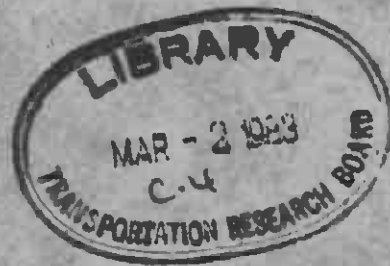




HIGHWAY RESEARCH BOARD
PUBLICATION INDEX
1969-1972



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HIGHWAY RESEARCH BOARD
PUBLICATION INDEX
1969-1972

HIGHWAY RESEARCH BOARD

DIVISION OF ENGINEERING NATIONAL RESEARCH COUNCIL
NATIONAL ACADEMY OF SCIENCES • NATIONAL ACADEMY OF ENGINEERING

Washington, D.C.

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Preface

This index is the seventh in a series which together cover the papers, reports, and other publications of the Highway Research Board from 1921 through 1972. The present volume covers the years 1969, 1970, 1971, and 1972. Many of the papers listed were presented at the 48th, 49th, 50th, and 51st Annual Meetings. The six previous volumes cover the periods: 1921-1949, 1950-1955, 1956-1959, 1960-1962, 1963-1965, and 1966-1968. This volume includes listings from the following Highway Research Board series publications:

Series	Number
Bibliographies	48-54
Highway Research Circulars	91-140
HRIS Abstracts	Vol. 2, No. 1-Vol. 5, No. 4
Highway Research In Progress	2-5
Highway Research News	34-49
Highway Research Records	259-421
National Cooperative Highway Research Program Reports	61-137
National Cooperative Highway Research Program Research Results Digest	2-43
National Cooperative Highway Research Program Synthesis of Highway Practice	1-15
Special Reports	101-132

In addition to the above series, non-serial publications issued during the period are included. Separate indexes of the Highway Research Abstracts are published annually.

This volume was compiled from the magnetic tape records of the Highway Research Information Service (HRIS). References are grouped by subject areas which are listed in the table of contents. Three comprehensive indexes are included:

- (a) An authorized term index containing HRIS thesaurus terms;
- (b) An index identifying papers and reports with appropriate subject areas other than the one in which it is grouped for listing;
- (c) An index of the names of authors and co-authors of papers.

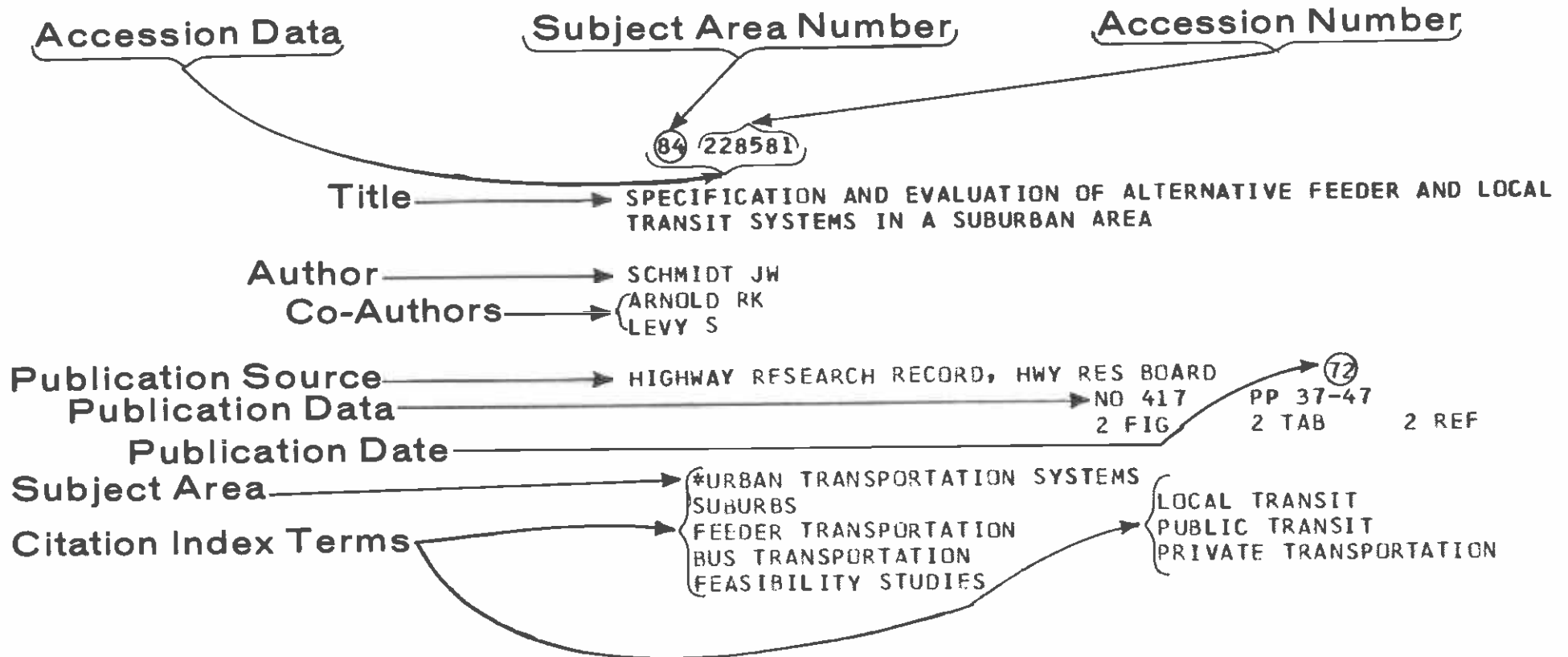
Publications listed in this index are generally available for sale from the Highway Research Board, 2101 Constitution Avenue, Washington, D. C. 20418. Highway Research Board publications may also be consulted in many engineering and general libraries.

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11 205512

INTRODUCTION, STATEWIDE TRANSPORTATION PLANNING

MLADINOV JK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 264, PP 1-2

*TRANSPORTATION ADMINISTRATION
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ENABLING LEGISLATION

11 205513

ORGANIZATION FOR STATEWIDE TRANSPORTATION PLANNING

SHIATTE KW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 264, PP 3-9, 3 FIG

*TRANSPORTATION ADMINISTRATION
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11 205514

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BREUER R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
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*TRANSPORTATION ADMINISTRATION
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11 205515

FIRST YEAR'S WORK IN STATEWIDE TRANSPORTATION PLANNING IN
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HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
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*TRANSPORTATION ADMINISTRATION
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HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
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*TRANSPORTATION ADMINISTRATION	STATE PLANNING
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WENDT PF
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*TRANSPORTATION ADMINISTRATION	TRANSPORTATION MODELS
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HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
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*TRANSPORTATION ADMINISTRATION	INTERSTATE HIGHWAY SYSTEM
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MASON JBHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
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*TRANSPORTATION ADMINISTRATION	TRIP GENERATION
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PALUMBU JL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
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*TRANSPORTATION ADMINISTRATION	REVIEWS
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URBAN TRANSPORTATION PLANNING	
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REGIONAL PLANNING /TRANSPORTATION/	
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HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
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*TRANSPORTATION ADMINISTRATION	WATERFRONTS
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COCK KE

HIGHWAY RESEARCH NEWS, HWY RES BOARD 70
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*TRANSPORTATION ADMINISTRATION	INDUSTRIAL ENGINEERING
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INCENTIVES	OWNERSHIP
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11 212130

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RIEDEL GA
COOK JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 16-25, 9 FIG, 1 REF

*TRANSPORTATION ADMINISTRATION	ALTERNATE SYSTEM
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HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
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*TRANSPORTATION ADMINISTRATION	TRANSPORTATION
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ADMINISTRATION	INFORMATION
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BUDGETING	
DECISION MAKING	

11 215032

PROGRAM BUDGET AND FINANCIAL OPERATING SYSTEMS

STEPHENSON TE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 326, PP 6-26, 19 FIG

*TRANSPORTATION ADMINISTRATION	PROGRAMMING
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ACCOUNTING	FINANCIAL PROGRAMMING
TRANSPORTATION	
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11 215033

SYSTEMATIC APPROACH TO PROJECT DEVELOPMENT AND COMPUTER-AIDED DESIGN

KERTTULA WJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
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*TRANSPORTATION ADMINISTRATION	TRANSPORTATION
PROJECT PLANNING	COMPUTER-AIDED DESIGN
COMPUTER APPLICATIONS	PROJECTS
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11 215034

THE HIGHWAY NETWORK DATA AND INFORMATION SYSTEM

HART TJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
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*TRANSPORTATION ADMINISTRATION	INFORMATION SYSTEMS
DATA SYSTEMS	COMPUTER APPLICATIONS
HIGHWAYS	PLANNING
TRANSPORTATION	SYSTEMS
POLICY	MANAGEMENT
PROGRAMS	
DATA MANAGEMENT	
MANAGEMENT INFORMATION SYSTEMS	
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AREA 11 TRANSPORTATION ADMINISTRATION

11 215035

WISCONSIN'S COMPUTER SYSTEM FOR INTEGRATED OPERATIONS

BACON ML

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
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*TRANSPORTATION ADMINISTRATION	COMPUTER APPLICATIONS
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TRANSPORTATION	
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SYSTEMS	
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11 216144

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IRICK P

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
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*TRANSPORTATION ADMINISTRATION	SYSTEMS ANALYSIS
RESEARCH	PROJECTS
INFORMATION	EXPERIMENTAL DESIGN
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PROJECT PLANNING	

11 216145

DESIGN OF EXPERIMENTS

ANDERSON VL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
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*TRANSPORTATION ADMINISTRATION	EXPERIMENTAL DESIGN
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RANDOMIZATION	

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HUDSON WR

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*TRANSPORTATION ADMINISTRATION	EXPERIMENTAL DESIGN
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*TRANSPORTATION ADMINISTRATION	FIELD TESTS
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FINKNER AL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
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*TRANSPORTATION ADMINISTRATION	
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*TRANSPORTATION ADMINISTRATION	
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*TRANSPORTATION ADMINISTRATION	
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*TRANSPORTATION ADMINISTRATION	
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*TRANSPORTATION ADMINISTRATION	
JOINT DEVELOPMENT	RESEARCH
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CONCRETE PAVEMENTS	

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11 220378

EFFECTS OF CITIZEN PARTICIPATION IN GOVERNMENTAL DECISION-MAKING

FRANCE EA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
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*TRANSPORTATION ADMINISTRATION	
*URBAN COMMUNITY VALUES	DECISION MAKING
GOVERNMENTS	CITIZEN PARTICIPATION
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11 220379

ALTERNATIVE STYLES FOR CITIZEN PARTICIPATION IN TRANSPORT PLANNING

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HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
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*TRANSPORTATION ADMINISTRATION	
*URBAN COMMUNITY VALUES	TRANSPORTATION PLANNING
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SUHRBIER JH
MANHEIM MLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
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*TRANSPORTATION ADMINISTRATION	
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MANAGEMENT	

11 220381

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WATSON LE
SAROFF JRHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
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*TRANSPORTATION ADMINISTRATION	
*URBAN COMMUNITY VALUES	HIGHWAY LOCATION
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HEARINGS	CITIZEN PARTICIPATION
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AREA 11 TRANSPORTATION ADMINISTRATION

11 220382

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CCLCGRD FC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
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*TRANSPORTATION ADMINISTRATION	
*URBAN COMMUNITY VALUES	TRANSPORTATION POLICY
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BELLOMO SJ
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HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
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*TRANSPORTATION ADMINISTRATION	
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11 220395

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HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
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*TRANSPORTATION ADMINISTRATION	
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HIGHWAY PLANNING	BENEFITS
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11 220397

A SYSTEMS ANALYTICAL FRAMEWORK FOR PRELIMINARY LOCATION OF FREEWAYS IN URBAN CORRIDORS /ABRIDGEMENT/

FERGUSON GI
OUEKER KJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
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*TRANSPORTATION ADMINISTRATION	
*URBAN COMMUNITY VALUES	URBAN AREAS
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HIGHWAY PLANNING	SYSTEMS ANALYSIS
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AREA 11 TRANSPORTATION ADMINISTRATION

11 223764

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LEVINGSTON AC

HIGHWAY RESEARCH NEWS, HWY RES BOARD 72
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*TRANSPORTATION ADMINISTRATION	
HIGHWAY DEPARTMENTS	AUDITING

11 223893

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STEPHENSON TE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
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*TRANSPORTATION ADMINISTRATION	
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11 223895

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SHIPLEY RR
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HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
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*TRANSPORTATION ADMINISTRATION	
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11 223896

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STANTON J

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
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*TRANSPORTATION ADMINISTRATION	
--------------------------------	--

11 223897

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HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
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*TRANSPORTATION ADMINISTRATION	
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AREA 11 TRANSPORTATION ADMINISTRATION

11 223903

DEVELOPMENT OF A DATA BASE FOR BIENNIAL NATIONAL
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*TRANSPORTATION ADMINISTRATION	REQUIREMENTS
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11 223906

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HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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*TRANSPORTATION ADMINISTRATION	
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PSYCHOLOGICAL ASPECTS	METHODS

11 224648

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FARHT A
MCDONALD FHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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*TRANSPORTATION ADMINISTRATION	
PLANNING	METHODS
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11 224649

A METHODOLOGY FOR COMPUTATION OF THE ENVIRONMENTAL
CAPACITY OF ROADWAY NETWORKSSHARPE CP
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*TRANSPORTATION ADMINISTRATION	
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11 228564

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HRB NCHRP SYNTHESIS OF HWY PRACTICE 72
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14 FIG 8 REF

*TRANSPORTATION ADMINISTRATION	
*TRAFFIC CONTROL AND OPERATIONS	
*URBAN TRANSPORTATION ADMINISTRATION	
SPECTRUM MANAGEMENT	
RADIO COMMUNICATION SYSTEMS	
FREQUENCIES	HIGHWAYS

11 228882

STATEWIDE TRANSPORTATION PLANNING NEEDS AND REQUIREMENTS

HRB NCHRP SYNTHESIS OF HWY PRACTICE 72
NO 15 41 PP
APP 5 FIG 7 TAB

*TRANSPORTATION ADMINISTRATION	
STATE PLANNING	TRANSPORTATION PLANNING
METHODS	ORGANIZING
SIMULATIONS	FORECASTING

AREA 12 PERSONNEL MANAGEMENT

12 205788

PRE-APPOINTMENT TRAINING FOR TOP LEVEL MANAGERS

SODERBERG RT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 266, PP 1-8

*PERSONNEL MANAGEMENT	PERSONNEL TRAINING
MANAGEMENT	HIGHWAY DEPARTMENTS
PROGRAMMING	PLANNING
RESOURCE DEVELOPMENT	WORKSHOPS /MEETINGS/
INTERVIEWS	

AREA 12 PERSONNEL MANAGEMENT

12 205789

DEVELOPMENT OF A FORMAL HIGHWAY TRAINING PROGRAM IN INDIANA

ELKIN BL
WALSH MRHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 266, PP 9-17, 3 TABS

*PERSONNEL MANAGEMENT	PERSONNEL TRAINING
HIGHWAY CONSTRUCTION	EDUCATION

12 205790

DETERMINING MANPOWER NEEDS FOR CONSTRUCTION INSPECTION

SPIER EG
BELL GLHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 266, PP 18-27, 9 FIG, 2 TAB

*PERSONNEL MANAGEMENT	PERSONNEL MANAGEMENT
MANPOWER UTILIZATION	HIGHWAY CONSTRUCTION
CONSTRUCTION INSPECTION	

12 205791

DEVELOPING AND IMPLEMENTING NEW CLASSIFICATION AND SALARY PLANS FOR MAINTENANCE PERSONNEL

KYSER JO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 266, PP 28-35, 4 FIG, 3 TAB, 3 REF

*PERSONNEL MANAGEMENT	MAINTENANCE PERSONNEL
SALARY WAGE PRACTICES	SALARIES
PERSONNEL MANAGEMENT	HIGHWAY DEPARTMENTS
HIGHWAY MAINTENANCE	MANPOWER UTILIZATION

12 205792

TRAINING PROGRAMS FOR CONSTRUCTION AND MAINTENANCE EMPLOYEES OF THE ILLINOIS DIVISION OF HIGHWAYS

MCCRACKEN RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 266, PP 36-46, 2 TAB, 3 APP

*PERSONNEL MANAGEMENT	PERSONNEL TRAINING
PERSONNEL MANAGEMENT	MAINTENANCE PERSONNEL
HIGHWAY CONSTRUCTION	HIGHWAY MAINTENANCE
EDUCATION	

12 205793

DEVELOPING PROGRAMMED LEARNING COURSES FOR HIGHWAY CONSTRUCTION INSPECTION TRAINING

MILLER AL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 266, PP 47-58, 12 FIG, 11 REF

*PERSONNEL MANAGEMENT	HIGHWAY CONSTRUCTION
CONSTRUCTION INSPECTION	PERSONNEL TRAINING
EDUCATION	PERSONNEL MANAGEMENT

AREA 12 PERSONNEL MANAGEMENT

12 205794

DEVELOPING SUBJECT MATTER AND A DECENTRALIZED ORGANIZATION FOR HIGHWAY CONSTRUCTION INSPECTION TRAINING

GUILBEAU LM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 266, PP 59-66, 2 FIG, 3 TAB

*PERSONNEL MANAGEMENT	HIGHWAY CONSTRUCTION
CONSTRUCTION INSPECTION	PERSONNEL TRAINING
EDUCATION	

12 205795

MAINTENANCE TRAINING RESEARCH

MORTENSON WG
KASCAK RJ
NORIEGA AHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 266, PP 67-74, 2 FIG, 2 TAB

*PERSONNEL MANAGEMENT	PERSONNEL TRAINING
MAINTENANCE PERSONNEL	RESEARCH
METHODS	PERSONNEL MANAGEMENT

12 206758

EDUCATIONAL NEEDS FOR RIGID PAVEMENT CONSTRUCTION

HIGHWAY RESEARCH NEWS, HWY RES BOARD 69
NO 36, PP 43-46

*PERSONNEL MANAGEMENT	CONCRETE PAVEMENT CONSTRUCTION	PORTLAND CEMENT CONCRETES
RIGID PAVEMENTS	PERSONNEL TRAINING	EDUCATION
CONSTRUCTION METHODS	MANAGEMENT	HIGHWAY CONSTRUCTION

12 214927

PENN STATE'S TRANSPORTATION RESEARCH CENTER ENCOURAGES INTERACTION OF FACULTY, STUDENTS

HIGHWAY RESEARCH NEWS, HWY RES BOARD 70
NO 41, PP 40-44, 1 FIG, 3 PHOT

*PERSONNEL MANAGEMENT	TRANSPORTATION RESEARCH
EDUCATION	TRANSPORTATION
TRANSPORTATION SYSTEMS	TRAFFIC SAFETY
HIGHWAY USER CHARACTERISTICS	
TRAFFIC MARKINGS	DESICKING TREATMENT
DEICING	BRIDGE DECKS
ICING	PAVEMENT CORES
POLISHING	PHOTOINTERPRETATION
INFRARED COLOR PHOTOGRAPHY	ROUGHNESS
VEHICLE PERFORMANCE	WATERWAYS /TRANSPORTATION/
HIGHWAY LIGHTING	BRIDGES
INFRARED PHOTOGRAPHY	COLOR PHOTOGRAPHY
CORES	PAVEMENTS
ROADS	

AREA 12 PERSONNEL MANAGEMENT

12 215694

A STUDY OF THE FACTORS INFLUENCING ATTRACTION AND RETENTION OF ENGINEERING TALENT WITH THE OHIO DEPARTMENT OF HIGHWAYS

KARRER EH
BERGSTRALH KHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 331, PP 1-15*PERSONNEL MANAGEMENT ENGINEERS
LOSSES RETAINING
ENGINEERING PERSONNEL

12 221334

PROGRESS REPORT OF HRB-AASHO JOINT COMMITTEE ON MAINTENANCE AND OPERATIONS PERSONNEL

HIGHWAY RES CIRCULAR, HWY RES BOARD DEC71
NO 130, 25 PP*PERSONNEL MANAGEMENT *MAINTENANCE /GENERAL/
SALARIES ENVIRONMENT
WORK DAYS OPERATION AND MAINTENANCE
PERSONNEL

12 223917

DEVELOPMENT AND IMPLEMENTATION OF MANPOWER PLANNING IN THE VIRGINIA DEPARTMENT OF HIGHWAYS

DOUM IF
FERGUSON WSHIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 387 PP 1-11*PERSONNEL MANAGEMENT PERSONNEL MANAGEMENT
HIGHWAY PLANNING PERSONNEL
MANAGEMENT

12 223918

FIELD ENGINEERING MANAGEMENT

FAIRBANKS GS

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 387 PP 12-23
4 FIG*PERSONNEL MANAGEMENT FIELD OPERATIONS
PERSONNEL MANAGEMENT MANAGEMENT

12 223919

SUPERVISORY TRAINING IN THE ONTARIO DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS

GIBSON A

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 387 PP 24-29
1 TAB*PERSONNEL MANAGEMENT MANAGEMENT
SKILLS ADMINISTRATION MANAGEMENT

AREA 12 PERSONNEL MANAGEMENT

12 224622

THE TECHNOLOGY OF EFFECTIVE MANAGEMENT TRAINING (ABRIDGEMENT)

BURKE CA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
51ST ANNUAL MEETING NU 391 PP 32-3*PERSONNEL MANAGEMENT MANAGEMENT
EDUCATION HIGHWAY DEPARTMENTS
SURVEYS /DATA COLLECTION/ METHODS
PRINCIPLES TRAINING AIDS
HIGHWAY MAINTENANCE

12 226123

RECRUITING, TRAINING, AND RETAINING MAINTENANCE AND EQUIPMENT PERSONNEL

HRB NCHRP SYNTHESIS OF HWY PRACTICE 72
NO 10 35 PP
8 FIG 13 TAB 29 REF*PERSONNEL MANAGEMENT *MAINTENANCE /GENERAL/
MAINTENANCE PERSONNEL PERSONNEL MANAGEMENT
MANAGEMENT SYSTEMS
HIGHWAY DEPARTMENTS INCENTIVES
MAINTENANCE PERSONNEL MAINTENANCE MANAGEMENT

