

Series No. 148
Engineering Extension

proceedings of the 63rd annual road school

held at

Purdue University, March 8-10, 1977

edited by

D. G. Shurig, Associate Professor of Highway Engineering

road school cochairmen

W. H. Goetz—Assistant Head, School of Civil Engineering

H. L. Michael—Professor of Highway Engineering

Associate Director, Joint Highway Research Project

purdue university • west lafayette, ind.



CONTENTS

	Page
PREFACE	1
OUR AMERICAN HERITAGE OF CIVIL ENGINEERING STRUCTURES	
Stewart Watson	
Watson, Bowman Associates, Inc.	
Buffalo, New York	13
MEETING TRANSPORTATION SYSTEM MANAGEMENT REQUIREMENTS AT THE LOCAL LEVEL	
John J. Roark, Director of Transportation	
North Central Texas Council of Government.....	40
HOW'S YOUR SAFETY CONSCIOUSNESS?	
James L. Foley, Jr., Director, Office of Highway Safety	
Federal Highway Administration	
Washington, D.C.	49
WHAT'S WRONG WITH ROADSIDE DESIGN?	
Sally Ann Free, Staff Researcher	
Center for Auto Safety	61
ORGANIZING AND MANAGING A STATE DOT	
Edward A. Mueller, Executive Director	
Jacksonville Transit Authority	
Jacksonville, Florida	84
INDIANA HIGHWAY NEEDS 1976-1995	
Fred E. Musleh, Director, Highway Engineering	
Clyde E. Williams and Associates, Inc.	
Indianapolis, Indiana	
Indianapolis, Indiana	90
MORE FUNDING FOR INDIANA HIGHWAYS	
Art Graham, Executive Vice President	
Indiana Highways for Survival	106

	Page
PROGRESS IN 1976 AND PLANS FOR 1977	
James A. Gardner, Chairman Indiana State Highway Commission	113
LIABILITY ON THE ROAD	
Theodore L. Sendak, Attorney General of Indiana	123
PUBLIC LIABILITY FOR INDIANA HIGHWAYS (PART 1)	
Robert Spear, Assistant Attorney General of Indiana	129
PUBLIC LIABILITY FOR INDIANA HIGHWAYS (PART 2)	
Jim Green, Deputy Attorney General of Indiana	130
HISTORY AND REVIEW OF RAILWAY-HIGHWAY CROSSING WARNING SYSTEMS AND THE GENESIS OF STANDARD SPECIFICATION	
Hugh Kendall General Railway Signal Company	133
NATIONAL RAILROAD-HIGHWAY CROSSING INVENTORY	
L. R. Scott, Planning Statistics Engineer Indiana State Highway Commission	139
ARCHAEOLOGICAL CONSIDERATIONS FOR HIGHWAY IMPROVEMENTS	
L. D. Cooper, Chief, Division Roadside Development Indiana State Highway Commission	143
THE ARCHAEOLOGICAL PROGRAM OF THE INDIANA STATE HIGHWAY COMMISSION	
Curtis H. Tomak, Archaeological Consultant	145
VALUE ENGINEERING (PART 1)	
Randy Germann Tri-City Construction Company Kansas City, Missouri	149

	Page
VALUE ENGINEERING (PART 2)	
W. H. Shaw, Division Engineer, Construction Missouri State Highway Commission Jefferson City, Missouri	153
HIGHWAY REHABILITATION PROJECTS	
Virgil Bell, Assistant Engineer of Road Design Indiana State Highway Commission	160
FEDERAL-AID HIGHWAY SYSTEMS	
H. R. Shah, Road and Finance Supervisor Indiana State Highway Commission	164
FUNCTIONAL CLASSIFICATION (PART 1)	
David Deig, Needs Analysis Engineer Indiana State Highway Commission	169
FUNCTIONAL CLASSIFICATION (PART 2)	
David Deig, Needs Analysis Engineer Indiana State Highway Commission	176
STORM WATER INVENTORY SYSTEM	
Ron Hartmann, Sanitary District Engineer Muncie, Indiana	181
INDIANA COMMERCIAL APPLICATOR CERTIFICATION PROGRAM	
L. O. Nelson State Chemist's Office Purdue University	196
RECYCLING FIFTY MILES OF BITUMINOUS PAVEMENT SAVES DOLLARS—EXPANDS ROAD PROGRAM	
H. Jack Sargent, Elkhart County Engineer President, Indiana Chapter APWA Goshen, Indiana	198

	Page
BRIDGE FINANCING THROUGH COUNTY BOND ISSUES	
George Gavit Partner: Ice, Miller, Donadio, and Ryan Municipal Bond Attorneys Indianapolis, Indiana	210
DOCUMENTING THE INSTALLATION OF TRAFFIC CONTROL SIGNS ON COUNTY ROADS	
Robert S. Spear, Assistant Attorney General of Indiana	214
HIGHWAY RESEARCH AT PURDUE 1976-1977	
Harold L. Michael, Associate Director Joint Highway Research Project	217
PUBLIC INFORMATION	
Terri L. Johnson, Public Information Director Indiana State Highway Commission	238