, Editor/Resource Specialist
Highway Extension and
Research Project for Indiana
Counties and Cities

Purdue University
West Lafayette, Indiana
Contents

PREFACE ................................................................. 1

TUESDAY MORNING GENERAL SESSION
POLICY AND MANAGEMENT

INDIANA'S GOALS ON COST-EFFECTIVE DELIVERY OF
TRANSPORTATION SERVICES
Christine Letts
Commissioner, Indiana Department of Transportation
Indianapolis, Indiana .................................................. 6

NATIONAL TRANSPORTATION PRIORITIES AND THE 1991 FEDERAL
HIGHWAY PROGRAM PROPOSALS
Eugene McCormick
Deputy Administrator, Federal Highway Administration
Washington, D.C. .................................................... 14

IF YOU'RE NOT MANAGING YOUR DEPARTMENT, THEN WHO IS?
Kent O. Lande
Director of Public Works
McPherson County, Kansas ........................................ 19

WEDNESDAY MORNING GENERAL SESSION
NEW TECHNOLOGY AND RESEARCH

APPLICATIONS OF ADVANCED TECHNOLOGIES IN HIGHWAY
TRANSPORTATION
Dennis Judycki
Associate Administrator, Safety and Operations
Federal Highway Administration
Washington, D.C. .................................................. 28

HELP AND OREGON'S DEMONSTRATION PROJECT: STATUS REPORT
Loyd Henion
Oregon State Highway Division, Planning Section
Salem, Oregon ......................................................... 32

GEOGRAPHIC INFORMATION SYSTEMS: THE MARRIAGE OF MAPPING
AND COMPUTER GRAPHICS
Randal J. Sage
Vice-President, Contract Administration, MSE Corporation
Indianapolis, Indiana ................................................ 38
ROAD SCHOOL LUNCHEON

ISSUES FACING THE HIGHWAY INDUSTRY
Richard Morgan
National Asphalt Pavement Association
Washington, D.C. ......................................................... 44

WEDNESDAY AFTERNOON GENERAL SESSION
FUTURE TRANSPORTATION PRIORITIES

1991 FEDERAL-AID HIGHWAY ACT
Harold L. Michael
Head, School of Civil Engineering, Purdue University
West Lafayette, Indiana .................................................. 50

FUTURE OF RURAL TRANSPORTATION
Thom Rubel
Confidential Assistant to the Administrator
Office of Transportation, U.S. Department of Agriculture
Washington, D.C. ......................................................... 55

HIGHWAY FINANCING ALTERNATIVES
Richard F. Beaubien
President, Institute of Transportation Engineers
Bloomfield Hills, Michigan ............................................ 61

THURSDAY MORNING GENERAL SESSION
LEADERSHIP AND MANAGEMENT EXCELLENCE

RECRUITMENT AND RETENTION OF ENGINEERS AND MANAGERS IN TRANSPORTATION AGENCIES
Donald L. Hiatte
Division Engineer, Missouri Highway and Transportation Department
Jefferson City, Missouri ................................................ 72

QUALITY IMPROVEMENT PROGRAM FOR MONITORING AND EVALUATING YOUR AGENCY’S PERFORMANCE
Karl Harris
Municipal Government Sector Manager, Qual-Tec, Inc.
Palm Beach Gardens, Florida ........................................ 77

POWERING DOWN IN INDOT
George Shoener
Deputy Commissioner of Highway Operations
Indiana Department of Transportation
Indianapolis, Indiana ................................................... 84
TOPICAL SESSION
GIS FOR PLANNING AND MANAGEMENT

IMAGIS — THE INDIANAPOLIS CONSORTIUM: ADDING WORK MANAGEMENT TO AM/FM
Patrick L. Stevens
Director, Indianapolis Department of Public Works
Indianapolis, Indiana ................................................................. 94

STATE AGENCY INVOLVEMENT IN GIS
Kathy McCarter
Systems Consultant, Data Processing Oversight Commission
(Currently with Woolpert Consultants)
Indianapolis, Indiana ................................................................. 101

CITY/COUNTY ACTIVITY IN CREATING A GIS
Kent Ward
Surveyor, Hamilton County
Noblesville, Indiana ................................................................. 108

ROLE OF UNIVERSITIES IN GIS
Richard Hyde
Chairperson, University GIS Alliance
Indiana University/Purdue University at Indianapolis
Indianapolis, Indiana ................................................................. 111

TOPICAL SESSION
GIS FOR ENGINEERING AND SURVEYING

AN ENGINEERING/CADAstral DATABASE FOR PURDUE UNIVERSITY
Dan Pusey
Facilities and Planning Engineer, Purdue University
West Lafayette, Indiana ............................................................... 116

CONTRACTING FOR A COUNTY-WIDE GPS FRAMEWORK
E. R. Gray, III
Surveyor, Bartholomew County
Columbus, Indiana ................................................................. 120

THE TENNESSEE GEODETIC REFERENCE NETWORK (TGRN): AN UPDATE
James H. Zeigler
Tennessee Department of Transportation
Nashville, Tennessee ................................................................. 122