12 230367

DEVELOPMENT OF MANAGEMENT CAPABILITY

HRB NCHRP SYNTHESIS OF HWY PRACTICE 72
NO 11 50 PP
12 FIG 24 REF

5 APP

*PERSONNEL MANAGEMENT PERSONNEL TRAINING
PERSONNEL MANAGEMENT HIGHWAY DEPARTMENTS
ENGINEERS MANAGEMENT

AREA 13 LAND ACQUISITION

13 204683

LOUISIANA CIRCUIT COURT RULES THAT COMBINATION RESIDENCE AND BOMB SHELTER QUALIFIES AS A UNIQUE PROPERTY AND WARRANTS USE OF REPRODUCTION COST LESS DEPRECIATION METHOD OF VALUATION

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB69
NO 93, PP 1-3*LAND ACQUISITION *LEGAL STUDIES
APPRAISALS CONDEMNATION
RESIDENTIAL BUILDINGS CONSTRUCTION COSTS
REPRODUCTION REAL PROPERTY
RELOCATION COMPENSATION
LEGAL ASPECT

AREA 13 LAND ACQUISITION

13 204684

OWNER OF RIPARIAN RIGHTS IS ENTITLED TO USE LAND UNDER WATER FOR A COMMERCE-CONNECTED PURPOSE WHERE IT DOES NOT INTERFERE WITH THE NAVIGABILITY OF THE CHANNEL

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB69
MEMO 199 NO 93 PP 3-4

*LAND ACQUISITION
WATER RIGHTS
UNITED STATES GOVERNMENT
APPROPRIATIONS
NAVIGATION
DREDGING

*LEGAL STUDIES
UNDERWATER
STATES
MARINA
COMMERCE
RECLAMATION

13 204685

THE FACT THAT HEARSAY EVIDENCE MAY BE USED COLLATERALLY IN CONNECTION WITH COMPARABLE VALUATIONS DOES NOT MEAN THAT HEARSAY IS ACCEPTABLE DIRECTLY ON THE ISSUE OF VOLUNTARINESS OF ONE OF THE COMPARABLE SALES

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB69
MEMO 199 NO 93 PP 5-6

*LAND ACQUISITION
CONDEMNATION
HEARSAY EVIDENCE
SALES

*LEGAL STUDIES
APPRAISALS
COURTS

13 204686

WHERE THERE IS A WIDE VARIANCE IN VALUATIONS AND GREAT DIFFERENCE IN EXPERT OPINION, A COMMISSIONER'S REPORT MUST CONTAIN SUFFICIENT INFORMATION TO PERMIT INTELLIGENT JUDICIAL REVIEW

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB69
MEMO 199 NO 93 PP 6-7

*LAND ACQUISITION
APPRAISALS
LAWS
JUDGMENT

*LEGAL STUDIES
LAND ACQUISITION
COURTS

13 204687

ALABAMA SUPREME COURT RULES THAT CONDEMNEE IS NOT ENTITLED TO DAMAGES AND ATTORNEY'S FEES WHERE THE CONDEMNING AUTHORITY HAS DISMISSED THE PROCEEDINGS PRIOR TO THE ASSESSMENT OF DAMAGES AND COMPENSATION

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB69
MEMO 199 NO 93 PP 7-8

*LAND ACQUISITION
DAMAGES
COURTS
STATES
FEES

*LEGAL STUDIES
LEGAL RESPONSIBILITY
CONDEMNATION PROCEDURES
COSTS

13 205331

PROOF OF VALUE IN EMINENT DOMAIN LEASEHOLD INTERESTS

JACOBSON GH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 41-46

*LAND ACQUISITION
LEASEHOLD INTEREST
MARKET VALUE
EMINENT DOMAIN
IMPROVEMENT
LAND APPRAISAL

LEASES
APPRAISING
ESTIMATES
REAL PROPERTY
BONUSES

AREA 13 LAND ACQUISITION

13 205332

PROOF OF VALUE IN EMINENT DOMAIN: AIR SPACE

KUEHNLE J

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 47-54, 1 FIG

*LAND ACQUISITION
ECONOMICS
LAND APPRAISAL
INTEREST
FORMULAS
REMAINDER

AIR RIGHTS
LAND VALUES
CONSTRUCTION COSTS
URBAN RENEWAL
AIR POLLUTION
BUILDINGS

13 211175

A SYSTEMS ANALYSIS OF THE RIGHT-OF-WAY ACQUISITION PROCESS AS IT RELATES TO RELOCATION

FRANKLAND B

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, PP 28-29, 2 REF

*LAND ACQUISITION
RIGHT-OF-WAY ACQUISITION
HIGHWAY LOCATION
COMMUNITY VALUES
CONSTRUCTION COSTS
COMMUNITY CONSEQUENCES

SYSTEMS ANALYSIS
RELOCATION
HIGHWAY PLANNING
COMMUNITY PLANNING
ROUTE SELECTION

13 213009

ADVANCE ACQUISITION UNDER THE FEDERAL-AID HIGHWAY ACT OF 1968

HIGHWAY RESEARCH BOARD NCHRP DIGEST JUL70
DIGEST NO 19, 21 PP, 1 TAB, 69 REF

*LAND ACQUISITION
LAND ACQUISITION
RIGHT-OF-WAY ACQUISITION
LAWS
CASE STUDIES

*LEGAL STUDIES
HIGHWAYS
ADVANCE ACQUISITION
FEDERAL AID HIGHWAYS

13 214907

RULES OF COMPENSABILITY FOR HIGHWAY LAND ACQUISITION

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NCHRP RPT 104, 77 PP, 1 APP

*LAND ACQUISITION
LAND APPRAISAL
LAND ACQUISITION
RIGHT-OF-WAY APPRAISAL

RIGHT-OF-WAY ACQUISITION
COMPENSATION
EMINENT DOMAIN
HIGHWAY LAW

AREA 13 LAND ACQUISITION

13 215482

NEW APPROACHES TO COMPENSATION FOR RESIDENTIAL TAKINGS

BOSSELMAN FP
NEWSOM MD
WEAVER CL

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 107, 27 PP

*LAND ACQUISITION
EMINENT DOMAIN
HOUSES
RESIDENTS
DISPLACEMENT
JUST COMPENSATION
COSTS
PREDICTIONS
DISLOCATIONS

*LEGAL STUDIES
HOUSING
RESIDENTIAL BUILDINGS
LAND ACQUISITION
COMPENSATION
RELOCATION
PAYMENT
COMPUTER APPLICATIONS
RELOCATION ASSISTANCE

13 218557

EFFECTS OF PROPOSED HIGHWAY IMPROVEMENTS ON PROPERTY VALUES

MILLER SF

HIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 114, PROJ 11-1 (1), 42 PP, 1 FIG, 2 TAB, 34 REF, 5 APP

*LAND ACQUISITION
MARKET VALUE
PROPERTIES
CONDEMNATION
LAND ACQUISITION

JUST COMPENSATION
EMINENT DOMAIN
VALUES
PROPERTY ACQUISITION
RIGHT-OF-WAY ACQUISITION

13 221828

DIVERGENCIES IN RIGHT-OF-WAY VALUATIONS

HIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 126, 57 PP, 1 FIG, 2 TAB, 2 APP

*LAND ACQUISITION
RIGHT-OF-WAY APPRAISAL
CONDEMNATION
ACQUISITION
PROPERTY ACQUISITION

APPRAISALS
APPRAISAL GUIDELINES
STANDARDS
DIVERGENCE

13 227970

VALUATION ELEMENTS OF JOINT DEVELOPMENT PROJECTS, INCLUDING AIR RIGHTS

BOHLING JM

HIGHWAY RESEARCH BOARD NCHRP SUMMARY 72
PP 128-38
1 TAB REF5
PROJ NO 11-1(11)

*LAND ACQUISITION
AIR RIGHTS
LAND VALUES
APPRAISALS

*LEGAL STUDIES
MULTIPLE USE
LAND APPRAISAL
JOINT DEVELOPMENT

AREA 14 TRANSPORTATION FINANCE

14 207784

APPLICATION OF PROGRAM BUDGETING TO TRANSPORTATION

COOK KE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 288, PP 1-4

*TRANSPORTATION FINANCE
BUDGETING
TRANSPORTATION SYSTEMS
HIGHWAY CLASSIFICATION
BENEFIT COST ANALYSIS
HIGHWAY MAINTENANCE
TRANSPORTATION ECONOMICS

PROGRAMS
DECISION MAKING
HIGHWAY ADMINISTRATION
HIGHWAY IMPROVEMENTS
PERFORMANCE
SCHEDULING
TRANSPORTATION FINANCE

14 207785

NOTES ON PROGRAM BUDGETING CONCEPTS AND METHODOLOGIES

MCGUIRE MC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 288, PP 5-6, 2 FIGS, 1 REF

*TRANSPORTATION FINANCE
PROGRAMMING
RESOURCES
TRANSPORTATION ECONOMICS

PLANNING
BUDGETING
ALLOCATIONS
TRANSPORTATION PLANNING

14 207786

PROGRAM BUDGETING AND PPBS IN THE FEDERAL GOVERNMENT

RAPPAPORT CS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 288, PP 7-9

*TRANSPORTATION FINANCE
PROGRAMMING
HISTORY
FEDERAL BUDGETS

PLANNING
BUDGETING
ECONOMIC ANALYSIS

14 207787

APPLYING PROGRAM BUDGETING TO HIGHWAYS: AN ILLUSTRATIVE EXAMPLE

LAMM LP

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 288, PP 10-19, 5 FIGS, 1 APP

*TRANSPORTATION FINANCE
BUDGETING
BENEFIT COST ANALYSIS
HIGHWAY IMPROVEMENTS
HIGHWAY SAFETY

PROGRAMS
HIGHWAY ADMINISTRATION
HIGHWAY PLANNING
HIGHWAY PROGRAMMING

14 207788

STATE LEVEL PROGRAM BUDGETING CONSIDERATIONS

HERMANSON ME

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 288, PP 20-25

*TRANSPORTATION FINANCE
STATE HIGHWAY ADMINISTRATION
HIGHWAY PLANNING
PROGRAMS
HIGHWAY DEPARTMENTS

STATE GOVERNMENT
BUDGETING
HIGHWAY PROGRAMMING

AREA 14 TRANSPORTATION FINANCE

14 214967

BUDGETING FOR STATE HIGHWAY DEPARTMENTS

HIGHWAY RESEARCH BOARD NCHRP DIGEST SEP70
DIGEST 20, 4 PP

*TRANSPORTATION FINANCE	BUDGETING
STATE HIGHWAY BUDGET	
STATE HIGHWAY ADMINISTRATION	
STATE HIGHWAYS	PLANNING
PROGRAMMING	PPB SYSTEMS
RESOURCES	MANAGEMENT
RESOURCE MANAGEMENT	FUND ALLOCATIONS
FUND CONTROL	

14 223894

DEVELOPMENT OF FINANCIAL MANAGEMENT INFORMATION SYSTEMS

WARDER BB

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
PP 72-6
SPECIAL REPORT 128

*TRANSPORTATION FINANCE	
MANAGEMENT INFORMATION SYSTEMS	
MANAGEMENT	INFORMATION SYSTEMS

AREA 15 TRANSPORTATION ECONOMICS

15 205593

HIGHLIGHTS OF THE CONFERENCE: JOINT DEVELOPMENT AND MULTIPLE USE OF TRANSPORTATION RIGHTS-OF-WAY

COOK KE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 1-15

*TRANSPORTATION ECONOMICS	CONFERENCES
JOINT DEVELOPMENT	MULTIPLE USE
RIGHT-OF-WAY	CASE STUDIES
ECONOMIC FACTORS	LEGAL ASPECT
PLANNING	SOCIOLOGICAL ASPECTS
RIGHT-OF-WAY ACQUISITION	HOUSING
COMMUNITY VALUES	ACCESS
ROUTE SELECTION	URBAN AREAS
URBAN RENEWAL	URBAN TRANSPORTATION

15 205594

OPENING REMARKS OF THE CONFERENCE CHAIRMAN: JOINT DEVELOPMENT AND MULTIPLE USE OF TRANSPORTATION RIGHTS-OF-WAY

MICKLE DG

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 16-17

*TRANSPORTATION ECONOMICS	CONFERENCES
JOINT DEVELOPMENT	MULTIPLE USE
URBAN TRANSPORTATION	COMMUNITY VALUES
URBAN LAND USE	OPEN SPACE CONTROL
HOUSING	URBAN RENEWAL
COMMUNITY PLANNING	RIGHT-OF-WAY

AREA 15 TRANSPORTATION ECONOMICS

15 205595

OPENING REMARKS ON BEHALF OF THE NATIONAL ACADEMY OF SCIENCES: JOINT DEVELOPMENT AND MULTIPLE USE OF TRANSPORTATION RIGHTS-OF-WAY

COLEMAN JS

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 18-19

*TRANSPORTATION ECONOMICS	HIGHWAY RESEARCH
URBAN TRANSPORTATION	JOINT DEVELOPMENT
MULTIPLE USE	RIGHT-OF-WAY
CONFERENCES	

15 205596

OPENING REMARKS ON BEHALF OF THE HIGHWAY RESEARCH BOARD: JOINT DEVELOPMENT AND MULTIPLE USE OF TRANSPORTATION RIGHTS-OF-WAY

CAREY WN

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 20-22

*TRANSPORTATION ECONOMICS	HISTORY
HIGHWAY RESEARCH	JOINT DEVELOPMENT
MULTIPLE USE	RIGHT-OF-WAY
AIR RIGHTS	AIR SPACE CONTROL
PARKING	INTERSTATE HIGHWAY SYSTEM
FEDERAL AID	

15 205597

BACKGROUND AND OBJECTIVES: JOINT DEVELOPMENT AND MULTIPLE USE OF TRANSPORTATION RIGHTS-OF-WAY

ASCHMAN FT

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 23-31, 2 PHOT

*TRANSPORTATION ECONOMICS	URBAN TRANSPORTATION
RIGHT-OF-WAY	JOINT DEVELOPMENT
MULTIPLE USE	URBAN LAND USE
ECONOMICS	RIGHT-OF-WAY ACQUISITION
DESIGN COMBINATIONS	URBAN RENEWAL
ROUTE SELECTION	POLITICS
SOCIOLOGICAL ASPECTS	URBAN AREAS

15 205598

SPECIFIC TYPES OF JOINT DEVELOPMENT AND MULTIPLE USE

LEVIN OR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 32-36, 2PHOT

*TRANSPORTATION ECONOMICS	JOINT DEVELOPMENT
MULTIPLE USE	RIGHT-OF-WAY
URBAN TRANSPORTATION	URBAN HIGHWAYS
RIGHT-OF-WAY ACQUISITION	COSTS
LAND ACQUISITION	URBAN LAND USE
URBAN PLANNING	TAXATION
TAX RECEIPTS	

AREA 15 TRANSPORTATION ECONOMICS

15 205599

RAILROADS IN THE URBAN ENVIRONMENT

HELLENBRAND SH

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 37-40, 1 PHOT

*TRANSPORTATION ECONOMICS	TRANSPORTATION SYSTEMS
JOINT DEVELOPMENT	MULTIPLE USE
RIGHT-OF-WAY	RAILROADS
TRANSPORTATION PLANNING	AIR RIGHTS
ACCESS	ROUTE SELECTION

15 205600

THE CHICAGO CROSSTOWN EXPRESSWAY

PIKARSKY M

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 41-52, 1 FIG

*TRANSPORTATION ECONOMICS	EXPRESSWAYS
URBAN HIGHWAYS	HIGHWAY PLANNING
COMMUNITY VALUES	RIGHT-OF-WAY
URBAN RENEWAL	RECREATIONAL FACILITIES
PARKS	HIGHWAY LOCATION
MASS TRANSIT	URBAN TRANSPORTATION
FAMILIES	DISPLACEMENT
RELOCATION	JOINT DEVELOPMENT
MULTIPLE USE	

15 205601

BALTIMORE JOINT DEVELOPMENT PROJECT

KLEIN NM

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 53-58

*TRANSPORTATION ECONOMICS	DESIGN COMBINATIONS
TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION PLANNING	
ECONOMICS	AESTHETICS
SOCIOLOGICAL ASPECTS	HIGHWAY LOCATION
ROUTE SELECTION	JOINT DEVELOPMENT
MULTIPLE USE	RIGHT-OF-WAY
SCHOOLS	HIGHWAY CONSTRUCTION
ECONOMIC IMPACT	URBAN HIGHWAYS

15 205602

TWIN CITIES METROPOLITAN AREA

JORGIG RT

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 59-67

*TRANSPORTATION ECONOMICS	URBAN RENEWAL
JOINT DEVELOPMENT	INTERSTATE HIGHWAY SYSTEM
HIGHWAY LOCATION	LAND ACQUISITION
RIGHT-OF-WAY ACQUISITION	URBAN RENEWAL
URBAN TRANSPORTATION PLANNING	
MULTIPLE USE	URBAN PLANNING

AREA 15 TRANSPORTATION ECONOMICS

15 205603

CENTURY FREEWAY /WATTS/

HILL SL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 68-74

*TRANSPORTATION ECONOMICS	URBAN HIGHWAYS
FREEWAYS	HIGHWAY PLANNING
URBAN RENEWAL	URBAN PLANNING
LAND ACQUISITION	JOINT DEVELOPMENT
MULTIPLE USE	RIGHT-OF-WAY ACQUISITION
HOUSING	REPLACEMENTS
RELOCATION	
URBAN TRANSPORTATION PLANNING	

15 205604

LINEAR CITY AND CROSS-BROOKLYN EXPRESSWAY

ROGERS AC
ARMSTRONG BDHIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 75-87

*TRANSPORTATION ECONOMICS	EXPRESSWAYS
COMMUNITY VALUES	ROUTE SELECTION
HIGHWAY NEEDS	
URBAN TRANSPORTATION PLANNING	
HOUSING	JOINT DEVELOPMENT
URBAN HIGHWAYS	SCHOOLS
MULTIPLE USE	COMMUNITY PLANNING
RIGHT-OF-WAY	URBAN LAND USE

15 205605

FREEWAYS IN THE URBAN ENVIRONMENT

BRIDWELL LK

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 88-100

*TRANSPORTATION ECONOMICS	COMMUNITY VALUES
HIGHWAY LOCATION	
URBAN TRANSPORTATION PLANNING	
TAXATION	SOCIOLOGICAL ASPECTS
RIGHT-OF-WAY	URBAN LAND USE
LAND ACQUISITION	JOINT DEVELOPMENT
MULTIPLE USE	

15 205606

POLICY AND PLANNING CONSIDERATIONS

BLESSING CA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 101-111, 2 FIG

*TRANSPORTATION ECONOMICS	COMMUNITY PLANNING
COMMUNITY VALUES	DESIGN COMBINATIONS
URBAN TRANSPORTATION PLANNING	
INTERGOVERNMENTAL RELATIONS /U.S./	
JOINT DEVELOPMENT	MULTIPLE USE
RIGHT-OF-WAY	ZONING
SOCIOLOGICAL ASPECTS	

AREA 15 TRANSPORTATION ECONOMICS

15 205607

ECONOMIC AND SOCIAL CONSIDERATIONS

HAMMER P

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 65
NO 104, PP 112-118, 1 FIG

*TRANSPORTATION ECONOMICS	ECONOMIC CONSIDERATIONS
SOCIOLOGICAL ASPECTS	JOINT DEVELOPMENT
MULTIPLE USE	URBAN RENEWAL
INVESTMENTS	COST ALLOCATIONS
FINANCING	LAND ACQUISITION
INTERGOVERNMENTAL RELATIONS /U.S./	

15 205608

ENGINEERING CONSIDERATIONS

NUSBAUM RF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 65
NO 104, PP 119-128, 1 FIG

*TRANSPORTATION ECONOMICS	HIGHWAY ENGINEERING
JOINT DEVELOPMENT	MULTIPLE USE
ELEVATED HIGHWAYS	DEPRESSED HIGHWAYS
AESTHETICS	RIGHT-OF-WAY ACQUISITION
MAINTENANCE COSTS	URBAN LAND USE
FREEWAYS	EMERGENCY VEHICLES
RIGHT-OF-WAY	HIGHWAY CONSTRUCTION
TRAFFIC FLOW	FREEWAY DESIGN

15 205609

COMMUNITY VALUES AND URBAN TRANSPORTATION SYSTEMS

FLETCHER TH

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 65
NO 104, PP 128-132, 1 FIG

*TRANSPORTATION ECONOMICS	COMMUNITY VALUES
FREEWAYS	URBAN TRANSPORTATION
TRANSPORTATION SYSTEMS	MASS TRANSIT
URBAN TRANSPORTATION PLANNING	
EMPLOYMENT	COMMUNITY PLANNING

15 205610

LEGAL CONSIDERATIONS

WRIGHT RR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 133-143, 1 FIG

*TRANSPORTATION ECONOMICS	*LEGAL STUDIES
JOINT DEVELOPMENT	AIR SPACE CONTROL
MULTIPLE USE	LAND ACQUISITION
ENABLING LEGISLATION	EASEMENTS
FEE SIMPLE	AIR RIGHTS
LEGAL STUDIES	LAWS

AREA 15 TRANSPORTATION ECONOMICS

15 205611

CURRENT GOVERNMENTAL POLICIES

TURNER FC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 144-160, 1 PHOT, 1 APP

*TRANSPORTATION ECONOMICS	JOINT DEVELOPMENT
MULTIPLE USE	HIGHWAY LOCATION
ECONOMICS	COMMUNITY VALUES
SOCIOLOGICAL ASPECTS	RIGHT-OF-WAY
PARKS	PARKING LOTS
RECREATIONAL FACILITIES	LAND ACQUISITION
FINANCING	
INTERGOVERNMENTAL RELATIONS /U.S./	

15 205612

HOUSING AND URBAN DEVELOPMENT CONSIDERATIONS

HUMMEL D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 65
NO 104, PP 161-169, 1 PHOT

*TRANSPORTATION ECONOMICS	HOUSING
JOINT DEVELOPMENT	MULTIPLE USE
URBAN RENEWAL	AIR RIGHTS
COST ALLOCATIONS	
INTERGOVERNMENTAL RELATIONS /U.S./	

15 205613

CONFERENCE SUMMARY: JOINT DEVELOPMENT AND MULTIPLE USE OF TRANSPORTATION RIGHTS-OF-WAY

MICKLE DG

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 170-172

*TRANSPORTATION ECONOMICS	CONFERENCES
TRANSPORTATION SYSTEMS	COMMUNITY
URBAN TRANSPORTATION PLANNING	
COMMUNITY VALUES	COMMUNITY PLANNING
BENEFIT COST ANALYSIS	JOINT DEVELOPMENT
MULTIPLE USE	

15 205614

CONFERENCE SUMMARY BY PANEL MEMBERS: JOINT DEVELOPMENT AND MULTIPLE USE OF TRANSPORTATION RIGHTS-OF-WAY

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 104, PP 173-176

*TRANSPORTATION ECONOMICS	BENEFIT COST ANALYSIS
COMMUNITY VALUES	AIR POLLUTION
URBAN LAND USE	JOINT DEVELOPMENT
MULTIPLE USE	COMMUNITY PLANNING
AIR RIGHTS	LAWS
LAND ACQUISITION	RIGHT-OF-WAY ACQUISITION
URBAN PLANNING	

AREA 15 TRANSPORTATION ECONOMICS

15 206293

PROBLEMS OF RELOCATION IN A MAJOR CITY: ACTIVITIES AND
ACHIEVEMENTS IN BALTIMORE, MARYLANDCHRISTENSEN AG
JACKSON ANHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 277, PP 1-8, 1 TAB, 5 REF

*TRANSPORTATION ECONOMICS	*URBAN COMMUNITY VALUES
*URBAN LAND USE	EXPRESSWAYS
URBAN AREAS	RELOCATION
HIGHWAY CONSTRUCTION	HUMAN FACTORS
AGE	DISPLACEMENT
FEDERAL AID HIGHWAYS	SOCIOLOGICAL ASPECTS

15 206294

THE EFFECT OF MODERN HIGHWAYS ON URBAN MANUFACTURING GROWTH

WHEAT LF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 277, PP 9-24, 1 FIG, 6 TAB

*TRANSPORTATION ECONOMICS	*URBAN COMMUNITY VALUES
MANUFACTURING	GROWTH
CITIES	INTERSTATE HIGHWAY SYSTEM
HIGHWAY TRANSPORTATION	CONTROL GROUPS
EMPLOYMENT	POPULATION
DISTANCE	PROBABILITY THEORY
FREEWAYS	

15 206297

MARYLAND CAPITAL BELTWAY IMPACT STUDY

SHURBERG M
DEVANEY FJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 277, P 41

*TRANSPORTATION ECONOMICS	*URBAN LAND USE
CIRCUMFERENTIAL HIGHWAYS	ECONOMIC IMPACT
URBAN LAND USE	TRAFFIC
WORK TRIPS	SHOPPER TRANSPORTATION
STATISTICAL ANALYSIS	SOCIOLOGICAL ASPECTS

15 206298

ECONOMICS OF DESIGN STANDARDS FOR LOW-VOLUME RURAL ROADS

OGLESBY CH
ALTENHOFEN MJHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 63, 93 PP, 5 FIG, 95 REF, 6 APP

*TRANSPORTATION ECONOMICS	*HIGHWAY DESIGN
*URBAN COMMUNITY VALUES	ECONOMICS
DESIGN STANDARDS	RURAL HIGHWAYS
HIGHWAY DESIGN	MAINTENANCE COSTS
MAINTENANCE OPERATIONS	ACCIDENT PREVENTION
PAVEMENT WIDTH	SHOULDERS
WIDTHS	COMMUNITY CONSEQUENCES
SIGHT DISTANCE	SURFACES
TRAFFIC ACCIDENT ANALYSES	LAND VALUES
HIGHWAY USER BENEFITS	

AREA 15 TRANSPORTATION ECONOMICS

15 206846

THE INTERMODAL ASPECTS OF POINT-TO-POINT CONTAINERIZATION

McCULLOUGH JT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 281, PP 1-9, 4 FIG

*TRANSPORTATION ECONOMICS	CONTAINERIZATION
FREIGHT TRANSPORTATION	RAIL TRANSPORTATION
WATER TRANSPORTATION	TRUCKS
HIGHWAY TRANSPORTATION	INTERMODAL
SHIPPING CONTAINERS	SIZES
LEGAL ASPECT	LIABILITIES
LOADING	HANDLING
STORAGE	

15 206847

EMRGING CHANGES IN THE CONTAINER REVOLUTION

HAMMCND RA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 281, PP 10-15, 5 FIG

*TRANSPORTATION ECONOMICS	ECONOMICS
CONTAINERIZATION	PORTS
HIGHWAY TRANSPORTATION	RAIL TRANSPORTATION
WATER TRANSPORTATION	FREIGHT TRANSPORTATION
TERMINALS /TRANSPORTATION/	HANDLING

15 206848

THE LAND-BRIDGE AND ITS IMPACT ON UNITED STATES LAND
TRANSPORTATION

GRYGIEL JA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 281, PP 16-21, 6 TAB, 2 FIG

*TRANSPORTATION ECONOMICS	GROUND TRANSPORTATION
FREIGHT TRANSPORTATION	RAIL TRANSPORTATION
CONTAINERIZATION	COSTS
COMPUTER PROGRAMS	ECONOMIC IMPACT
SIMULATIONS	OPERATIONS
SHIPPING	SHIPPING CONTAINERS

15 207665

DEVELOPMENT OF A TRANSIT COST ALLOCATION FORMULA

FERRERI MG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, PP 1-9, 4 FIG, 6 TAB

*TRANSPORTATION ECONOMICS	OPERATING COSTS
PUBLIC TRANSIT	COST ALLOCATIONS
BUS TRANSPORTATION	VEHICLE OPERATING COST
VEHICLE MILES	PASSENGERS
REVENUE	PEAK HOUR TRAFFIC
MATHEMATICAL ANALYSIS	HOURS
FORMULAS	

AREA 15 TRANSPORTATION ECONOMICS

15 207666

ECONOMIC ASPECTS OF URBAN PASSENGER TRANSPORTATION

KRAFT G

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, PP 10-19, 10 REF

*TRANSPORTATION ECONOMICS	ECONOMIC FACTORS
URBAN TRANSPORTATION	
URBAN TRANSPORTATION PLANNING	
PASSENGERS	PUBLIC TRANSIT
PARKING	TRANSPORTATION SYSTEMS
HIGHWAY TRANSPORTATION	RAIL TRANSPORTATION
BUSES /VEHICLES/	AUTOMOBILES
TRANSPORTATION MODELS	URBAN LAND USE
MODELS	DECISION MAKING
ECONOMIC PLANNING	

15 207667

THE INFLUENCE OF THE HIGHWAY NETWORK STRUCTURE ON THE ECONOMIC DEVELOPMENT OF WEST VIRGINIA

SHAFRAN I
WEGMANN FJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, PP 20-32, 6 FIG, 16 REF

*TRANSPORTATION ECONOMICS	ECONOMIC DEVELOPMENT
HIGHWAY TRANSPORTATION	HIGHWAYS
ROADNET	TRANSPORTATION SYSTEMS
INVESTMENTS	PUBLIC
TRANSPORTATION	IMPROVEMENT

15 207668

ENGINEERING-ECONOMIC SYSTEMS ANALYSIS FOR TRANSPORT PLANNING IN DANOMIEY, WEST AFRICA

KUHN TE
LEA ND
RISELEY GF

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, PP 33-46, 7 TAB, 7 REF

*TRANSPORTATION ECONOMICS	ECONOMIC ANALYSIS
ENGINEERING	SYSTEMS ANALYSIS
TRANSPORTATION MODELS	TRANSPORTATION PLANNING
SOCIOLOGICAL ASPECTS	PASSENGERS
FREIGHT TRANSPORTATION	TRAFFIC FLOW
TRAFFIC ASSIGNMENT	

15 207669

THE ECONOMICS OF THE DIESEL FUEL TAX DIFFERENTIAL

SWARTZ TR
MEYER WE
BUFFINGTON JL
ADKINS WG
SCHAFFER DL
RAKOWSKI JJDISCUSSER
DISCUSSER
DISCUSSER
DISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, PP 47-68, 6 TAB, 12 REF

*TRANSPORTATION ECONOMICS	DIESEL FUELS
FUEL TAXATION	FUEL CONSUMPTION
HIGHWAY USER TAXATION	HIGHWAY USER BENEFITS
ECONOMICS	

AREA 15 TRANSPORTATION ECONOMICS

15 207670

A RESOURCE ALLOCATION MODEL FOR TRANSPORTATION PLANNING

BLCOM JN
CASSEL A
REEVES WR
STEIN OP
JOHNSON SS
MURRAY RH

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, PP 69-81, 1 FIG, 5 TAB, 17 REF

*TRANSPORTATION ECONOMICS	TRANSPORTATION PLANNING
RESOURCES	RESOURCE DEVELOPMENT
ALLOCATION MODELS	BENEFIT COST ANALYSIS

15 207673

A TRANSPORTATION AND PRICE-SENSITIVE INTERREGIONAL INPUT-OUTPUT MODEL

SAUERLENDER OH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, P 104

*TRANSPORTATION ECONOMICS	TRANSPORTATION MODELS
TRANSPORTATION	DEMAND
COSTS	COMMODITIES
INPUT OUTPUT DEVICES	FORECASTING
THEORETICAL ANALYSIS	STATISTICAL METHODS
COMMODITY FLOW	

15 207674

PROJECTING AUTOMOBILE AVAILABILITY BY URBANIZED AREA

BOTTINY WH
GOLEY BTHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, PP 105-116, 2 FIG, 4 TAB, 3 REF

*TRANSPORTATION ECONOMICS	URBAN TRANSPORTATION
URBAN TRANSPORTATION PLANNING	
HIGHWAY TRANSPORTATION	AUTOMOBILES
AVAILABILITY	REGRESSION ANALYSIS
POPULATION	INCOME
EMPLOYMENT	MATHEMATICAL ANALYSIS

15 207675

THE ECONOMIC BENEFITS ACCRUING FROM THE SCENIC ENHANCEMENT OF HIGHWAYS

DAVIDSON P
TOMER J
WALDMAN AHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 285, PP 117-131, 11 TAB, 24 REF

*TRANSPORTATION ECONOMICS	ECONOMIC BENEFITS
BEAUTIFICATION	HIGHWAYS
LANDSCAPE DESIGN	BENEFIT COST ANALYSIS
ECONOMIC IMPACT	EMPLOYMENT
REVIEWS	HIGHWAY SAFETY
HIGHWAY MAINTENANCE	ACCIDENT RATES
ACCIDENT PREVENTION	DATA ACQUISITION
FATAL ACCIDENTS	INJURIES

AREA 15 TRANSPORTATION ECONOMICS

15 207903

SOCIAL AND ECONOMIC FACTORS AFFECTING INTERCITY TRAVEL

HIGHWAY RESEARCH BOARD NCHRP REPORTS 65
NO 70, 68 PP, 16 FIGS, 5 TABS, 17 REFS, 5 APPS

*TRANSPORTATION ECONOMICS	ECONOMIC FACTORS
SOCIAL VALUES	INTERCITY TRANSPORTATION
ORIGIN & DESTINATION STUDIES	
COMPUTER APPLICATIONS	DATA PROCESSING
CENSUS	TRIP GENERATION
REGRESSION ANALYSIS	COMPUTER PROGRAMS
POPULATION	TRAVEL TIME
ECONOMIC CONDITIONS	TRAFFIC FORECASTING
DATA ACQUISITION	

15 208691

AN ANALYTICAL TECHNIQUE FOR IDENTIFYING FREEWAY AND EXPRESSWAY SYSTEMS AS PART OF THE RURAL STATE HIGHWAY SYSTEM

WEGMANN FJ
BERRY DS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 126-137, 5 FIG, 1 TAB, 15 REF

*TRANSPORTATION ECONOMICS	LINKAGES
MULTIVARIATE ANALYSIS	STATISTICAL METHODS
RURAL HIGHWAYS	STATE HIGHWAYS
FREWAYS	EXPRESSWAYS
TRAFFIC VOLUME	COMMERCIAL VEHICLES
REGIONAL PLANNING	

15 209282

PRICING TO REDUCE AIRPORT CONGESTION

YANCE JV

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 296, PP 1-4, 1 FIG, 2 TAB, 2 REF

*TRANSPORTATION ECONOMICS	AIRPORTS
TRAFFIC CONGESTION	TRAFFIC DELAY
TOLLS	REGRESSION ANALYSIS
TRAFFIC DELAY STUDIES	BENEFIT COST ANALYSIS
ACCESS ROAD	

15 209283

THE PRICING OF ROAD TRANSPORT SERVICES IN DEVELOPING COUNTRIES

ROTH G

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 296, PP 5-11, 1 TAB, 7 REF

*TRANSPORTATION ECONOMICS	HIGHWAY TRANSPORTATION
ECONOMIC ANALYSIS	HIGHWAY USER SERVICES
HIGHWAY USER TAXATION	MAINTENANCE COSTS
GASOLINE TAXATION	TIRES

AREA 15 TRANSPORTATION ECONOMICS

15 209284

AN EVALUATION OF COMMUTER TRANSPORTATION ALTERNATIVES

HEDGES CA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 296, PP 12-46, 3 FIG, 2 TAB, 88 REF, 1 APP

*TRANSPORTATION ECONOMICS	RUSH HOUR
TRAFFIC CONGESTION	COMMUTER TRANSPORTATION
BENEFIT COST ANALYSIS	TOLLS
TRANSPORTATION SYSTEMS	HIGHWAY TRANSPORTATION
STAGGERED HOURS	CAR POOLS

15 209285

A STATISTICAL SKETCH OF INTERCITY FREIGHT DEMAND

MORTON AL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 296, PP 47-65, 3 TAB, 2 REF, 1 APP

*TRANSPORTATION ECONOMICS	FREIGHT TRANSPORTATION
RAIL TRANSPORTATION	TRUCKS
HIGHWAY TRANSPORTATION	MATHEMATICAL ANALYSIS
GROSS NATIONAL PRODUCT	INTERCITY TRANSPORTATION
REGRESSION ANALYSIS	DEMAND

15 209286

THE STRUCTURE OF CONGESTION COSTS AND OPTIMUM PRICING IN INLAND WATERWAY TRANSPORTATION

HOWE CW
STEINBERG RM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 296, PP 66-68, 1 FIG, 5 TAB, 2 REF

*TRANSPORTATION ECONOMICS	TRANSPORTATION MODELS
COMPUTER APPLICATIONS	INLAND WATERWAYS
WATER TRANSPORTATION	TRANSPORTATION SYSTEMS
SIMULATIONS	BENEFIT COST ANALYSIS
TRAFFIC CONGESTION	COSTS

15 209405

OVERSIZE-OVERWEIGHT PERMIT OPERATIONS ON STATE HIGHWAYS

HIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 80, 120 PP, 64 FIG, 57 TAB, 7 APP

*TRANSPORTATION ECONOMICS	OVERSIZE LOADS
OVERWEIGHT LOADS	LICENSES
STATE HIGHWAYS	ECONOMIC BENEFITS
SAMPLING	LAWS
INVENTORIES	CONSTRUCTION INDUSTRY
MOBILITY	HOUSES

AREA 15 TRANSPORTATION ECONOMICS

15 210736

HIGHWAY ENGINEERING ECONOMY ANALYSIS

WINFREY R DISCUSSER
 KUHN J DISCUSSER
 OGLESBY C DISCUSSER
 WCHL M DISCUSSER
 CAMPBELL W DISCUSSER
 MANHEIM MW DISCUSSER
 ADKINS WM DISCUSSER
 WAGNER P DISCUSSER
 ROBERTS P DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 NO 108, PP 1-6, 6 REF

*TRANSPORTATION ECONOMICS	HIGHWAY IMPROVEMENTS
HIGHWAY ECONOMICS	ECONOMIC ANALYSIS
VEHICLE OPERATING COST	TRAFFIC ACCIDENTS
TRAVEL TIME	HIGHWAY USERS
COSTS	HIGHWAY ENGINEERING

15 210737

COMPUTERS AND ENGINEERING ECONOMIC ANALYSIS

SUHRBIER JH DISCUSSER
 SPENCER J DISCUSSER
 ROBERTS P DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 NO 108, PP 7-16, 1 FIG, 13 REF

*TRANSPORTATION ECONOMICS	HIGHWAY ENGINEERING
ECONOMIC ANALYSIS	COMPUTER APPLICATIONS
DECISION MAKING	CIVIL ENGINEERING
HIGHWAY DESIGN	SIMULATIONS
VEHICLE OPERATING COST	MATHEMATICAL MODELS
TRANSPORTATION SYSTEMS	

15 210738

DECISION THEORIES IN TRANSPORTATION PLANNING

MANHEIM ML DISCUSSER
 CAMPBELL W DISCUSSER
 HANEY D DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 NO 108, PP 17-26, 3 FIG, 1 TAB, 32 REF

*TRANSPORTATION ECONOMICS	
URBAN TRANSPORTATION PLANNING	
DECISION MAKING	STATISTICAL METHODS
MATHEMATICAL MODELS	SENSITIVITY
DECISION THEORY	HIGHWAY LOCATION
ROUTE SELECTION	

15 210739

COMMUNITY CONSEQUENCES AND URBAN HIGHWAY LOCATION DECISIONS

THIEL FI

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 NO 108, PP 27-29, 1 FIG, 1 TAB, 3 REF

*TRANSPORTATION ECONOMICS	ECONOMIC IMPACT
SOCIOLOGICAL ASPECTS	COMMUNITY CONSEQUENCES
HIGHWAY LOCATION	URBAN HIGHWAYS
RIGHT-OF-WAY ACQUISITION	INDUSTRIAL PLANTS
RESIDENTIAL AREAS	

AREA 15 TRANSPORTATION ECONOMICS

15 210740

SOCIOECONOMIC FACTORS AND THE HIGHWAY DECISION PROCESS

FRANKLAND B DISCUSSER
 MANHEIM M DISCUSSER
 HANEY D DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 NO 108, PP 30-34

*TRANSPORTATION ECONOMICS	SOCIOLOGICAL ASPECTS
HIGHWAY LOCATION	HIGHWAY DESIGN
ECONOMIC FACTORS	COMMUNITY VALUES
HIGHWAY USER BENEFITS	ECONOMIC CONDITIONS
COMMUNITY CONSEQUENCES	

15 211628

ON STUDYING THE IMPACT OF RAPID TRANSIT IN THE SAN FRANCISCO BAY AREA

ZETTEL RM

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 NO 111, PP 20-34

*TRANSPORTATION ECONOMICS	ECONOMIC IMPACT
URBAN LAND USE	URBAN TRANSPORTATION
RAPID TRANSIT SYSTEMS	TRAVEL PATTERNS
SOCIOLOGICAL ASPECTS	
TRANSPORTATION SYSTEM ANALYSIS	
POPULATION	EMPLOYMENT
TRANSPORTATION MODELS	TRAFFIC VOLUME

15 211634

PANEL 4: IMPACTS ON ECONOMICS OF THE REGION AND TRANSPORTATION SYSTEMS

DAVIS H

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 NO 111, PP 48-49

*TRANSPORTATION ECONOMICS	ECONOMIC IMPACT
BENEFIT COST ANALYSIS	TRAVEL TIME
TRANSPORTATION SYSTEMS	URBAN TRANSPORTATION
URBAN TRANSPORTATION PLANNING	
RAPID TRANSIT SYSTEMS	

15 212132

A COST-BENEFIT EVALUATION OF TRANSPORTATION CORRIDORS

GOLDBERG MA
 HEAVER TD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 305, PP 28-40, 1 FIG, 19 REF

*TRANSPORTATION ECONOMICS	BENEFIT COST ANALYSIS
TRANSPORTATION PLANNING	LAND ACQUISITION
LAND USE	ECONOMIC IMPACT
TRAFFIC CORRIDORS	LAND VALUES

AREA 15 TRANSPORTATION ECONOMICS

15 212136

THE ECONOMIC AND ENVIRONMENTAL EFFECTS OF ONE-WAY STREETS IN RESIDENTIAL AREAS

KENNEEDY J
HILL DHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 75-79, 1 TAB, 1 REF

*TRANSPORTATION ECONOMICS	LAND VALUES
ECONOMIC IMPACT	ONE WAY TRAFFIC
RESIDENTIAL AREAS	URBAN LAND USE
ENVIRONMENTAL EFFECTS	HOUSING
SOCIOLOGICAL ASPECTS	AESTHETICS
TRAFFIC NOISES	TRAFFIC VOLUME
URBAN TRANSPORTATION PLANNING	
COMMUNITY PLANNING	

15 213949

THE VALUE OF TIME FOR COMMUTING MOTORISTS AS A FUNCTION OF THEIR INCOME LEVEL AND AMOUNT OF TIME SAVED

THOMAS TC
THOMPSON GI
LISCO TE
STOPHER PKDISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 1-19, 5 FIG, 5 TAB, 4 REF

*TRANSPORTATION ECONOMICS	TRAVEL TIME
COMMUTER TRANSPORTATION	INCOME
TIME	VALUES
DATA ACQUISITION	ROUTE SELECTION

15 213950

CONGESTION TOLL PRICING FOR PUBLIC TRANSPORT FACILITIES

WOHL M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 20-31, 7 FIG, 11 REF

*TRANSPORTATION ECONOMICS	
TRAFFIC CONGESTION ECONOMIC EFFECTS	
TRAFFIC CONGESTION	PUBLIC TRANSIT
MASS TRANSIT VEHICLES	

15 213951

USER BENEFITS IN ECONOMIC ANALYSIS OF METROPOLITAN FREEWAY CONSTRUCTION

HALL JW
SAWHILL RB
MATTESON JHHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 32-40, 1 TAB, 13 REF

*TRANSPORTATION ECONOMICS	HIGHWAY USER BENEFITS
ECONOMIC ANALYSIS	FREEWAYS
HIGHWAY CONSTRUCTION	TRAVEL TIME
ACCIDENT PREVENTION	BENEFIT COST ANALYSIS

AREA 15 TRANSPORTATION ECONOMICS

15 213953

A GENERAL-PURPOSE MODEL FOR MOTOR VEHICLE OPERATING COSTS

SCBERMAN RM
CLARK GAHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 60-71, 6 FIG, 5 TAB, 6 REF

*TRANSPORTATION ECONOMICS	VEHICLE OPERATING COST
COMPUTER PROGRAMS	FUEL CONSUMPTION
VEHICLE CHARACTERISTICS	
TRAFFIC FLOW CHARACTERISTICS	
PAVEMENT SURFACE TEXTURE	NUMEROGRAPHS

15 213954

AN APPROACH TO THE ECONOMIC EVALUATION OF URBAN TRANSPORTATION INVESTMENTS

HUTCHINSON BG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 72-86, 12 FIG, 1 TAB, 31 REF

*TRANSPORTATION ECONOMICS	URBAN TRANSPORTATION
INVESTMENTS	ECONOMIC ANALYSIS
URBAN TRANSPORTATION PLANNING	
TRANSPORTATION ECONOMICS	URBAN LAND
LAND VALUES	REGRESSION ANALYSIS

15 213955

AN INVESTMENT APPROACH TOWARD DEVELOPING PRIORITIES IN TRANSPORTATION PLANNING

EASH RW
CIVGIN M
HAACK HHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 87-97, 6 FIG, 7 REF

*TRANSPORTATION ECONOMICS	
URBAN TRANSPORTATION PLANNING	
INVESTMENTS	BUDGETING
RIGHT-OF-WAY ACQUISITION	MATHEMATICAL ANALYSIS
PROGRAMMING	

15 213956

PROBLEMS, MISCONCEPTIONS, AND ERRORS IN BENEFIT-COST ANALYSES OF TRANSIT SYSTEMS

HANEY DG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 98-113, 2 FIG, 1 TAB, 8 REF

*TRANSPORTATION ECONOMICS	BENEFIT COST ANALYSIS
TRANSPORTATION SYSTEMS	URBAN TRANSPORTATION
MODAL SPLIT	VEHICLE OPERATING COST

AREA 15 TRANSPORTATION ECONOMICS

15 216289

RUNNING COSTS OF MOTOR VEHICLES AS AFFECTED BY ROAD DESIGN AND TRAFFIC

CLAFFEY PJ

HIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 111, 97 PP, FIGS, TABS, PHOTS, 11 REF; 6 APP

*TRANSPORTATION ECONOMICS	RUNNING COSTS
OPERATING COSTS	AUTOMOBILES
TRUCKS	ECONOMIC ANALYSIS
HIGHWAY IMPROVEMENTS	HIGHWAY PLANNING
TRAFFIC ENGINEERS	HIGHWAY DESIGN
FUELS	COSTS
OILS	TIRES
MAINTENANCE COSTS	DEPRECIATION
ACCIDENTS	BIBLIOGRAPHIES
TRAFFIC VOLUME	GRADE /SLOPE/
SPEED	PAVEMENTS

15 218071

PROBLEMS ASSOCIATED WITH URBAN GOODS MOVEMENT AT THE LOCAL LEVEL--A NATIONWIDE TRUCKING COMPANY

FOREMAN CW

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 75-78

*TRANSPORTATION ECONOMICS	COMMODITY FLOW
URBAN AREAS	PICKUPS
DELIVERY	TRUCKS
DISTRIBUTION	LOCATING
FACILITIES	

HRIS 15 218072	HRIS 15 218073	HRIS 15 218074
HRIS 81 218075	HRIS 81 218076	

15 218072

PROBLEMS ASSOCIATED WITH URBAN GOODS MOVEMENT AT THE LOCAL LEVEL -- A REGULATED INTERSTATE CARRIER

BANNER PH

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 78-80

*TRANSPORTATION ECONOMICS	URBAN AREAS
FREIGHT TRANSPORTATION	RAIL TRANSPORTATION
WASTE DISPOSAL	

HRIS 15 218071	HRIS 218073	HRIS 15 218074
HRIS 81 218075	HRIS 81 218076	

15 218073

PROBLEMS ASSOCIATED WITH URBAN GOODS MOVEMENT AT THE LOCAL LEVEL -- A NATIONWIDE RETAIL ORGANIZATION

SENDER SP

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 80-82

*TRANSPORTATION ECONOMICS	COMMODITY FLOW
URBAN AREAS	TRANSPORTATION PLANNING
RETAIL TRADE	PARKING
SUBURBS	DELIVERY
DISTRIBUTION	SHOPPING CENTERS
STORES /BUILDINGS/	

HRIS 15 218071	HRIS 15 218072	HRIS 218074
HRIS 81 218075	HRIS 81 218076	

AREA 15 TRANSPORTATION ECONOMICS

15 218074

PROBLEMS ASSOCIATED WITH URBAN GOODS MOVEMENT AT THE LOCAL LEVEL--THE U.S. POSTAL SERVICE

LEE R3

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 82-84

*TRANSPORTATION ECONOMICS	URBAN AREAS
POSTAL SERVICES	PICKUPS
DELIVERY	PEAK HOUR TRAFFIC
ENVIRONMENTAL EFFECTS	TRUCKS
AIR TRANSPORTATION	INTRACITY TRANSPORTATION
INTERCITY TRANSPORTATION	

HRIS 15 218071	HRIS 15 218072	HRIS 15 218073
HRIS 81 218075	HRIS 81 218076	

15 218077

LABOR PRACTICES AND PROBLEMS IN URBAN GOODS MOVEMENT

WEISS A

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 90-99

*TRANSPORTATION ECONOMICS	FREIGHT TRANSPORTATION
URBAN AREAS	UNIONS /LABOR/
CONTRACTS	TIME
HOURS	WORK
WAGE RATE	PAYMENT
RATES /COSTS/	NIGHT
WORK DAYS	

15 218081

CHANGING STRUCTURE OF FREIGHT INDUSTRY AND NEED FOR CHANGES IN GOVERNMENTAL POLICIES AND PROGRAMS - PANEL REPORT

NELSON JR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 125-129

*TRANSPORTATION ECONOMICS	COMMODITY FLOW
URBAN AREAS	FREIGHT TRANSPORTATION
TRUCKS	TRAFFIC FLOW PATTERN
ZONING	INTERCITY TRANSPORTATION
INTRACITY TRANSPORTATION	TERMINALS /TRANSPORTATION/

15 218083

TECHNIQUES FOR IMPROVING COMMODITY FLOW BY APPLYING CURRENT KNOWLEDGE AND TECHNOLOGY - PANEL REPORT

BARNSTEAD RC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 133-134

*TRANSPORTATION ECONOMICS	COMMODITY FLOW
URBAN AREAS	INTERCITY TRANSPORTATION
FREIGHT TRANSPORTATION	TRAFFIC NOISES
NOISE CONTROL	POLLUTION
URBAN LAND USE	TRAFFIC LANES
TRAFFIC CONTROL SYSTEMS	PEDESTRIAN PATHS
LOADING ZONES	

AREA 15 TRANSPORTATION ECONOMICS

15 218975

BENEFIT-COST ANALYSIS AND THE LOCATION OF URBAN HIGHWAYS
STEINBERG EB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 35-41, 1 TAB, 15 REF

*TRANSPORTATION ECONOMICS	BENEFIT COST ANALYSIS
HIGHWAY LOCATION	ROUTE SELECTION
DECISION MAKING	
STANDARD METROPOLITAN STATISTICAL AREA	
ECONOMIC IMPACT	
URBAN TRANSPORTATION PLANNING	

HRIS 84 218978

15 218981

DEVELOPING PRIORITIES FOR STREET IMPROVEMENT PROGRAMS IN
URBAN AREAS

THIERS GR
HOEL LA
DETTORE JN

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 109-118, 1 FIG, 6 TAB, 21 REF

*TRANSPORTATION ECONOMICS	STREET MAINTENANCE
PRIORITIES	URBAN AREAS
CURBS	SIDEWALKS
RESURFACING	URBAN RENEWAL
ECONOMIC EVALUATIONS	

15 218982

THEORETICAL FOUNDATIONS FOR STUDYING STATEWIDE
TRANSPORTATION AND OTHER FUNCTIONAL SYSTEMS

BALKUS K

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 119-132, 12 REF

*TRANSPORTATION ECONOMICS	TRANSPORTATION SYSTEMS
SERVICES	TRANSPORTATION PLANNING
URBAN PLANNING	CULTURES
STATE PLANNING	

15 218983

EVALUATION OF ALTERNATIVE TRANSPORTATION INVESTMENT
DECISIONS: MODIFICATION AND USE OF A MULTIREGIONAL INPUT-
OUTPUT MODEL

STEIN MM
MDSBAEK EJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 133-141, 2 FIG, 2 TAB, 19 REF

*TRANSPORTATION ECONOMICS	INPUT OUTPUT MODEL
HIGHWAY ECONOMICS	ECONOMIC DEVELOPMENT
EMPLOYMENT	TRANSPORTATION FINANCE
ECONOMIC ANALYSIS	HYPOTHESES
REGRESSION ANALYSIS	EVALUATION
DECISION MAKING	

AREA 15 TRANSPORTATION ECONOMICS

15 218986

TOLL PRICING AND ITS RELATIONSHIP TO TRAVEL DEMAND,
ELASTICITY, AND DISTRIBUTION OF ECONOMIC ACTIVITIES FOR
HAMPTON ROADS, VIRGINIA

BELLOMO SJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 166-181, 9 FIG, 8 TAB, 12 REF

*TRANSPORTATION ECONOMICS	TOLL ROAD TRAFFIC
TOLL TUNNELS	PRICES
TRAVEL PATTERNS	MODELS
FORECASTING	ELASTICITY
ECONOMIC DEVELOPMENT	

15 219564

SEMINAR ON PRICING AND ECONOMIC EVALUATION

MEYER RA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 101-104

*TRANSPORTATION ECONOMICS	DEMAND ACTUATED SYSTEMS
ECONOMIC ANALYSIS	OWNERSHIP
FARES	DEMAND
MARKETING	PUBLIC TRANSIT

15 220390

ECONOMICS OF TRANSPORTATION CORRIDORS: AN EMPIRICAL
EVALUATION

GDLOBERG MA
HEAVER TO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
VOL 356, PP 130-138, 2 FIG, 23 REF

*TRANSPORTATION ECONOMICS	CORRIDORS
TRANSPORTATION	RIGHT-OF-WAY ACQUISITION
ADVANCE ACQUISITION	WIDTHS
MULTIPLE USE	COSTS
URBAN LAND USE	LAND USE PLANNING

15 220392

RESEARCH NEEDS IN ECONOMIC AND FINANCIAL FACTORS OF
HIGHWAY TRANSPORTATION: IN SEARCH OF IMPROVED STRATEGY

BOYO JH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 158-167, 1 REF

*TRANSPORTATION ECONOMICS	HIGHWAY RESEARCH
REQUIREMENTS	PROGRAMS
STATE HIGHWAY ADMINISTRATION	
HIGHWAY ECONOMICS	FINANCING
PRIORITIES	

AREA 15 TRANSPORTATION ECONOMICS

15 221546

ECONOMIC ANALYSIS OF A DEMAND-RESPONSIVE PUBLIC TRANSPORTATION SYSTEM

GOLUB TF
GUSTAFSON RLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 114-127, 8 FIG, 11 REF

*TRANSPORTATION ECONOMICS	FEASIBILITY STUDIES
SURVEYS	INTERVIEWS
DEMAND RESPONSIVE TRANSPORTATION	COSTS
ECONOMIC ANALYSIS	PROFITS
REVENUE	
PARAMETERS	

15 221683

SUMMARY AND EVALUATION OF ECONOMIC CONSEQUENCES OF HIGHWAY IMPROVEMENTS

WINFREY R
ZELLNER CHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 122, 324 PP, 46 FIG, 65 TAB, PHOTS, 420 REF, 2 APP

*TRANSPORTATION ECONOMICS	HIGHWAY IMPROVEMENTS
HIGHWAY DESIGN	HIGHWAY LOCATION
ECONOMIC IMPACT	SELECTING
DECISION MAKING	SOCIOLOGICAL ASPECTS
ENVIRONMENTAL EFFECTS	BENEFIT COST ANALYSIS
PPB SYSTEMS	SYSTEMS ANALYSIS
USER BENEFITS	NONUSER BENEFITS
ENGINEERING ECONOMY	COMPUTER APPLICATIONS
ECONOMIC ANALYSIS	EVALUATION
PROGRAMS	EFFECTIVENESS

15 223908

A SYSTEM TO MONITOR THE ROAD-USER COST OF URBAN TRAFFIC CONGESTION

PARSONSON PS

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 383 PP 1-10
3 FIG 2 TAB 14 REF

*TRANSPORTATION ECONOMICS	CONGESTION
COST DATA	MONITORING
COSTS	COMPUTERS

15 223909

GENERALIZED COSTS AND THE ESTIMATION OF MOVEMENT COSTS AND BENEFITS IN TRANSPORT PLANNING /WITH DISCUSSION & CLOSURE/

MCINTOSH PT
QUARMBY DA
MOHRING H

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 383 PP 11-26
2 FIG 16 REF

*TRANSPORTATION ECONOMICS	BENEFIT COST ANALYSIS
TRIP GENERATION	NETWORKS
COSTS	TRANSPORTATION PLANNING

AREA 15 TRANSPORTATION ECONOMICS

15 223910

NUMERATOR-DENOMINATOR ISSUE IN THE CALCULATION OF BENEFIT-COST RATIOS /WITH DISCUSSION & CLOSURE/

FLEISCHER GA
WINFREY R

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 383 PP 27-31
1 TAB 5 REF

*TRANSPORTATION ECONOMICS	BENEFIT COST ANALYSIS
SUBSTITUTES	HIGHWAY DESIGN
COSTS	

15 223911

PASSENGER CAR FUEL CONSUMPTION AS AFFECTED BY ICE AND SNOW

CLAFFEY PJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 383 PP 32-7
2 FIG 1 TAB 1 REF

*TRANSPORTATION ECONOMICS	FUEL CONSUMPTION
ICE	SNOW
SNOW & ICE EFFECTS	DATA ANALYSIS
WEATHER	

15 223912

LIFE CYCLE COST AS A CRITERION FOR OPTIMIZING THE CAPACITY OF VEHICLE TERMINALS

YU JC
WILHELM WEHIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 383 38-49
7 FIG 2 TAB 15 REF

*TRANSPORTATION ECONOMICS	TERMINALS /TRANSPORTATION/
COSTS	MODELS
ECONOMIC ANALYSIS	

15 226014

FULL COMPENSATION IN URBAN ROADWAY CONSTRUCTION: A NECESSARY AND PRACTICAL OBJECTIVE

PASSONNEAV JR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 1-11
1 TAB 19 REF

*TRANSPORTATION ECONOMICS	URBAN HIGHWAYS
HIGHWAY CONSTRUCTION	COMPENSATION
LAND ACQUISITION	LAND APPRAISAL
TRANSPORTATION ECONOMICS	RIGHT-OF-WAY APPRAISAL
FUND ALLOCATIONS	LAWS

AREA 15 TRANSPORTATION ECONOMICS

15 226015

STUDY OF THE IMPACT ON HOUSEHOLDS OF RELOCATION FROM A
HIGHWAY RIGHT-OF-WAY

CCLONY UC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 12-26
2 FIG 4 TAB 9 REF*TRANSPORTATION ECONOMICS RIGHT-OF-WAY ACQUISITION
RELOCATION HOUSEHOLDS
INTERVIEWS TRANSPORTATION EFFECTS
SOCIOLOGICAL ASPECTS

15 226018

ALLOCATING OF RESOURCES FOR CONSTRUCTION OF TRI-STATE
REGIONAL HIGHWAYSKOPPELMA F S
SHELKOWITZ I JHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 51-61
10 FIG 2 TAB 7 REF*TRANSPORTATION ECONOMICS HIGHWAY CONSTRUCTION
HIGHWAY ECONOMICS ALLOCATIONS
HIGHWAY USER BENEFITS HIGHWAY LOCATION
REGIONAL PLANNING /TRANSPORTATION/
COMMUNITY CONSEQUENCES

15 227968

ADDITIVES TO MARKET VALUE

SCHMIDT J W

HIGHWAY RESEARCH BOARD NCHRP SUMMARY 72
PP 120-124

PROJ NO 11-1(4)

*TRANSPORTATION ECONOMICS *LEGAL STUDIES
MARKET VALUE ADDITIVES
RELOCATION INTEREST
LOSSES COSTS
JUST COMPENSATION

15 228098

ENVIRONMENTAL ASPECTS OF TRANSPORT FOR NATURAL RESOURCE
DEVELOPMENTRECHEL RE
WITHERSPOON RHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 408 PP 1-16
1 REF*TRANSPORTATION ECONOMICS NATURAL RESOURCES
DEVELOPMENT ECONOMIC FACTORS
ENVIRONMENTAL EFFECTS AIR POLLUTION
NOISE /SOUND/ WATER POLLUTION
TRANSPORTATION PLANNING

AREA 15 TRANSPORTATION ECONOMICS

15 228099

TRANSPORTATION ANALYSIS TECHNIQUES FOR NATIONAL FOREST
PLANNINGSULLIVAN EC
LAYTON RD
KANAFANI AKHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 408 PP 17-25
2 FIG 9 REF*TRANSPORTATION ECONOMICS
TRANSPORTATION SYSTEM ANALYSIS
FORESTS RECREATIONAL FACILITIES
TRAVEL PATTERNS MODELS
DEMAND TRAFFIC VOLUME
TRIP GENERATION

15 228103

THE ROLE OF NETWORK ANALYSIS TECHNIQUES IN RESOURCE
MANAGEMENT PLANNING

LAYTON RD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 406 PP 62-71
2 FIG 10 REF*TRANSPORTATION ECONOMICS NATURAL RESOURCES
DEVELOPMENT TRANSPORTATION PLANNING
NETWORK ANALYZERS TIMBERS
MANAGEMENT

15 228197

ECONOMICS OF TRANSPORTATION CORRIDORS: FURTHER EMPIRICAL
ANALYSIS

GOLDBERG MA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 410 PP 37-51
5 FIG 2 TAB 11 REF*TRANSPORTATION ECONOMICS TRANSPORTATION CORRIDORS
ADVANCE ACQUISITION PROPERTIES
VALUES HIGHWAYS
REAL PROPERTY LAND VALUES

15 228578

HISTORICAL OVERVIEW OF THE DECLINE OF THE TRANSIT INDUSTRY

SALTZMAN A
SOLOMAN RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 417 PP 1-11
2 FIGS 22 REF*TRANSPORTATION ECONOMICS PUBLIC TRANSIT
ECONOMICS GOVERNMENTAL PROCESSES
URBAN TRANSPORTATION PATTERNS
MASS TRANSIT PATRONAGE HISTORY
TRENDS PRIVATE ENTERPRISE
OWNERSHIP

AREA 21 PHOTOGRAMMETRY

21 205285

EXAMPLES OF REMOTE SENSING APPLICATIONS TO ENGINEERING

FISCHER WA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 102, PP 13-21, 10 FIG

*PHOTOGRAMMETRY	REMOTE CONTROL
SENSORS	REMOTE SENSORS
STATE OF THE ART STUDIES	POLARIZATION
LUMINESCENCE	TIME
PANCHROMATIC FILM	TELEVISION
INFRARED PHOTOGRAPHY	COLOR PHOTOGRAPHY
ULTRAVIOLET RAYS	RADAR
MICROWAVES	SPECTROMETERS
INTERFEROMETERS	DETECTORS
HOLOGRAPHY	

21 205287

PROGRESS IN REMOTE SENSING AND ITS APPLICATION TO HIGHWAY
ENGINEERING AND RESEARCHPARKER OC
PRENTICE VLHIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 102, PP 38-48, 6 FIG, 38 REF

*PHOTOGRAMMETRY	AIRBORNE SURVEYING
REMOTE CONTROL	SENSORS
REMOTE SENSORS	AERIAL PHOTOGRAPHS
HIGHWAY ENGINEERING	AIRBORNE CAMERAS
CATHODE RAY TUBES	GAMMA RAYS
SPECTROMETERS	MICROWAVES
INFRARED	

21 205288

TECHNIQUES FOR UTILIZING SIDE-LOOKING AIRBORNE RADAR (SLAR)
IMAGERY IN REGIONAL HIGHWAY PLANNINGBARR OJ
MILES RDHIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 102, PP 49-56, 4 FIG, 3 TAB, 3 REF

*PHOTOGRAMMETRY	AERIAL SURVEYS
SIDE LOOKING RADAR	RADAR
TERRAIN	GEOLOGIC MAPPING
SOIL MAPPING	VEGETATION
SOIL ENGINEERING	TOPOGRAPHIC MAPPING
REGIONAL PLANNING /TRANSPORTATION/	
HIGHWAY PLANNING	

21 206096

ANALYTICAL AERIAL TRIANGULATION WITHIN THE VIRGINIA
DEPARTMENT OF HIGHWAYS

HABEL GW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 270, PP 1-8, 3 FIG, 6 REF

*PHOTOGRAMMETRY	AERIAL PHOTOGRAPHY
TRIANGULATION	PHOTOGRAMMETRY
DATA ACQUISITION	HIGHWAYS

AREA 21 PHOTOGRAMMETRY

21 206097

PRODUCTION MAPPING WITH COMPUTATIONAL PHOTOGRAMMETRY

JENSEN JR
STEELE JJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 270, PP 9-24, 8 FIG, 4 TAB, 4 REF

*PHOTOGRAMMETRY	PHOTOGRAMMETRY
AERIAL PHOTOGRAPHY	TRIANGULATION
MAPPING	

21 211772

STEREO-TERRRESTRAL-PHOTOGRAMMETRY FOR HIGHWAY RESEARCH

BELCHER OJ
LYON GBHIGHWAY RESEARCH NEWS, HWY RES BOARD 70
NO 39 PP 38-41
2 FIGS

*PHOTOGRAMMETRY	LANDSLIDE MEASUREMENTS
TOPOGRAPHIC MAPPING	STEREOSCOPIIC PHOTOGRAPHY
STEREOSCOPIIC PLOTTERS	PHOTOGRAMMETRY
MOTOR VEHICLE ACCIDENTS	

21 222999

EVALUATION OF PHOTOGRAMMETRIC CROSS SECTIONS FOR EARTHWORK
PAYMENT

SCHULTZ VH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 375 PP 1-7
2 FIG 4 TAB 5 REF

*PHOTOGRAMMETRY	EARTHWORKS
PHOTOGRAMMETRY	CROSS SECTIONS

21 223000

DEVELOPMENT AND PRODUCTION OF TWO-COLOR AERIAL PHOTOMOSAIC
CONTRACT PLANSSCHULTZ VH
FRANTZ WEHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 375 PP 8-14
3 FIG

*PHOTOGRAMMETRY	AERIAL PHOTOGRAPHY
HIGHWAY DESIGN	HIGHWAY CONSTRUCTION
COLOR AERIAL PHOTOGRAPHY	

21 223001

AN EXPERIMENTAL INVESTIGATION OF HIGHWAY SURVEYING AND
MAPPING CONTROL EXTENSION BY TRILATERATION AND CONVENTIONAL
TRAVERSELEE SC
BELKIN ALHIGHWAY RESEARCH RECORD, HWY RES BOARD 71 71
NO 375 PP 15-27
2 FIG 5 TAB 8 REF

*PHOTOGRAMMETRY	HIGHWAYS
SURVEYING	MAPPING
TRILATERATION	TRAVERSE METHODS
FORTRAN	COMPUTER PROGRAMS

AREA 21 PHOTOGRAMMETRY

21 228566

REMOTE SENSING FOR HIGHWAY ENGINEERING - INTRODUCTION

MINTZER DW
RIB HTHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 1-2

*PHOTOGRAMMETRY	REMOTE SENSING
RADAR	MULTISPECTRAL PHOTOGRAPHY
PHOTOGRAMMETRY	SOIL MAPPING
AERIAL PHOTOGRAPHY	COLOR PHOTOGRAPHY

21 228567

SIDE-LOOK RADAR: ITS USES AND LIMITATIONS AS A RECONNAISSANCE TOOL

DELLWIG LF
BURCHELL CHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 3-13
11 FIG 18 REF

*PHOTOGRAMMETRY	RADAR APPLICATIONS
CLIMATIC FACTOR	SURVEYING
IMAGERY	SIDE LOOKING RADAR
AERIAL SURVEYS	RECONNAISSANCE

21 228568

AIRBORNE INFRARED IMAGERY AND ITS LIMITATIONS IN CIVIL ENGINEERING PRACTICE

STINGELIN RW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 14-21
6 FIG 14 REF

*PHOTOGRAMMETRY	INFRARED IMAGERY
INFRARED PHOTOGRAPHY	AIRBORNE SURVEYING

21 228569

MULTISPECTRAL SCANNING SYSTEMS: THEIR FEATURES AND LIMITATIONS

LOWE DS
WILSON DLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 22-32
10 FIG 19 REF

*PHOTOGRAMMETRY	SCANNING
COMPUTERS	SURVEYING
CLASSIFICATION	MULTISPECTRAL IMAGERY

21 228570

PARTNERSHIP IN RESEARCH: A COOPERATIVE REMOTE-SENSING RESEARCH PROGRAM

RIB HT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 33-40
1 FIG 1 TAB 9 REF

*PHOTOGRAMMETRY	REMOTE SENSING
RESEARCH AND DEVELOPMENT	SOIL MAPPING

AREA 22 HIGHWAY DESIGN

22 205277

HYDRAULIC-PLASTIC CUSHIONS FOR ATTENUATION OF ROADSIDE BARRIER IMPACTS

WARNER CY

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 259, PP 24-34, 13 FIG, 1 TAB, 19 REF

*HIGHWAY DESIGN	FIXED OBJECT
BARRIERS	COLLISIONS
SEVERITY	PLASTICS
CUSHIONING	HYDRAULICS
ATTENUATION	IMPACT
CELLULAR STRUCTURES	ACCELERATION
VEHICLES	

22 205278

DYNAMIC TESTS OF SHORT SECTIONS OF CORRUGATED METAL BEAM GUARDRAIL

MCARDLIN EF
FIELD RN
FOLSGM JJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 259, PP 35-50, 20 FIG, 7 REF, APP

*HIGHWAY DESIGN	DYNAMIC TESTS
CORRUGATIONS	METALS
GUARDRAILS	IMPACT TESTS
ANCHORAGES	BEAMS
BRIDGE APPROACHES	CABLES
SLOPE	GUARDRAIL DESIGN
REINFORCED CONCRETE	BRIDGE RAILS

22 205279

VIBRATION AND DAMPING OF ALUMINUM OVERHEAD SIGN STRUCTURES

LENGEL JS
SHARP MLHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 259, PP 51-60, 11 FIG, 1 TAB, 7 REF

*HIGHWAY DESIGN	VIBRATION DAMPING
VIBRATIONS	OVERHEAD TRAFFIC SIGNS
ALUMINUM	STRESSES
STRAIN GAGES	LABORATORY TESTS
BOLTED JOINTS	SPLICING
FLANGES	WIND LOADS
WIND VELOCITY	DAMPERS
DESIGN	

22 206098

MODELS FOR HIGHWAY DESIGN: SOME CONSTRUCTION AND PHOTOGRAPHIC TECHNIQUES

PORTER RG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 270, PP 25-35, 13 FIG

*HIGHWAY DESIGN	HIGHWAY DESIGN
MODELS	PHOTOGRAPHY
AESTHETICS	WETTING AGENTS

AREA 22 HIGHWAY DESIGN

22 206099

EVALUATION OF COMPLEX INTERCHANGE DESIGNS BY THREE-DIMENSIONAL MODELS

GEISLER EH
AZIZ AHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 270, PP 36-48, 22 FIG, 5 REF

*HIGHWAY DESIGN	MODELS
THREE DIMENSIONAL	HIGHWAY DESIGN
INTERCHANGE DESIGN	AESTHETICS
PHOTOGRAPHY	

22 206100

COMPUTER GRAPHICS AND VISUAL HIGHWAY DESIGN

SMITH BL
YCTTER EEHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 270, PP 49-64, 18 FIG, 14 REF

*HIGHWAY DESIGN	HIGHWAY DESIGN
AESTHETICS	VERTICAL CURVES
HORIZONTAL CURVATURE	SAG
ALIGNMENTS	ELECTRONIC DEVICES
PLOTTERS	COMPUTER APPLICATIONS

22 206808

HIGHWAY AESTHETICS—FUNCTIONAL CRITERIA FOR PLANNING AND DESIGN

HORNBECK PL
FRGSTER RR
DILLINGHAM MRHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 280, PP 25-38, 10 FIG, 2 TAB, 3 REF

*HIGHWAY DESIGN	*ROADSIDE DEVELOPMENT
AESTHETICS	HIGHWAY PLANNING
HIGHWAY DESIGN	DRIVER BEHAVIOR
ROADSIDE DEVELOPMENT	

22 209402

DEVELOPMENT OF DESIGN CRITERIA FOR SAFER LUMINAIRE SUPPORTS

EDWARDS TC
MARTINEZ JE
MCFARLAND WF
ROSS HEHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 77, 82 PP, 79 FIG, 19 TAB, 23 REF, 4 APP

*HIGHWAY DESIGN	DESIGN CRITERIA
REVIEWS	HIGHWAY LIGHTING
LUMINAIRES	BREAKAWAY SUPPORTS
FULL SCALE SPECIMENS	TESTING
STATE OF THE ART STUDIES	PRESTRESSED CONCRETE
SLIP BASES	ALUMINUM
STAINLESS STEELS	COLLISION TESTS
MATHEMATICAL MODELS	COSTS
MOTOR VEHICLE ACCIDENTS	

AREA 22 HIGHWAY DESIGN

22 210711

SYSTEM EVALUATION OF FREEWAY DESIGN AND OPERATIONS

ALLEN BL
MAY ADHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 45-55, 6 FIG, 1 TAB

*HIGHWAY DESIGN	
*TRAFFIC CONTROL AND OPERATIONS	
FREEWAY DESIGN	FREEWAY OPERATIONS
DATA ACQUISITION	BOTTLENECKS
TRAFFIC DELAY	TRAFFIC DELAY STUDIES
GEOMETRIC DESIGN	TRAFFIC CONGESTION
TRAFFIC CAPACITY	

22 210716

TREATMENT OF ROADSIDE HAZARDS—DECISION AND DESIGN

CANTILLI EJ
LEE BHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT 107, PP 101-108, 10 FIG, 2 TAB, 6 REF

*HIGHWAY DESIGN	ROADSIDE
HAZARDS	ACCIDENT PRONENESS
ACCIDENT SEVERITY	ACCIDENT PREVENTION
GEOMETRIC DESIGN	RATING
URBAN HIGHWAYS	EXPRESSWAYS

22 210717

ONE-WAY GUARDRAIL VEHICLE ARRESTING SYSTEM

IVEY DL
HIRSCH TJHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 109-118, 15 FIG, 2 TAB, 4 REF

*HIGHWAY DESIGN	GUARDRAILS
MOTOR VEHICLES	COLLISION TESTS
MEDIAN BARRIERS	ONE WAY
DECELERATION	ACCIDENT PREVENTION
HEAD ON COLLISIONS	DISABLED VEHICLES
REBOUND	MOTOR VEHICLE ACCIDENTS

22 210718

ROADSIDE DESIGN GUIDELINES

TUTT PR
NIXON JFHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 119-132, 27 FIG, 6 REF

*HIGHWAY DESIGN	ROADSIDE
HAZARDS	PROTECTION
GUARDRAILS	VEHICLE DYNAMICS
GUARDRAIL DESIGN	MEDIAN BARRIERS
ACCIDENT PREVENTION	

AREA 22 HIGHWAY DESIGN

22 210719

STUDY OF BOX-BEAM MEDIAN BARRIER ACCIDENTS

GALATI JV

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 7C
 NO 107 PP 133-39
 3 FIG 9 TAB 1 REF

*HIGHWAY DESIGN	MEDIAN BARRIERS
BOX BEAMS	EVALUATION
IMPACT STRENGTH	ACCIDENT PREVENTION
MOTOR VEHICLES	

22 211959

DYNAMIC TESTS OF CALIFORNIA TYPE 9 BRIDGE BARRIER RAIL AND TYPE 8 BRIDGE APPROACH GUARDRAIL

NORDLIN EF
 HACKETT RP
 FOLSOM JJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
 NO 302, PP 1-20, 37 PHOT, 5 REF, 1 APP

*HIGHWAY DESIGN	IMPACT TESTS
DYNAMIC TESTS	BRIDGE RAILS
GUARDRAILS	BRIDGE APPROACHES
AUTOMOBILES	DECELERATION
DESIGN	FULL SCALE SPECIMENS

22 211960

DESIGN, FABRICATION, AND INSTALLATION OF A FRAGMENTING-TUBE-TYPE ENERGY ABSORBER IN CONJUNCTION WITH A BRIDGE RAIL

WOOLAM WE
 GARZA LK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
 NO 302, PP 21-27, 4 FIG

*HIGHWAY DESIGN	ENERGY ABSORBERS
BRIDGE RAILS	FRAGMENTATION
TUBES	GUARDRAIL DESIGN
CANTILEVERS	GUARDRAILS
FABRICATION	INSTALLING
SMALL CAR	DEFLECTION
MOTOR VEHICLES	

22 211961

FULL-SCALE CRASH TESTS OF THE FRAGMENTING-TUBE-TYPE ENERGY-ABSORBING BRIDGE RAIL

STOCKER AJ
 IVEY DL
 HIRSCH TJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
 NO 302, PP 28-37, 2 FIG, 2 TAB, 13 PHOT, 2 REF, APP

*HIGHWAY DESIGN	COLLISION TESTS
FULL SCALE SPECIMENS	ENERGY ABSORBERS
FRAGMENTATION	TUBES
BRIDGE RAILS	GUARDRAILS
DEFLECTION	MOTOR VEHICLES

AREA 22 HIGHWAY DESIGN

22 212146

OPTIMIZATION OF VERTICAL ALIGNMENT FOR HIGHWAYS THROUGH MATHEMATICAL PROGRAMMING

HAYMAN RW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
 NO 306, PP 1-9, 2 FIG, 4 REF

*HIGHWAY DESIGN	GEOMETRIC DESIGN
VERTICAL CURVES	ALIGNMENTS
ALGORITHMS	DECISION THEORY
DIGITAL COMPUTERS	MATHEMATICAL ANALYSIS
HIGHWAY DESIGN	CENTERLINE
ELEVATION	COST DATA

22 212147

FLAT EMBANKMENT SLOPE VERSUS GUARDRAIL: COMPARATIVE ECONOMY AND SAFETY

NEUZIL D
 PEETJS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
 NO 306, PP 10-24, 11 FIG, 3 TAB, 9 REF

*HIGHWAY DESIGN	AESTHETICS
HIGHWAY ECONOMICS	HIGHWAY DESIGN
ROADSIDE	EMBANKMENTS
HEIGHT	SLOPE
GUARDRAILS	HIGHWAY SAFETY
MAINTENANCE COSTS	RIGHT-OF-WAY APPRAISAL
CULVERTS	COSTS

22 212150

FEASIBILITY OF LIGHTWEIGHT CELLULAR CONCRETE FOR VEHICLE CRASH CUSHIONS

IVEY DL
 BUTH E
 HIRSCH TJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
 NO 306, PP 50-57, 4 FIG, 2 TAB, 6 PHOT, 3 REF

*HIGHWAY DESIGN	LIGHTWEIGHT CONCRETES
CELLULAR CONCRETES	CUSHIONING
CAST IN PLACE STRUCTURES	PRECAST CONCRETE
VERMICULITE	WELDED WIRE FABRIC
COLLISION TESTS	HEAD ON COLLISIONS
PAPERBOARD	CYLINDERS

22 212151

EFFECT OF VEHICLE COLLISION WITH ALUMINUM ROADSIDE SIGN STRUCTURES MOUNTED ON FRANGIBLE BASES

MARTINEZ JE
 HIRSCH TJ
 BASKURT Y
 JUMPER JJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
 NO 306, PP 58-70, 9 FIG, 1 TAB, 3 REF, 1 APP

*HIGHWAY DESIGN	ROADSIDE
SIGN STRUCTURES	ALUMINUM
BREAKAWAY SUPPORTS	COLLISION TESTS
MATHEMATICAL MODELS	MOTION
SIMULATIONS	COMPUTER APPLICATIONS
SPEED	

AREA 22 HIGHWAY DESIGN

22 213000

GUIDELINES FOR MEDIAL AND MARGINAL ACCESS CONTROL ON MAJOR ROADWAYS

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 93, NCHRP PROJECT 3-13, 147 PP, 41 FIG, 11 TAB, 22 REF,
8 APP

*HIGHWAY DESIGN	ACCESS CONTROL
ARTERIAL HIGHWAYS /RURAL/ POLICE POWERS	ARTERIAL STREETS /URBAN/ ZONING
HIGHWAY CLASSIFICATION	GUIDELINES
INTERCHANGE DESIGN	DRIVEWAYS
LAWS	HIGHWAY DESIGN

22 214610

ANALYTICAL AERIAL TRIANGULATION FOR HIGHWAY LOCATION AND DESIGN

KARARA HM
MARKS GWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 319, PP 1-2

*HIGHWAY DESIGN	*PHOTOGRAMMETRY
*PAVEMENT PERFORMANCE	
*EXPLORATION-CLASSIFICATION /SOILS/	
AIRBORNE SURVEYING	AERIAL PHOTOGRAPHY
STEREOSCOPIC PHOTOGRAPHY	HIGHWAY LOCATION
MAPPING	TRIANGULATION
LARGE-SCALE PHOTOGRAPHY	

22 214611

ANALYTICAL AERIAL TRIANGULATION FOR LARGE-SCALE PHOTOGRAPHY

KNOWLES DR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 319, PP 3-15, 9 FIG

*HIGHWAY DESIGN	*PHOTOGRAMMETRY
*PAVEMENT PERFORMANCE	
*EXPLORATION-CLASSIFICATION /SOILS/	
HIGHWAY LOCATION	TRIANGULATION
COORDINATES	STEREOSCOPIC PHOTOGRAPHY
COMPUTER APPLICATIONS	MONOCULAR PHOTOGRAPHY
AIRBORNE SURVEYING	AERIAL PHOTOGRAPHY

22 214613

HIGHWAY LOCATION AND DESIGN UTILIZING PHOTOGRAMMETRIC TERRAIN DATA

MCNOLODY CE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 319, PP 30-39, 9 FIG, 2 REF

*HIGHWAY DESIGN	*PHOTOGRAMMETRY
*PAVEMENT PERFORMANCE	
*EXPLORATION-CLASSIFICATION /SOILS/	
HIGHWAY LOCATION	
CROSS SECTIONS	
STEREOSCOPIC PHOTOGRAPHY	
TERRAIN	
EARTHWORK CALCULATION	
COMPUTER APPLICATIONS	

AREA 22 HIGHWAY DESIGN

22 214616

PHOTOGRAMMETRIC DATA ACQUISITION FOR A FREEWAY RAMP OPERATIONS STUDY

TAYLOR JI
CARTER RGHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 319, PP 78-87, 5 FIG

*HIGHWAY DESIGN	*PHOTOGRAMMETRY
*PAVEMENT PERFORMANCE	
*EXPLORATION-CLASSIFICATION /SOILS/	
RAMPS	TRAFFIC FLOW
VEHICLES	DRIVER BEHAVIOR
WEATHER	LIGHT
FREEWAY RAMP	

22 215700

HIGHWAY ENVIRONMENTAL SAFETY DESIGN PRACTICES: A TOPICAL REVIEW

VANWAGONER WT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 332, PP 14-27, 20 FIG, 17 REF

*HIGHWAY DESIGN	*HIGHWAY SAFETY
HIGHWAY DESIGN	HIGHWAYS
COLLISIONS	HAZARDS
SAFETY	ENVIRONMENT
ROADSIDE	ROADWAY
STANDARDS	

22 216731

GENERAL COMPUTER PROGRAM FOR ANALYSIS OF AUTOMOBILE BARRIERS

PCWELL GH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 1-12, 12 FIG, 4 REF

*HIGHWAY DESIGN	COMPUTER PROGRAMS
AUTOMOBILES	BARRIERS
INELASTIC ACTION	FORCES
FRICTION	DRAG
INPUT	DATA
IMPACT	OUTPUT
TIME AND MOTION STUDIES	VELOCITY
ACCELERATION	DEFLECTION
INTERACTION	

22 216732

CRASH TEST PERFORMANCE OF A PROTOTYPE LIGHTWEIGHT CONCRETE ENERGY-ABSORBING GUARDRAIL SYSTEM

WARNER CY
WALKER GWHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 13-18, 5 FIG, 3 TAB, 4 REF

*HIGHWAY DESIGN	PERFORMANCE
GUARDRAILS	COLLISION TESTS
LIGHTWEIGHT CONCRETES	CARTRIDGE
VEHICLES	ACCELERATION
DESIGN	BENEFIT COST ANALYSIS
LOADS	REDUCTION
RESISTANCE	MAINTENANCE COSTS

AREA 22 HIGHWAY DESIGN

22 216733

DYNAMIC EVALUATION OF TIMBER PDSTS FOR HIGHWAY GUARDRAILS

MICHIE JD
GATCHELL CJ
DUKE TJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 19-33, 13 FIG, 6 TAB, 1 REF, 1 APP

*HIGHWAY DESIGN	GUARDRAILS
DYNAMICS	DYNAMIC LOADING
COLLISIONS	STEELS
EXPERIMENTATION	DEFLECTION
RESISTANCE	FORCES
FRACTURE ENERGY	MOMENT OF INERTIA
TIMBER GUARDRAIL	VEHICLES
POSTS	

22 216734

EVALUATION OF TIMBER WEAK-POST GUARDRAIL SYSTEMS

BRONSTAD ME
BURKET RBHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 34-56, 21 FIG, 3 TAB, 3 REF, 1 APP

*HIGHWAY DESIGN	COLLISION TESTS
GUARDRAILS	TIMBERS
POSTS	STEEL
CONTINUOUS STRUCTURES	INSTALLATIONS
DESIGN	SYSTEMS

22 216736

SCALE-MODEL TEST OF AN ENERGY-ABSORBING BARRIER

FAY RJ
WITTRICK EPHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 75-82, 7 FIG, 1 TAB, 3 REF

*HIGHWAY DESIGN	HIGHWAYS
BARRIERS	AUTOMOBILES
IMPACT	ENERGY ABSORPTION
DEFORMATION	SCALE MODEL
TESTING	

22 216737

WATER-PLASTIC CRASH ATTENUATION SYSTEM: TEST PERFORMANCE AND MODEL PREDICTION

WARNER CY
FREE JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 83-92, 12 FIG, 2 TAB, 7 REF

*HIGHWAY DESIGN	PERFORMANCE
MATHEMATICAL MODELS	COMPUTER APPLICATIONS
DYNAMIC RESPONSE	COLLISION TESTS
BARRIERS	IMPACT
HI-DRO CUSHION CELL	STOPPING DISTANCES
VEHICLES	CUSHIONING
PREDICTIONS	ATTENUATION

AREA 22 HIGHWAY DESIGN

22 216738

PERFORMANCE OF THE HI-DRO CUSHION CELL BARRIER VEHICLE-IMPACT ATTENUATOR

HAYES GG
IVEY DL
HIRSCH TJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 93-99, 13 FIG, 2 TAB, 5 REF

*HIGHWAY DESIGN	PERFORMANCE
VEHICLES	IMPACT
ATTENUATORS	BARRIERS
COLLISION TESTS	DECELERATION
COMPUTER APPLICATIONS	SIMULATIONS
DATA	HI-DRO CUSHION CELL
MODELS	

22 216739

DYNAMIC TESTS OF AN ENERGY-ABSORBING BARRIER EMPLOYING WATER-FILLED CELLS

NORDLIN EF
WOODSTROM JH
DOTY RNHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 100-122, 31 FIG, 2 TAB, 8 REF, 1 APP

*HIGHWAY DESIGN	DYNAMIC TESTS
ENERGY ABSORPTION	BARRIERS
IMPACT	VEHICLES
WATER	MOVEMENTS
CELLS	CARTRIDGE
PASSENGERS	SAFETY BELTS
INJURIES	DECELERATION
SPEED	

22 216740

DYNAMIC TESTS OF AN ENERGY-ABSORBING BARRIER EMPLOYING STEEL DRUMS

NORDLIN EF
WOODSTROM JH
DOTY RNHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 123-141, 23 FIG, 2 TAB, 15 REF, 1 APP

*HIGHWAY DESIGN	DYNAMIC TESTS
ENERGY ABSORPTION	VEHICLES
IMPACT	BARRIERS
HEAD ON COLLISIONS	ANGLES /GEOMETRY/
DECELERATION	DAMAGE
PASSENGERS	

22 216746

CAREFUL PLANNING AND BUILDING OF ROADS HAS IMPROVED STREAM FISHING IN MONTANA

PETERS JC

HIGHWAY RESEARCH NEWS, HWY RES BOARD 71
NO 43, PP 17-21

*HIGHWAY DESIGN	CONSERVATION
FISH	HIGHWAY DESIGN
EXCAVATIONS	ENVIRONMENT

AREA 22 HIGHWAY DESIGN

22 218144

NEW DESIGN APPROACH TO LONG-SPAN OVERHEAD SIGN STRUCTURES

PELKEY RE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 346, PP 1-10, 9 FIG, 11 REF, APP

*HIGHWAY DESIGN	DESIGN
OVERHEAD TRAFFIC SIGNS	STRUCTURES
DEFLECTION	LIMITS
SPECIFICATIONS	SPANS
WIND VELOCITY	HIGHWAY SIGNS
DEAD LOADS	

22 218145

BUCKLING STRESS FORMULAS FOR OVERHEAD SIGN BRIDGE SUPPORTS

GUNDERSON RH
CETINER A
CLSON RMHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 346, PP 11-22, 5 FIG, 1 TAB, 12 REF, APP

*HIGHWAY DESIGN	BUCKLING
STRESSES	FORMULAS
OVERHEAD TRAFFIC SIGNS	BEAMS
SUPPORTS	HIGHWAY SIGNS
CANTILEVERS	AASHO
BRIDGES	ECONOMICS
SPECIFICATIONS	

22 218146

IMPACT RESPONSE OF OVERHEAD SIGN BRIDGES MOUNTED ON BREAKAWAY SUPPORTS

MARTINEZ JE
CLSON RM
POST ERHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 346, PP 23-34, 9 FIG, 6 TAB, 9 REF

*HIGHWAY DESIGN	OVERHEAD TRAFFIC SIGNS
BRIDGES	BREAKAWAY BASES
SUPPORTS	COLLISIONS
DESIGN	COLLISION TESTS
PROTOTYPES	INJURIES
SIMULATIONS	MATHEMATICAL MODELS
COMPUTER APPLICATIONS	HIGHWAY SIGNS

22 218148

WIND LOADS ON LOUVERED SIGNS

ROSS HE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 346, PP 47-57, 14 FIG, 2 TAB, 4 REF

*HIGHWAY DESIGN	WIND LOADS
LOUVERS	FORCE
MOMENTS	COEFFICIENTS
SIGNS	

AREA 22 HIGHWAY DESIGN

22 218558

GUARDRAIL PERFORMANCE AND DESIGN

MICHIE JD
CALCOTE LR
BRONSTAD MEHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 115, PROJ 15-1(2), 70 PP, 55 FIG, 30 TAB, 3 APP

*HIGHWAY DESIGN	GUARDRAILS
PERFORMANCE	DESIGN
COLLISION RESEARCH	COLLISION TEST
MATHEMATICAL MODELS	COMPUTER APPLICATIONS
VEHICLE DYNAMICS	FIXED OBJECT

22 218944

HIGHWAY NOISE A DESIGN FOR HIGHWAY ENGINEERS

GOROUN CG
GALLUWAY WJ
KUGLER BA
NELSON DLHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 117, 79 PP, 17 FIG, 11 TAB, 33 REF, 2 APP

*HIGHWAY DESIGN	HIGHWAYS
TRAFFIC NOISES	NOISE /SOUND/
HIGHWAY DESIGN	DESIGN CRITERIA
PREDICTIONS	

22 220654

LOCATION, SELECTION, AND MAINTENANCE OF HIGHWAY TRAFFIC BARRIERS

MICHIE JD
BRONSTAD MEHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 118, 90 PP, FIGS, 13 TAB, 50 REF, 8 APP

*HIGHWAY DESIGN	BARRIERS
LOCATING	SELECTING
MAINTENANCE	GUARDRAILS
MEDIAN BARRIERS	BRIDGE RAILS
ENERGY ABSORBERS	WARRANTS

22 220657

PROTECTION OF HIGHWAY UTILITY

MARKS H

HIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 121, 115 PP, FIGS, 5 TAB, 350 REF

*HIGHWAY DESIGN	LAND USE
TRANSPORTATION	FACILITIES
TRAFFIC GENERATION	HIGHWAY CLASSIFICATION
ACCESS	ARTERIAL STREETS /URBAN/
INTERSECTIONS	CORRIDORS
INTERCHANGES	LAND USE CONTROLS
TRANSPORTATION PLANNING	HIGHWAYS
UTILITIES	

AREA 22 HIGHWAY DESIGN

22 222950

INTERACTIVE GRAPHIC ROADWAY DESIGN SYSTEM

HIGHWAY RESEARCH BOARD NCHRP DIGEST
NO 37 MAR 72
5 PP

*HIGHWAY DESIGN	MAN MACHINE INTERACTION
COMPUTER AIDED DESIGN	COMPUTER GRAPHICS
COMPUTER APPLICATIONS	COMPUTER PROGRAMS
HIGHWAY DESIGN	

22 223727

GUARORAIL CRASH TEST EVALUATION/NEW CONCEPTS AND END DESIGNS

MICHIE JD
BRONSTAD MEHIGHWAY RESEARCH BOARD NCHRP REPORTS
NO 149 89 PP 72
FIGS TABS 12 REF

*HIGHWAY DESIGN	GUARDRAILS
ENDS	DESIGN INFORMATION
GUARDRAIL DESIGN	BARRIERS
ACCIDENT SEVERITY	ENERGY ABSORPTION
COLLISION TESTS	

22 223887

ENGINEERING SYSTEMS: AN OVERVIEW

WILSON WA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS
SPECIAL REPORT 128 72
PP 23-7

*HIGHWAY DESIGN	ENGINEERING SYSTEMS
COMPUTER APPLICATIONS	HIGHWAY DESIGN
BRIDGES	RATING

22 223888

AUTOMATED ROAD DESIGN

WALKER LG

HIGHWAY RESEARCH BOARD SPECIAL REPORTS
SPECIAL REPORT 128 72
PP 28-35

*HIGHWAY DESIGN	HIGHWAY DESIGN
AUTOMATION	COMPUTER APPLICATIONS
DIGITAL PLOTTERS	DIGITAL SYSTEMS
PLOTTING	ENGINEERING SYSTEMS
PHOTOGRAMMETRY	MAPPING
COMPUTER AIDED DESIGN	COMPUTER GRAPHICS
GEOMETRIC DESIGN	

22 223892

SYSTEMS FOR BIO ANALYSIS, GUARORAIL LOCATIONS, CONSTRUCTION SCHEDULING, AND ESTIMATING EARTHWORK QUANTITIES

WILSON WA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS
SPECIAL REPORT 128 72
1 FIG PP 59-62

*HIGHWAY DESIGN	COMPUTER PROGRAMS
BIDS	PROPOSALS
GUARDRAIL WARRANTS	EARTHWORK CALCULATION
HIGHWAY CONSTRUCTION	SCHEDULING
CRITICAL PATH METHOD	

AREA 22 HIGHWAY DESIGN

22 224304

HYBRID BARRIER FOR USE AT BRIDGE PIERS IN MEDIANS (MOOLAR CRASH CUSHION PLUS CONCRETE MEDIAN BARRIER)

HAYES GG
IVEY DL
HIRSCH TJ
VINER JGHIGHWAY RESEARCH RECORD, HWY RES BOARD
NO 386 PP 1-9 72
9 FIG 5 REF

*HIGHWAY DESIGN	CRASH CUSHIONS
BRIDGE PIERS	MEDIAN BARRIERS
ENERGY ABSORBERS	COLLISION TESTS

22 224305

EVALUATION OF CRASH CUSHIONS CONSTRUCTED OF LIGHTWEIGHT CELLULAR CONCRETE

IVEY DL
BUTH E
HIRSCH TJ
VINER JGHIGHWAY RESEARCH RECORD, HWY RES BOARD
NO 386 PP 10-18 72
12 FIG 1 TAB 5 REF

*HIGHWAY DESIGN	CRASH CUSHIONS
LIGHTWEIGHT CONCRETES	COLLISION TESTS

22 224306

CRASH TESTS OF AN ARTICULATED ENERGY-ABSORBING GORE BARRIER EMPLOYING LIGHTWEIGHT CONCRETE CARTRIDGES

WALKER GW
YOUNG BO
WARNER CYHIGHWAY RESEARCH RECORD, HWY RES BOARD
NO 386 PP 19-27 72
10 FIG 1 TAB 7 REF

*HIGHWAY DESIGN	COLLISION TESTS
ENERGY ABSORPTION	VERMICULITE
LIGHTWEIGHT CONCRETES	CARTRIDGE
BARRIERS	GORE

22 224307

DYNAMIC TESTS OF AN ENERGY-ABSORBING BARRIER EMPLOYING SAND-FILLED PLASTIC BARRELS

NORDLIN EF
STOKER JR
DCTY RNHIGHWAY RESEARCH RECORD, HWY RES BOARD
NO 386 PP 28-51 72
30 FIG 12 REF

*HIGHWAY DESIGN	ENERGY ABSORBERS
COLLISION TESTS	BARRIERS
GORE	SANDS
COSTS	MAINTENANCE

AREA 22 HIGHWAY DESIGN

22 224308

FULL-SCALE VEHICLE CRASH TESTS OF LUMINAIRE SUPPORTS

BUTH E
IVEY DLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 386 PP 52-65
19 FIG 2 TAB 5 REF*HIGHWAY DESIGN COLLISION TESTS
LUMINAIRES SUPPORTS
MOMENTUM ACCELEROMETERS
AUTOMOBILE MAKES

22 224309

AN EVALUATION OF THE IMPACT RESPONSE OF VARIOUS MOTORIST-AID
CALL SYSTEMSMARTINEZ JE
HAIRSTON DEHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 386 PP 66-74
8 FIG 1 TAB 5 REF*HIGHWAY DESIGN CALL BOXES
DISABLED VEHICLES COLLISION TESTS
MATHEMATICAL MODELS SAFETY FEATURES
DAMAGE

22 224310

EVALUATION OF A NEW GUARDRAIL TERMINAL

BRONSTAD ME
MICHIE JOHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 386 PP 75-7
2 FIG 3 TAB 1 REF*HIGHWAY DESIGN GUARDRAILS
COLLISION TESTS COMPONENTS

22 224311

CRASH TEST EVALUATION OF STRONG-POST, ENERGY-ABSORBING
GUARDRAIL USING A LAPPED W-BEAM FOR TRANSITIONS AND MEDIAN
BARRIERSWALKER GW
WARNER CYHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 386 PP 78-87
8 FIG 1 TAB 3 REF*HIGHWAY DESIGN COLLISION TESTS
ENERGY ABSORBERS GUARDRAILS
MEDIAN BARRIERS TRANSITION ZONES

AREA 22 HIGHWAY DESIGN

22 224312

DYNAMIC TESTS OF THE CALIFORNIA TYPE 15 BRIDGE BARRIER RAIL

NORDLIN EF
STOKER JR
HACKETT RP
OCTY RNHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 386 PP 88-100
18 FIG 1 TAB 11 REF*HIGHWAY DESIGN COLLISION TESTS
BRIDGE RAILS BARRIERS
STRUCTURAL STEELS DECELERATION RATE
POST SPACING

22 224313

TENTATIVE CRITERIA FOR DESIGN OF SAFE SLOPING CULVERT
GRATESROSS HE
PGST FRHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 386 PP 101-10
8 FIG 1 TAB 7 REF*HIGHWAY DESIGN CULVERTS
GRATES DRAINAGE STRUCTURES
SLOPE SIMULATIONS
COMPUTERS AUTOMOBILES

22 224314

MEDIAN DIKE IMPACT EVALUATION: SENSITIVITY ANALYSIS

DUNLAP DF
GRUTE PHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 386 PP 111-22
7 FIG 7 TAB 14 REF*HIGHWAY DESIGN EARTH DIKES
MEDIANS SIMULATIONS
COLLISION TESTS ACCELERATION
VELOCITY CENTER OF GRAVITY
SOFT GROUND

22 224329

INDEPENDENT VERSUS NARROW-MEDIAN ALIGNMENT: COMPARATIVE
ECONOMY, SAFETY, AND AESTHETICSPEET JS
NEUZIL DHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 390 PP 1-14
12 FIG 1 TAB 9 REF*HIGHWAY DESIGN MEDIANS
WIDTHS GEOMETRIC DESIGN
MEDIAN BARRIERS ALIGNMENTS

AREA 22 HIGHWAY DESIGN

22 224330

HIGHWAY CURVE DESIGN FOR SAFE VEHICLE OPERATIONS

GLENNDON JC
WEAVER GDHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 390 PP 15-26
8 FIG 3 TAB 5 REF

*HIGHWAY DESIGN	HORIZONTAL CURVES
SKID RESISTANCE	HIGHWAY SAFETY
VEHICLE PATH	DESIGN
LATERAL PLACEMENT	

22 224331

COST-EFFECTIVENESS TECHNIQUE FOR ANALYSIS OF ALTERNATIVE INTERCHANGE DESIGN CONFIGURATIONS

WATTLEWORTH JA
INGRAM JWHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 390 PP 27-35
3 FIG 3 TAB 2 REF

*HIGHWAY DESIGN	HIGHWAY PLANNING
HIGHWAY CAPACITY	INTERCHANGE DESIGN
PEAK HOUR TRAFFIC	BENEFIT COST ANALYSIS

22 224661

THE RELATIVE EFFECTS OF SEVERAL FACTORS AFFECTING RAINWATER DEPTHS ON PAVEMENT SURFACES

GALLAWAY BM
ROSE JG
SCHILLER REHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 396 PP 59-71
8 FIG 4 TAB 22 REF

*HIGHWAY DESIGN	WET CONDITIONS
SURFACE WATERS	PAVEMENTS
WATER LEVELS	RAINFALL INTENSITY
SLOPES	SURFACE TEXTURE
DRAINAGE	EQUATIONS
HYDRAULICS	WATER FLOW
PAVEMENT SKIDDING CHARACTERISTICS	
PAVING MIXTURES	

22 226103

HIGHWAYS AND THE ENVIRONMENT: NEW PROBLEMS AND NEW OPPORTUNITIES

WRIGHT JR

HIGHWAY RESEARCH NEWS, HWY RES BOARD 72
NO 48 PP 37-46
60 REF

*HIGHWAY DESIGN	REVIEWS
BIBLIOGRAPHIES	HIGHWAYS
ENVIRONMENTAL EFFECTS	SIMULATIONS
TRAFFIC NOISES	MODELS
AIR POLLUTION	SALTS
RUNOFF	SUSPENDED SEDIMENTS
RESOURCE MANAGEMENT	LAND USE
LAWS	PROGRAMS

AREA 22 HIGHWAY DESIGN

22 227971

INTERACTIVE GRAPHIC ROADWAY DESIGN SYSTEM-FUNCTIONAL SPECIFICATIONS AND FEASIBILITY STUDY

BEILFUSS CW
Dwyer TA
PHILIPS RMHIGHWAY RESEARCH BOARD NCHRP SUMMARY 72
PP 138-48

PROJ NO 20-8

*HIGHWAY DESIGN	HIGHWAY DESIGN
COMPUTER GRAPHICS	MAN MACHINE SYSTEMS
ON LINE COMPUTERS	

22 227972

CONCEPTS FOR IMPROVED TRAFFIC BARRIER SYSTEMS

WHITE WW
SHULMAN MA
POWELL GH
BURNETT CRHIGHWAY RESEARCH BOARD NCHRP SUMMARY 72
PP 148-74
6 TAB

PROJ NO 22-1

*HIGHWAY DESIGN	GUARDRAILS
MEDIAN BARRIERS	BRIDGE RAILS
GUARDRAIL DESIGN	DESIGN
ENERGY ABSORPTION	

22 228571

UTILIZATION OF REMOTE SENSING IN THE PRELIMINARY AERIAL SURVEY-HIGHWAY PLANNING STAGE IN VIRGINIA

NOBLE DF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 41-9
2 FIG 3 TAB 6 REF

*HIGHWAY DESIGN	REMOTE SENSING
HIGHWAY PLANNING	AIRBORNE SURVEYING
INFRARED PHOTOGRAPHY	SOIL MOISTURE

22 228572

USE OF REMOTE SENSORS IN HIGHWAY ENGINEERING IN KANSAS

STALLARD AH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 50-7
6 FIG 1 TAB 1 REF

*HIGHWAY DESIGN	REMOTE SENSING
HIGHWAY ENGINEERING	AERIAL PHOTOGRAPHY
INFRARED IMAGERY	INFRARED PHOTOGRAPHY
COLOR PHOTOGRAPHY	SOIL MAPPING

AREA 23 HIGHWAY DRAINAGE

23 205334

JOINT PROBABILITIES IN THE RAINFALL-RUNOFF RELATION

HIEMSTRA LA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 261, PP 1-17, 12 FIG, 1 TAB, 19 REF

*HIGHWAY DRAINAGE	HIGHWAY DRAINAGE
SURFACE DRAINAGE	RAINFALL
RUNOFF	CATCHMENT AREAS
STOCHASTIC PROCESSES	PROBABILITY THEORY
RANDOMIZATION	HYDROGRAPHS
FLOOD PEAKS	NORMAL DISTRIBUTION

23 205335

DEPTH OF FLOW AS A DESIGN CRITERION FOR CHANNELS WITH ARTIFICIAL LINERS

MCWHORTER JC
CARPENTER TG
CLARK RNHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 261, PP 18-24, 9 FIG, 6 REF

*HIGHWAY DRAINAGE	CHANNEL LININGS
DESIGN CRITERIA	CHANNEL EROSION
TEST SECTIONS	HEAVY SOILS
CLAYS	SANDS
FLOW MEASUREMENT	CHANNEL EROSION
WATER SURFACE PROFILES	DEPTH
VELOCITY	HYDRAULIC RADIUS
SLOPE	REGRESSION ANALYSIS
SOIL EROSION	

23 205336

DESIGN OF ROUGHNESS FOR ENERGY DISSIPATION IN HIGHWAY DRAINAGE CHUTES

MORRIS HM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 261, PP 25-37, 5 FIG, 15 REF

*HIGHWAY DRAINAGE	HYDRAULICS
ENERGY DISSIPATION	STORM WATER DRAINAGE
CHANNELS /DRAINAGE/	STILLING BASINS
ROUGHNESS	TUMBLING
HYDRAULIC JUMP	DESIGN CRITERIA
VELOCITY	TWO DIMENSIONAL
CUBES	EQUATIONS
PLACEMENT	SPACING

23 205410

REBUILT WOLF CREEK CULVERT BEHAVIOR

SHEER AC
WILLET GAHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 262, PP 1-13, 13 FIG, 1 TAB, 9 REF

*HIGHWAY DRAINAGE	CULVERTS
STRUCTURAL BEHAVIOR	STEEL PLATES
RECONSTRUCTION	IMPERFECT TRENCH METHOD
FAILURE	ELECTRICAL STRAIN GAGES
SOILS	
STRESS DISTRIBUTION /SOILS/	VERTICAL LOADS
PRESSURE CELLS	RESIDUAL STRESS
STRAIN GAGES	CIRCUMFERENTIAL STRESSING
BENDING	COMPACTION
BACKFILLING	

AREA 23 HIGHWAY DRAINAGE

23 205411

PERFORMANCE OF A REINFORCED CONCRETE PIPE CULVERT UNDER ROCK EMBANKMENT

DEEN RC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 262, PP 14-28, 13 FIG, 7 REF, 2 APP

*HIGHWAY DRAINAGE	REINFORCED CONCRETE CULVERTS	BEDDING
PIPE CULVERTS	PIPE CULVERTS	EMBANKMENTS
ROCKS	ROCK FILLS	PARTICLE SIZE DISTRIBUTION
BEARING CAPACITY		

23 205412

CULVERT DESIGN IN SOME EUROPEAN COUNTRIES

KARADI GM
KRIZEK RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 262, PP 29-43, 11 FIG, 4 TAB, 28 REF

*HIGHWAY DRAINAGE	CULVERTS
DESIGN	FOREIGN COUNTRIES
CULVERT INSTALLATION	DURABILITY
STRUCTURAL DESIGN	BEDDING
CORROSION PREVENTION	BITUMENS
COATINGS	STEELS
DYNAMIC LOADS	

23 209407

TRAFFIC-SAFE AND HYDRAULICALLY EFFICIENT DRAINAGE PRACTICE

HRB NCHRP SYNTHESIS OF HWY PRACTICE 69
NO 3, 38 PP, 46 FIG, 3 TAB, 14 REF, 3 APP

*HIGHWAY DRAINAGE	DRAINAGE STRUCTURES
HYDRAULICS	TRAFFIC SAFETY
REVIEWS	INTERVIEWS
ROADSIDE	HIGHWAY DRAINAGE
DESIGN	ENERGY DISSIPATION
INLETS	GRATES

23 209492

RESEARCH NEEDS: SURFACE DRAINAGE

HIGHWAY RES CIRCULAR, HWY RES BOARD JAN70
NO 104, 10 PP

*HIGHWAY DRAINAGE	HIGHWAY DRAINAGE
SURFACE DRAINAGE	ENERGY DISSIPATION
CULVERTS	STORM DRAINS
FLOOD FORECASTING	SIPHONS
EROSION CONTROL	SCOURING
BRIDGE PIERS	BRIDGE ABUTMENTS
CONTROL	

AREA 23 HIGHWAY DRAINAGE

23 211620

EFFECTS OF DEICING SALTS ON WATER QUALITY AND BIOTA -
LITERATURE REVIEW AND RECOMMENDED RESEARCHHANES RE
ZELAZNY LW
BLAZER REHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
PROJ 16-1, PART II, NO 51, 70 PP, FIGS, TABS, 5 APP

*HIGHWAY DRAINAGE REVIEWS WATER SUPPLY SURVEYS /DATA COLLECTION/ WILDLIFE PLANTS /BOTANY/	*MAINTENANCE /GENERAL/ DEICERS SNOW & ICE CONTROL SALTS PLANT COVER DRAINAGE SYSTEMS
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23 213007

STRUCTURAL DESIGN OF PIPE CULVERTS

HIGHWAY RESEARCH BOARD NCHRP DIGEST MAY70
DIGEST NO 17, 4 PP

*HIGHWAY DRAINAGE STRUCTURAL DESIGN RIGID CONDUITS DURABILITY CONCRETES WATER FLOW SULFATE RESISTING CEMENTS	PIPE CULVERTS LOAD DISTRIBUTION FLEXIBLE CONDUITS ALUMINUM PH VALVE CORROSION PREVENTION AIR ENTRAINED CONCRETE
--	---

23 215268

SCOUR AT BRIDGE WATERWAYS

HRB NCHRP SYNTHESIS OF HWY PRACTICE 70
REPT NO 5, 37 PP, 16 FIG, 4 TAB, 5 APP

*HIGHWAY DRAINAGE RUNOFF BRIDGES FOUNDATIONS /STRUCTURES/ PILES STREAM SCOUR PREDICTIONS FLOODS	*BRIDGE DESIGN STREAM FLOW DESIGN FOUNDATION SCILS SCOURING EMBANKMENTS PIERS SOIL EROSION
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23 215405

TENTATIVE DESIGN PROCEDURE FOR RIPRAP-LINED CHANNELS

ANDERSON AG
PAINTAL AS
DAVENPORT JTHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 108, 175 PP, FIGS, TABS, PHOTS

*HIGHWAY DRAINAGE CHANNEL LININGS RIPRAP	DRAINAGE STRUCTURES EROSION CONTROL DESIGN CRITERIA
--	---

AREA 23 HIGHWAY DRAINAGE

23 218258

STRUCTURAL ANALYSIS AND DESIGN OF PIPE CULVERTS

KRIZEK RJ
PARMELEE RA
KAY JN
ELNAGGAR HAHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 116, 155 PP, FIGS, TABS, 124 REF, 14 APP

*HIGHWAY DRAINAGE *MECHANICS /EARTH MASS/ DESIGN PIPE CULVERTS SOILS SAFETY FACTORS CONSTRUCTION METHODS DURABILITY	*BRIDGE DESIGN *GENERAL MATERIALS CULVERTS STRUCTURAL DESIGN FAILURE RESEARCH HANDLING
--	--

HRIS 23 218259

23 218259

BIBLIOGRAPHY ON ANALYSIS, DESIGN, AND INSTALLATION OF
HIGHWAY CULVERTSKRIZEK RJ
PARMELEE RA
KAY JN
ELNAGGAR HAHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
BIBLIOGRAPHY REPORT NO 116
469 REF

*HIGHWAY DRAINAGE *MECHANICS /EARTH MASS/ BIBLIOGRAPHIES DESIGN CULVERT INSTALLATION	*BRIDGE DESIGN *GENERAL MATERIALS CULVERTS STRUCTURAL ANALYSIS
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HRIS 23 218258

23 222183

HYDRAULICS OF RIGID BOUNDARY BASINS

WATTS FJ
SIMONS DBHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 373, PP 1-10, 6 FIG, 7 REF

*HIGHWAY DRAINAGE BASINS ENERGY DISSIPATION CULVERTS	RIGID BOUNDARIES HYDRAULICS DESIGN
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23 222184

ANALYSIS OF RIGID OUTFALL BASINS WITH HIGH TAILWATER

WATTS FJ
SIMONS DB
STEVENS MAHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 373, PP 11-23, 11 FIG, 7 REF

*HIGHWAY DRAINAGE TAIL WATER ENERGY DISSIPATION CULVERTS	BASINS JET DIFFUSION DESIGN CULVERT OUTLETS
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AREA 23 HIGHWAY DRAINAGE

23 222185

RIPRAPPED BASINS FOR CULVERT OUTFALLS

STEVENS MA
SIMONS DB
WATTS FJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 373, PP 24-38, 11 FIG, 9 REF

*HIGHWAY DRAINAGE	CULVERTS
BASINS	RIPRAP
OUTLETS	MODEL TESTS
DESIGN	SCOURING
CULVERT OUTFALLS	

23 222186

DESIGN CRITERIA FOR CONTROLLED SCOUR AND ENERGY DISSIPATION AT CULVERT OUTFALLS USING ROCK AND A SILL

THORSON DA
SHIROLE AM
KARIM MHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 373, PP 39-51, 5 FIG, 5 TAB, 9 REF

*HIGHWAY DRAINAGE	SCOURING
DESIGN CRITERIA	ENERGY DISSIPATION
CULVERT OUTFALLS	CULVERTS
ROCKS	BASINS
MODELS	SILLS
GEOMETRY	FLOW

23 222187

EVALUATION OF THREE ENERGY DISSIPATORS FOR STORM DRAIN OUTFALLS

GRACE JL
PICKERING GAHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 373, PP 52-63, 11 FIG, 1 TAB, PHOTOS, 4 REF

*HIGHWAY DRAINAGE	STORM DRAINS
OUTLETS	ENERGY DISSIPATION
MODEL TESTS	STILLING BASINS
BASINS	

23 222188

ROUGHNESS ELEMENTS AS ENERGY DISSIPATORS OF FREE-SURFACE FLOW IN CIRCULAR PIPES

WIGGERT JM
ERFLE PD
MORRIS HMHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 373, PP 64-73, 8 FIG, 1 TAB, 3 REF

*HIGHWAY DRAINAGE	PIPE CULVERTS
ENERGY DISSIPATION	HYDRAULIC JUMP
RINGS	OPEN CHANNELS
MODEL TESTS	PIPE FLOW
DESIGN	

AREA 23 HIGHWAY DRAINAGE

23 222189

PERFORMANCE OF PLASTIC FILTER CLOTHS AS A REPLACEMENT FOR GRANULAR FILTER MATERIALS

CALHCUN CC
CCMPTON JR
STROHM WEHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 373, PP 74-85, 11 FIG, 2 TAB, 6 REF

*HIGHWAY DRAINAGE	FILTER MATERIALS
PLASTICS	CLOTH
DRAINAGE	LABORATORY TESTS
FIELD PERFORMANCE	

23 223889

TEXAS HYDRAULIC SYSTEM

REAGAN D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
SPECIAL REPORT 128 PP 36-3

*HIGHWAY DRAINAGE	COMPUTER PROGRAMS
HYDRAULICS	HYDRAULIC STRUCTURES
SEWERS	DISCHARGE
CHANNELS /DRAINAGE/	HIGHWAY DRAINAGE
DESIGN	COMPUTATIONS

23 224826

COMMITTEE ON SURFACE DRAINAGE OF HIGHWAYS - RESEARCH NEEDS

BEATON JL
THORSTENSON FW
HERR LA
SPAINE LFHIGHWAY RES CIRCULAR, HWY RES BOARD AUG72
NO 138 14 PP
1 PHOT

*HIGHWAY DRAINAGE	RESEARCH
REQUIREMENTS	

23 228527

BALANCED DESIGN AND FINITE-ELEMENT ANALYSIS OF CULVERTS

ALLGOOD JR
TAKAHASHI SKHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 413 PP 45-56
9 FIG 22 REF

*HIGHWAY DRAINAGE	CULVERT PRESSURE
CULVERTS	STRESSES
DESIGN	ARCHING EFFECT
FINITE ELEMENTS	MOMENTS

AREA 23 HIGHWAY DRAINAGE

23 228528

STRUCTURAL DESIGN PRACTICE OF PIPE CULVERTS

BUTLER BE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 413 PP 57-66
 3 FIG 8 REF

*HIGHWAY DRAINAGE STRUCTURAL DESIGN
 PIPE CULVERTS CULVERT INSTALLATION
 STANDARDS DURABILITY
 RATING

23 228529

DESIGN OF CIRCULAR SOIL-CULVERT SYSTEMS

NIELSON FD
 STATISH ND

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 413 PP 67-76
 4 FIG 5 TAB

*HIGHWAY DRAINAGE DEFORMATION
 DESIGN CIRCULAR LOADED AREAS
 CULVERTS SOIL PROPERTIES
 MODULUS OF ELASTICITY DRY DENSITY
 FLEXIBLE CONDUITS

23 228530

BUCKLING OF CYLINDERS IN A CONFINING MEDIUM

CHELAPATI CV
 ALLGOOD JR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 413 PP 77-88
 6 FIG 12 REF

1 APP

*HIGHWAY DRAINAGE BUCKLING
 DEFLECTION CYLINDERS
 CIRCULAR LOADED AREAS RADIAL STRESS
 MATHEMATICAL ANALYSIS PRESSURE
 CONDUITS UNDERGROUND STRUCTURES

23 228531

THE IOWA DEFLECTION FORMULA: AN APPRAISAL WITH DISCUSSION

PARMELEE RA
 CURTIS RB
 SPANGLER MG

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 413 PP 89-102
 8 FIG 4 TAB 20 REF

*HIGHWAY DRAINAGE DEFLECTION
 CORRUGATED PIPE CULVERTS SOIL PRESSURES
 UNDERGROUND STRUCTURES FLEXIBLE CONDUITS
 MODULUS OF SOIL REACTION STRESS ANALYSIS

AREA 23 HIGHWAY DRAINAGE

23 229491

ESTIMATING PEAK RUNOFF RATES FROM UNGAGED SMALL RURAL WATERSHEDS

BLOCK P
 ENGER I
 MALHOTRA GP
 CHISHOLM DA

HIGHWAY RESEARCH BOARD NCHRP REPORTS 72

APP NO 136 85 PP
 1 FIG 5 TAB 64 REF

*HIGHWAY DRAINAGE RUNOFF FORECASTING
 PEAK RATES CULVERTS
 SIZE WATERSHEDS

AREA 24 ROADSIDE DEVELOPMENT

24 206806

WILDLIFE--AN ESSENTIAL CONSIDERATION DETERMINING FUTURE HIGHWAY ROADSIDE MAINTENANCE POLICY

JCSELYN GB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NC 280, PPI-14, 1 FIG, 2 TAB, 80 REF

*ROADSIDE DEVELOPMENT WILDLIFE
 ROADSIDE DEVELOPMENT ROADSIDE
 MAINTENANCE VEGETATION
 MOWING TRAFFIC ACCIDENT CAUSES
 DEER BIRDS

24 206807

THE HIGHWAY ROADSIDE AS AN ELEMENT IN URBAN DESIGN

FEDERICK JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NC 280, PP 15-24, 21 FIG, 15 REF

*ROADSIDE DEVELOPMENT COMMUNITY PLANNING
 HIGHWAY PLANNING ROADSIDE DEVELOPMENT
 METROPOLITAN AREA PLANNING URBAN PLANNING
 OPEN SPACE CONTROL LAND USE PLANNING
 MULTIPLE USE AESTHETICS
 LANDSCAPE DESIGN INTERCHANGE AREA

24 206809

WATER SYSTEMS FOR INTERSTATE SAFETY REST AREAS: QUANTITY AND QUALITY ASPECTS

JOHNSON RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 280, PP 39-52, 3 FIG, 2 TAB

*ROADSIDE DEVELOPMENT INTERSTATE HIGHWAY SYSTEM
 REST AREAS WATER SUPPLY
 WATER DEMAND WATER STORAGE
 WATER QUALITY PLANNING

AREA 24 ROADSIDE DEVELOPMENT

24 206810

DESIGN OF REST AREA COMFORT FACILITIES BY SYSTEMS ANALYSIS

MCCANN H
MARING GHIGHWAY RESEARCH RECDRD, HWY RES BOARD 65
NO 280, PP 53-58, 1 FIG, 8 TAB

*ROADSIDE DEVELOPMENT	SYSTEMS ANALYSIS
REST AREAS	SANITARY FACILITIES
SIMULATIONS	MODELS
DESIGN CRITERIA	

24 209257

EFFECT OF HIGHWAY LANDSCAPE DEVELOPMENT ON NEARBY PROPERTY

BRINTON JH
BLCOM JNHIGHWAY RESEARCH RECDRD NCHRP REPORTS 69
NO 75, 82 PP, 38 FIGS, 6 TABS, 9 APPS

*ROADSIDE DEVELOPMENT	CONTROLLED ACCESS HIGHWAYS
LANDSCAPE DESIGN	LANDFORMS
REAL PROPERTY	VALUES
DATA ANALYSIS	ACOUSTIC MEASUREMENT
TREES /PLANTS/	HOUSES
DISTURBANCES	DEPRESSED HIGHWAYS
ELEVATED HIGHWAYS	SPECIFICATIONS
HIGHWAY LOCATION	

24 213789

PLANNED PROGRAM OF TREE AND SHRUB PLANTING ENHANCES
BEAUTY OF AMERICA'S GREAT PLAINS

CAVIOSON WH

HIGHWAY RESEARCH NEWS, HWY RES BOARD 70
NO 40, PP 22-26, 1 FIG, 1 TAB, 7 REF

*ROADSIDE DEVELOPMENT	TREES /PLANTS/
SHRUBS	PLANTING
AESTHETICS	HERBICIDES

24 215746

1968 NATIONAL REST AREA USAGE STUDY

LITZ LE
LIEDER N
MCCANN HHIGHWAY RESEARCH RECDRD, HWY RES BOARD 70
NO 335, PP 1-5, 4 FIG, 3 TAB, 1 REF.

*ROADSIDE DEVELOPMENT	*MAINTENANCE /GENERAL/
REST AREAS	FACILITIES
SPACING	DEMAND
CHARACTERISTICS	TOILETS
INTERVIEWS	REST
EATING	SURVEYS /DATA COLLECTION/
REST STOPS	

AREA 24 ROADSIDE DEVELOPMENT

24 215747

METABOLIC INDEX AS A DIAGNOSTIC TOOL IN TREE HEALTH
DETERMINATION

BUTTON EF

HIGHWAY RESEARCH RECDRD, HWY RES BOARD 70
NO 335, PP 6-8, 2 TAB, 6 REF

*ROADSIDE DEVELOPMENT	TREES /PLANTS/
TREE DAMAGE	HEALTH
METABOLISM	INDEXES /RATIOS/
SALT /SODIUM CHLORIDE/	ION CONCENTRATION
POTASSIUM	PHOSPHORUS
MAGNESIUM	CALCIUM
FIELD STUDIES	TISSUES
LEAVES /PLANTS/	TWIGS
DIAGNOSIS	ROADSIDE

24 215751

ESTABLISHING CROWN VETCH ON STEEP ACID SLOPES IN
VIRGINIAWOODRUFF JM
BLASER RFHIGHWAY RESEARCH RECDRD, HWY RES BOARD 70
NO 335, PP 19-28, 7 FIG, 2 TAB, 4 PHOT, 5 REF

*ROADSIDE DEVELOPMENT	ROADSIDE DEVELOPMENT
VEGETATION	ROADSIDE
SLDPES	EXPERIMENTS
LIME	NITROGEN
PHOSPHORUS	FERTILIZERS
GRASSES	METHODS
EXPOSURE	GROWTH
CROWN VETCH	GRGUAO COVERS
PLANTING	

24 215752

ROADSIDE DRY-LAND PLANTING RESEARCH IN MONTANA

HOOPER RL

HIGHWAY RESEARCH RECDRD, HWY RES BOARD 70
NO 335, PP 29-34, 1 FIG, 1 TAB, 5 PHOT, 6 REF

*ROADSIDE DEVELOPMENT	ROADSIDE
DRY LAND PLANTING	SEMIARID LAND
MECHANIZATION	SOIL MOISTURE
SOILS	ROOT EFFECTS
LAYERS	ROOTS /PLANTS/
TUBES	NURSERY PRODUCTION
PLASTICS	LINERS
BASINS	EVAPORATION
SOIL TEXTURE	GROWTH
IRRIGATION	MAINTENANCE
REDUCTION	COSTS
CONDENSATES	

24 223136

WYOMING ROAD CONSTRUCTION BEAUTIFIES AREA BY ELIMINATING
UNSIGHTLY DUMPING GROUNDSHIGHWAY RESEARCH NEWS, HWY RES BOARD JAN72
NO 46 PP 28-9
4 PHOT

*ROADSIDE DEVELOPMENT	ROADSIDE IMPROVEMENT
REFUSE	FILLS
BEAUTIFICATION	

AREA 24 ROADSIDE DEVELOPMENT

24 226105

RESULTS ASSESSED OF TEN YEAR PROGRAM OF MASSACHUSETTS
ROADSIDE DEVELOPMENTHIGHWAY RESEARCH NEWS, HWY RES BOARD 72
NO 48 PP 47-51

*ROADSIDE DEVELOPMENT	RESEARCH
GRASSES	SEEDS
MULCHES	FERTILIZATION
PLANTING	SEASONS
MALEIC HYDRAZIDE	DUNES
WOOD CHIPS	FERNS
CROWN VETCH	SOIL STERILANTS
ROOTS /PLANTS/	WOODY PLANTS
GROWTH	SOIL STABILIZATION

24 228198

VISUAL QUALITY FOR THE HIGHWAY USER: A STUDY OF THE RELATION
OF FACTORS OF VISUAL QUALITY TO ROUTE DESIGNHORNBECK PL
OKERLUND GAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 410 PP 52-63
4 FIG 2 TAB 26 REF

*ROADSIDE DEVELOPMENT	HIGHWAY DESIGN
RURAL HIGHWAYS	DRIVER PERFORMANCE
AESTHETICS	

24 228201

SALT-TOLERANT GRASSES FOR ROADSIDES

BUTLER JD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 411 PP 1-6
15 REF

*ROADSIDE DEVELOPMENT	DEICERS
SALT /SODIUM CHLORIDE/	TOLERANCES
GRASSES	ROADSIDE DEVELOPMENT

24 228202

WEeping LOVEGRASS FOR HIGHWAY SLOPES IN THE VIRGINIAS

WOODRUFF JM
GREEN JT
BLASER REHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 411 PP 7-14
9 FIG 3 TAB 3 REF

*ROADSIDE DEVELOPMENT	GRASSES
ROADSIDE DEVELOPMENT	SLOPE STABILIZATION
PLANTING	SEASONS
FERTILIZATION	

AREA 24 ROADSIDE DEVELOPMENT

24 228203

WOODY FIBER FARMING: AN ECOLOGICALLY SOUND AND PRODUCTIVE
USE OF RIGHTS-OF-WAY

YOUNG HE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 411 PP 15-23
2 FIG 1 TAB 18 REF

*ROADSIDE DEVELOPMENT	FERTILIZATION
ROADSIDE DEVELOPMENT	RIGHT-OF-WAY
MAINTENANCE COSTS	WOODY PLANTS
WOOD PRODUCTS	PAPERMAKING
PUCKERBRUSH	

24 228204

DIRECT SEEDING ALONG HIGHWAYS OF WOODY PLANT SPECIES UNDER A
WOOD-CHIP MULCHZAK JM
TROLL J
HYDE LCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 411 PP 24-7
2 TAB 4 REF

*ROADSIDE DEVELOPMENT	TREES /PLANTS/
SHRUBS	SEEDS
WOOD CHIPS	MULCHES
HIGHWAY CONSTRUCTION	PLANTING
WOOD	CHIPS

24 229083

ROADSIDE DEVELOPMENT - EVALUATION OF RESEARCH

EARLEY WD

HIGHWAY RESEARCH BOARD NCHRP REPORTS 72
NO 137 82 PP
2 FIG 5 TAB
3 APP

*ROADSIDE DEVELOPMENT	ROADSIDE DEVELOPMENT
RESEARCH	STATE OF THE ART STUDIES
EVALUATION	

AREA 25 PAVEMENT DESIGN

25 205162

RECOMMENDATIONS FOR AN INTERNATIONAL MINIMUM SKID RESISTANCE
STANDARD FOR PAVEMENTS

MOORE DF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 35-38, 1 FIG, 12 REF

*PAVEMENT DESIGN	*HIGHWAY SAFETY
SKID RESISTANCE	SPECIFICATIONS
TEST METHODS	TESTING EQUIPMENT
HIGHWAY PAVEMENTS	STOPPING DISTANCES
TIRES	DECELERATION
COEFFICIENT OF FRICTION	BRAKING
CORNERING /VEHICLE/	

AREA 25 PAVEMENT DESIGN

25 205163

THE LOGICAL DESIGN OF OPTIMUM SKID-RESISTANT SURFACES

MODRE OF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 39-45, 7 FIG, 11 REF

*PAVEMENT DESIGN	SKID RESISTANCE
PAVEMENT DESIGN	PAVEMENT SURFACE TEXTURE
DRAINAGE	HYSTERESIS
SKIING	ADHESION
TIRES	WATER FILM
FILM THICKNESS	HYDRODYNAMICS
ROUGHNESS	ROAD SURFACES

25 205171

WHEEL LOAD EQUIVALENCY BASED ON FLEXURAL FATIGUE OF ASPHALTIC CONCRETE

JIMENEZ RA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 129-135, 7 FIG, 2 TAB, 16 REF

*PAVEMENT DESIGN	WHEEL LOAD
PAVEMENT DESIGN	ESTIMATING
EQUIVALENT WEIGHT	FATIGUE
ASPHALTIC CONCRETE	REPEATED LOADING
STRESSES	AASHO ROAD TEST

25 208444

USE OF LINEAR-ELASTIC LAYERED THEORY FOR THE DESIGN OF CRCP OVERLAYS

MCCULLOUGH BF
BOEDECKER KJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 1-13, 16 FIG, 23 REF

*PAVEMENT DESIGN	CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS
OVERLAY COURSE	EXISTING PAVEMENTS
RIGID PAVEMENTS	LAYERED THEORIES
PAVEMENT DESIGN	PAVEMENT DEFLECTION
STRAINS	FIELD MEASUREMENTS
STRESSES	AIRPORT RUNWAYS

25 208445

AN EXPERIMENTAL SELF-STRESSING CONCRETE PAVEMENT:
II. FOUR-YEAR PAVEMENT EVALUATION

ODUGAN CE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 14-31, 39 FIG, 5 TAB, 12 REF

*PAVEMENT DESIGN	EXPERIMENTAL ROADS
REINFORCED CONCRETE PAVEMENTS	PRESTRESSED CONCRETE
EXPANSIVE CEMENTS	PAVEMENT PERFORMANCE
SLABS	TRANSVERSE CRACKING
PAVEMENT DISTRESS	

AREA 25 PAVEMENT DESIGN

25 208449

APPLICATION OF AASHO ROAD TEST RESULTS TO DESIGN OF FLEXIBLE PAVEMENTS IN MINNESOTA

KERSTEN MS
SKOK ELHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 70-88, 4 FIG, 4 TAB, 23 REF

*PAVEMENT DESIGN	AASHO ROAD TEST
TEST RESULTS	FLEXIBLE PAVEMENT DESIGN
AVERAGE DAILY TRAFFIC	PAVEMENT PERFORMANCE
PLATE BEARING TESTS	BENKELMAN BEAM
ROUGHOMETERS	SERVICEABILITY INDEX

25 208450

DESIGN OF FLEXIBLE PAVEMENTS IN VIRGINIA USING AASHO ROAD TEST RESULTS

VASHANI NK
NICHOLS FP

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 89-103, 5 FIG, 6 TAB, 16 REF, 2 APP

*PAVEMENT DESIGN	AASHO ROAD TEST
TEST RESULTS	FLEXIBLE PAVEMENT DESIGN
PAVEMENT DEFLECTION	PAVEMENT THICKNESS
SUBGRADES	SOIL CONDITIONS
TRAFFIC	SOIL CLASSIFICATIONS
NOMOGRAPHS	

25 208451

DEVELOPMENT OF TRAFFIC PARAMETER FOR STRUCTURAL DESIGN OF FLEXIBLE PAVEMENTS IN MINNESOTA

SKOK EL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 104-115, 5 FIG, 8 TAB, 8 REF

*PAVEMENT DESIGN	FLEXIBLE PAVEMENT DESIGN
STRUCTURAL DESIGN	PAVEMENT PERFORMANCE
TRAFFIC STUDIES	TEST SECTIONS
AXLE LOAD	AVERAGE DAILY TRAFFIC
TRAFFIC VOLUME	COMMERCIAL VEHICLES

25 208454

EQUIVALENT AXLE LOADS FOR PAVEMENT DESIGN

OEACON JA
DEEN RCHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 133-142, 2 FIG, 5 TAB, 11 REF

*PAVEMENT DESIGN	AXLE LOAD
REPEATED LOADING	TRAFFIC COUNTING
LOADMETER	TRAFFIC VOLUME
RURAL HIGHWAYS	PAVEMENT DESIGN

AREA 25 PAVEMENT DESIGN

25 208455

COMPUTATION OF EQUIVALENT SINGLE-WHEEL LOADS USING LAYERED THEORY

HUANG YH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 144-155, 7 FIG, 3 TAB, 11 REF, 1 APP

*PAVEMENT DESIGN	ELASTIC THEORY
COMPUTER PROGRAMS	WHEEL LOAD
WHEELS	SPACING
PAVEMENT THICKNESS	MODULUS OF ELASTICITY
SINGLE WHEEL LOAD	

25 208457

ASPHALT CONCRETE PAVEMENT DESIGN-A SUBSYSTEM TO CONSIDER THE FATIGUE MODE OF DISTRESS

KASIANCHUK DA
MONISHITH CL
GARRISON WAHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 159-172, 10 FIG, 5 TAB, 16 REF, 1 APP

*PAVEMENT DESIGN	ASPHALT PAVEMENTS
ASPHALTIC CONCRETE	FATIGUE
PAVEMENT DISTRESS	PAVEMENT DESIGN
WHEEL LOAD DISTRIBUTION	TRAFFIC
DIGITAL COMPUTERS	COMPUTER PROGRAMS
THICKNESS DESIGN	

25 208458

AN INTEGRATED APPROACH TO ANALYSIS AND DESIGN OF PAVEMENT STRUCTURE

LEMER AC
MOAVENZADEH FHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 173-185, 4 FIG, 2 TAB, 15 REF

*PAVEMENT DESIGN	PAVEMENT DESIGN
DECISION MAKING	STRUCTURAL DESIGN

25 213781

CASE STUDIES OF PAVEMENT SHRINKAGE CRACKING AS FEEDBACK FOR A DESIGN SUBSYSTEM

HAAS RC
PHANG WAHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 313, PP 32-43, 7 FIG, 3 TAB, 26 REF

*PAVEMENT DESIGN	*PAVEMENT PERFORMANCE
SHRINKAGE CRACKS	LOW TEMPERATURES
FLEXIBLE PAVEMENTS	FLEXIBLE PAVEMENT DESIGN
ASPHALTS	SOURCES
PAVEMENT CRACKING	BITUMINOUS PAVING MIXTURES
STIFFNESS	FRACTURES

AREA 25 PAVEMENT DESIGN

25 214632

REVIEW OF EXISTING THEORIES AND METHODS OF PAVEMENT DESIGN

HIGHWAY RES CIRCULAR, HWY RES BOARD OCT70
NO 112, 3 PP

*PAVEMENT DESIGN	THEORIES
PAVEMENT DESIGN	BIBLIOGRAPHIES
ELASTICITY	DEFLECTION
ELASTIC THEORY	ULTIMATE STRENGTH METHOD
SHEAR FAILURES	STATISTICAL METHODS
PAVEMENT PERFORMANCE	COMPOSITIONS /INGREDIENTS/
STRENGTH OF MATERIALS	PAVEMENT THICKNESS
PAVEMENT SUBGRADES	SOILS
ENVIRONMENT	SOIL CLASSIFICATIONS
CHARACTERISTICS	SAFETY FACTORS

25 215352

EXPERIMENTAL VERIFICATION OF DISCRETE-ELEMENT SOLUTIONS FOR PAVEMENT SLABS

AGARWAL SL
HUDSON WRHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 329, PP 1-19, 16 FIG, 4 PHOT, 21 REF, 1 APP

*PAVEMENT DESIGN	ANALYSIS
TESTING	PLATE LOAD TEST
SOILS	SUBGRADES
STRESS STRAIN RELATIONS	DEFLECTIONS
STRESSES	EDGES
PAVEMENTS	DISCRETE ELEMENT METHOD
MODELS	MODEL TESTS
SATURATED SOILS	CLAYS
ALUMINUM	SLABS
COMPUTER PROGRAMS	FORTRAN
LOADS	
SLAB ON GROUND CONSTRUCTION	

25 215353

SENSITIVITY ANALYSIS OF THE EXTENDED AASHO RIGID PAVEMENT DESIGN EQUATION

TREYBIG HS
HUDSON WR
MCCULLOUGH BFHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 329, PP 20-33, 10 FIG, 3 TAB, 16 REF

*PAVEMENT DESIGN	PAVEMENT DESIGN
DESIGN	EQUATIONS
RIGID PAVEMENTS	STOCHASTIC PROCESSES
SENSITIVITY	MODULUS OF ELASTICITY
FLEXURAL STRENGTH	SLABS
THICKNESS	CONTINUITY
SUBGRADES	PAVEMENTS
SERVICEABILITY INDEX	VARIABLES
INTERACTION	SYSTEMS ENGINEERING
RELATIONSHIPS	

AREA 25 PAVEMENT DESIGN

25 215354

CONTINUOUSLY REINFORCED CONCRETE PAVEMENT OBSERVATION
PROGRAM IN MISSISSIPPI - A PROGRESS REPORT

TENG TC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 329, PP 34-54, 14 FIG, 5 TAB, 22 PHOT, 10 REF

*PAVEMENT DESIGN	*PAVEMENT PERFORMANCE
CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS	
CONCRETE PAVEMENTS	
REINFORCED CONCRETE PAVEMENTS	
PAVEMENT PERFORMANCE	SLABS
END MOVEMENTS	CRACKS
POURING	TEMPERATURE
DESIGN VOLUME	AVERAGE DAILY TRAFFIC
TRAFFIC VOLUME	AGE
CONCRETE PAVEMENT MAINTENANCE	
FAILURE	

25 215355

MINNESOTA DEPARTMENT OF HIGHWAYS FLEXIBLE PAVEMENT DESIGN -
1969FREDRICKSON FC
DIETHELM PJ
ZWIERS DMHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 329, PP 55-64, 3 FIG, 5 TAB, 6 REF

*PAVEMENT DESIGN	FLEXIBLE PAVEMENTS
PAVEMENT DESIGN	PAVEMENTS
SUBGRADES	SOILS
CLIMATE	TRAFFIC
LOADS	DISTRIBUTION
THICKNESS	COMPOSITIONS /INGREDIENTS/
STRENGTH	QUALITY
BENKELMAN BEAM	SERVICEABILITY INDEX
AXLE LOAD	STABILOMETERS

25 215357

OPTIMUM STRUCTURAL STRENGTH OF MATERIALS IN FLEXIBLE
PAVEMENTSVASHANI NK
FGSTER CR

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 329, PP 77-97, 12 FIG, 1 TAB, 6 PHOT, 11 REF

*PAVEMENT DESIGN	FLEXIBLE PAVEMENTS
STRENGTH	STRUCTURAL ANALYSIS
PAVEMENTS	MODULUS OF ELASTICITY
THICKNESS	DEPTH
LAYERS	THICKNESS EQUIVALENCE
LAYERED SYSTEM MECHANICS	

25 216135

INFLUENCE OF POISSON'S RATIO ON THE SURFACE DEFLECTION OF
LAYERED SYSTEMSALI GA
KRIZEK RJ
OSTERBERG JOHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 337, PP 1-10, 9 FIG, 16 REF

*PAVEMENT DESIGN	LAYERED SYSTEM MECHANICS
SURFACES	DEFLECTION
POISSON'S RATIO	PAVEMENT DEFLECTION
ELASTICITY	

AREA 25 PAVEMENT DESIGN

25 216137

A NONLINEAR THEORY FOR PREDICTING THE PERFORMANCE OF
FLEXIBLE HIGHWAY PAVEMENTS

BARKSDALE RD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 337, PP 22-39, 12 FIG, 28 REF

*PAVEMENT DESIGN	FLEXIBLE PAVEMENTS
STRUCTURAL ANALYSIS	NONLINEAR SYSTEMS
FINITE ELEMENTS	REPEATED LOADING
VISCOELASTICITY	CREEP
WHEEL LOAD	MODEL TESTS
EXPERIMENTS	

25 216138

RESPONSE OF A FLEXIBLE PAVEMENT TO REPETITIVE AND
STATIC LOADSDRENNON CB
KENIS WJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 337, PP 40-54, 20 FIG, 3 TAB, 8 REF

*PAVEMENT DESIGN	REPEATED LOADING
STATIC LOADS	FLEXIBLE PAVEMENTS
MODEL TESTS	ASPHALTIC CONCRETE
STRAINS	PAVEMENT DEFLECTION
MATHEMATICAL MODELS	

25 216139

A PROCEDURE FOR EVALUATING PAVEMENTS WITH NONUNIFORM PAVING
MATERIALSLEVEY JR
BARENBERG EJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 337, PP 55-69, 19 FIG, 9 REF

*PAVEMENT DESIGN	PAVEMENTS
LAYERED SYSTEM MECHANICS	CONSTRUCTION MATERIALS
MATHEMATICAL MODELS	DISCRETE ELEMENTS
SAMPLING	STATISTICAL SAMPLING
RANDOMIZATION	VARIABILITY
UNIFORMITY	QUALITY CONTROL
STATISTICAL QUALITY CONTROL	NONUNIFORMITY

25 216140

STRESS DISTRIBUTION IN RECTANGULAR CONCRETE SLABS UNDER
WHEEL LOADS

HUANG YH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 337, PP 70-72, 1 FIG, 5 REF

*PAVEMENT DESIGN	*FOUNDATIONS /SOILS/
CONCRETE PAVEMENTS	STRESS DISTRIBUTION
CONCRETES	SLABS
RECTANGLES	ELASTIC THEORY
ELASTICITY /SOIL/	THIN PLATES
APPROXIMATIONS	WHEEL LOAD

AREA 25 PAVEMENT DESIGN

25 216141

ELASTIC PROPERTIES OF PAVEMENT COMPONENTS BY SURFACE WAVE METHOD

GEORGE KP

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 337, PP 73-77, 2 FIG, 8 REF

*PAVEMENT DESIGN	LAYERED SYSTEM MECHANICS
ELASTICITY	COMPOSITE PAVEMENTS
RAYLEIGH WAVES	VELOCITY
WAVES	VIBRATIONS
ASPHALT CEMENTS	PAVEMENTS

25 216142

THE ANALYSIS OF HIGHWAY PAVEMENT SYSTEMS

LEMER AC
MGAVERNZADEH FHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 337, PP 78-85, 8 FIG, 1 TAB, 14 REF

*PAVEMENT DESIGN	*PAVEMENT PERFORMANCE
PAVEMENTS	SERVICEABILITY
RELIABILITY	MARKOV CHAINS
PAVEMENT MAINTENANCE	MAINTAINABILITY

25 216143

OPTIMAL DESIGN OF FLEXIBLE PAVEMENT SECTIONS

HEJAL SS
YODER SR
CPPENLANDER JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 337, PP 86-98, 7 FIG, 1 TAB, 3 REF

*PAVEMENT DESIGN	FLEXIBLE PAVEMENTS
PAVEMENT DESIGN	SYSTEMS ANALYSIS
MATHEMATICAL MODELS	CROSS SECTIONS
SUBBASE	UNDERDRAINS
SHOULDERS	

25 216378

STRUCTURAL EVALUATION OF PAVEMENTS FOR OVERLAY DESIGN

VOSS DA
TERRELL RLHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 199-210, 21 FIG, 16 REF

*PAVEMENT DESIGN	OVERLAY COURSE
PAVEMENT EVALUATION	PAVEMENT DEFLECTION
BENKELMAN BEAM	LAYERED THEORIES
ELASTIC THEORY	THICKNESS
MODULUS	RESILIENCE
DESIGN	LIFE SPAN

AREA 25 PAVEMENT DESIGN

25 216379

DESIGN AND CONSTRUCTION OF CONCRETE RESURFACING OF CONCRETE PAVEMENTS

MARTIN R

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 211-214, 1 REF

*PAVEMENT DESIGN	CONCRETE PAVEMENTS
RESURFACING	DESIGN
BONDING	WIRE MESH
CONTINUOUS REINFORCEMENT	JOINTS
CONCRETES	

25 216380

STRUCTURAL BEHAVIOR OF BITUMINOUS CONCRETE OVERLAY ON CEMENT CONCRETE PAVEMENT

MARWAH BR
KHANNA SK
ARGRA MGHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 215-226, 12 FIG, 1 TAB, 6 REF

*PAVEMENT DESIGN	ASPHALTIC CONCRETE
OVERLAY COURSE	CONCRETE PAVEMENTS
STRUCTURAL BEHAVIOR	DEFORMATION
STATIC LOADS	LOAD TRANSFER
THICKNESS	

25 218051

DEFLECTION AND CURVATURE AS CRITERIA FOR FLEXIBLE PAVEMENT DESIGN AND EVALUATION

HUANG YH
VASWANI NK

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 1-14, 5 FIG, 1 TAB, 23 REF, 1 APP

*PAVEMENT DESIGN	PLASTIC DEFORMATION
FATIGUE	CRACKING /FRACTURING/
ASPHALTS	SURFACES
SUBGRADES	PAVEMENTS
FAILURE	LAYERED SYSTEM MECHANICS
ELASTICITY	TENSILE STRAIN
COMPRESSION	RELATIONSHIPS
CURVATURE	CRITERIA
PAVEMENT DESIGN	PAVEMENT DEFLECTION
STRAINS	

25 218052

FACTORS INFLUENCING THE RESILIENT RESPONSE OF GRANULAR MATERIALS

HICKS RG
MONISMITH CLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 15-31, 19 FIG, 2 TAB, 12 REF

*PAVEMENT DESIGN	VARIABLES
GRANULAR MATERIALS	RESILIENCE
RESPONSE	PAVEMENT STRUCTURES
MODULUS	POISSONS RATIO
PERCENT SATURATION	AXIAL STRESS
TRIAXIAL COMPRESSION	TESTING
BASE	AGGREGATE GRADATION
PRESSURE	AGGREGATES
DENSITY	CONFINEMENT

AREA 25 PAVEMENT DESIGN

25 218053

COMPRESSIVE STRESS PULSE TIMES IN FLEXIBLE PAVEMENTS FOR
USE IN DYNAMIC TESTING

BARKSDALE RD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 32-44, 11 FIG, 14 REF

*PAVEMENT DESIGN	FLEXIBLE PAVEMENTS
STRESSES	DYNAMIC TESTS
COMPRESSION	PULSE TIME COULATIGN
SPEED	VEHICLES
LINEARITY	FINITE ELEMENTS
ELASTIC THEORY	LAYERED SYSTEM MECHANICS

25 218054

ANALYSIS OF STRESSES AND DISPLACEMENTS IN THREE-LAYER
VISCOELASTIC SYSTEMSELLIGTT JF
MOAVENZADEH FHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 45-57, 17 FIG, 6 REF

*PAVEMENT DESIGN	STRESSES
DISPLACEMENT	LAYERED SYSTEM MECHANICS
VISCOELASTICITY	ANALYSIS
BOUNDARY VALUES	TIME
LINEAR SYSTEMS	

25 218055

STRESSES AND DISPLACEMENTS IN AN ELASTIC MASS UNDER
ASSUMED AND MEASURED TIRE PRESSURES

CHOU YT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 58-61, 1 FIG, 3 REF

*PAVEMENT DESIGN	STRESSES
DISPLACEMENT	COMPUTATIONS
TIRES	HIGH PRESSURES
PRESSURE DISTRIBUTION	SOILS
SANDS	CLAY
HARD SURFACING	PARABOLAS
UNIFORMITY	LOW PRESSURES

25 220733

STRUCTURAL DESIGN OF ASPHALT CONCRETE PAVEMENT SYSTEMS
(PROCEEDINGS OF WORKSHOP 7--10 DECEMBER 1970, AUSTIN, TEX.)PISTER KS
MCCULLOUGH BF
FINN FN
WESTMANN RA
NAIR K
MOAVENZADEH F
HUDSON WR
DEACON JA
SHERMAN GBHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 126, 207 PP, FIGS, TABS

*PAVEMENT DESIGN	*FUNCTIONS /SOILS/
*BITUMINOUS MATERIALS AND MIXES	
ASPHALTIC CONCRETE	PAVEMENT DESIGN
PAVEMENT STRUCTURES	ASPHALT PAVEMENTS

AREA 25 PAVEMENT DESIGN

25 220948

FLEXIBLE PAVEMENT DESIGN AND MANAGEMENT - SYSTEMS
FORMULATION AND MATERIALS CHARACTERIZATIONNAIR K
CHANG CY
HUDSON WR
MCCULLOUGH BFHIGHWAY RESEARCH BOARD NCHRP DIGEST DEC71
DIGEST 34, 10 PP, 4 FIG, 2 TAB

*PAVEMENT DESIGN	SYSTEMS ENGINEERING
COMPUTER PROGRAMS	MATERIALS
FLEXIBLE PAVEMENT DESIGN	AASHO ROAD TEST
EQUATIONS	LOADING
MODELS	

25 221132

METHOD FOR CALCULATING EQUIVALENT 18-KIP LOAD APPLICATIONS

SHOOK JF
LEPP TYHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 87-95, 5 FIG, 4 TAB, 4 REF

*PAVEMENT DESIGN	AXLE LOAD
LOAD FACTORS	EQUIVALENT WEIGHT
TRUCK WEIGHTS	THICKNESS DESIGN
PAVEMENT THICKNESS	

25 221133

STRUCTURAL DESIGN OF UNSURFACED ROADWAYS AND AIRFIELDS

HAMMITT GM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 96-97

*PAVEMENT DESIGN	STRUCTURAL DESIGN
AIRPORT RUNWAYS	ROAD SURFACES
PAVEMENT DESIGN	SOILS

25 222145

EVALUATION OF PREFORMED ELASTOMERIC PAVEMENT JOINT SEALING
SYSTEMS AND PRACTICESHIGHWAY RESEARCH BOARD NCHRP DIGEST FEB72
NO 35, 8 PP, 2 FIG

*PAVEMENT DESIGN	*PAVEMENT PERFORMANCE
SEALANTS	SEALING
PAVEMENTS	JOINT SEALERS
JOINTS	PROPERTIES

25 223135

UNUSUAL PRESTRESSED HIGHWAY PAVEMENT BUILT TO SERVE
"TRANSP0 72" SHOW NEAR WASHINGTON

PASKO TJ

HIGHWAY RESEARCH NEWS, HWY RES BOARD JAN72
NO 46 PP 23-7
5 PHOT 1 FIG

*PAVEMENT DESIGN	SLIP FORM PAVING
PAVING MACHINES	PAVEMENT CONSTRUCTION
CONCRETE PAVEMENT CONSTRUCTION	
PRESTRESSED CONCRETE	

AREA 25 PAVEMENT DESIGN

25 223389

DESIGN AND CONSTRUCTION OF TRANSPORTATION FACILITIES

BEATON JL
BURKE JE
SHERMAN GB
KINGHAM RI
SPAINÉ LF

HIGHWAY RES CIRCULAR, HWY RES BOARD MAY72
NO 134 5 PP
1 FIG

*PAVEMENT DESIGN
SYSTEMS ENGINEERING
OVERLAY COURSE
BITUMINOUS OVERLAYS

DESIGN MODELS
COMPOSITE PAVEMENTS
FLEXIBLE PAVEMENT DESIGN
SHRINKAGE

25 223890

AUTOMATION IN PAVEMENT DESIGN AND MANAGEMENT SYSTEMS

KHER RK
MCCULLOUGH BF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
PP 40-53
SPECIAL REPORT 128 FIG 17 REF 6

*PAVEMENT DESIGN
PAVEMENT MANAGEMENT
MANAGEMENT
PAVEMENT MAINTENANCE
FLEXIBLE PAVEMENTS
COMPUTER PROGRAMS

PAVEMENT DESIGN
PAVEMENTS
PAVEMENT LIFE
COMPUTER APPLICATIONS
RIGID PAVEMENTS

25 224527

EVALUATION OF AASHO INTERIM GUIDES FOR DESIGN OF PAVEMENT STRUCTURES

HIGHWAY RESEARCH BOARD NCHRP REPORTS 72
NO 128 111 PP
FIG 5 TAB 5 REF 5

*PAVEMENT DESIGN
PAVEMENT DESIGN
RIGID PAVEMENT DESIGN
OVERLAY COURSE

DESIGN INFORMATION
FLEXIBLE PAVEMENT DESIGN
DESIGN STANDARDS
MANUALS

25 228085

STRUCTURAL ANALYSIS OF BITUMINOUS CONCRETE PAVEMENTS

DEEN RC
SOUTHGATE HF
HAVENS JH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 22-35
11 FIG 21 REF

*PAVEMENT DESIGN
PAVEMENT DESIGN
STRESSES
DEFLECTION
FATIGUE / MATERIALS/
BITUMINOUS CONCRETES

THICKNESS DESIGN
BITUMINOUS PAVEMENTS
STRAINS
SUBGRADES
AXLE LOAD

AREA 25 PAVEMENT DESIGN

25 228086

DETERMINATION OF THE ELASTIC MODULI OF FLEXIBLE PAVEMENT COMPONENTS

HAN HC
HIRST TJ
FANG HY

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 36-8
3 FIG 2 REF

*PAVEMENT DESIGN
MODULUS OF ELASTICITY
PAVEMENT BASES
FINITE ELEMENTS
PAVEMENT DESIGN

ELASTIC THEORY
LAYERED SYSTEM MECHANICS
BITUMINOUS CONCRETES
THICKNESS DESIGN
FIELD TESTS

25 228088

COMPUTATION OF STRESSES AND STRAINS FOR THE DESIGN OF FLEXIBLE PAVEMENTS

BROWN SF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 55-64
6 FIG 19 REF

*PAVEMENT DESIGN
STRESS ANALYSIS
INTERPOLATION
COMPUTER PROGRAMS

FLEXIBLE PAVEMENT DESIGN
STRAINS
LAYERED SYSTEM MECHANICS
COMPUTATIONS

25 228089

USE OF TRAFFIC DATA FOR CALCULATING EQUIVALENT 18,000-LB SINGLE-AXLE LOADS

SKOK EL
ROOT RE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 65-75
6 FIG 8 TAB 9 REF

*PAVEMENT DESIGN
COMPUTER PROGRAMS
EQUIVALENT WEIGHT
AXLE LOAD
LOAD DISTRIBUTION

FLEXIBLE PAVEMENT DESIGN
PAVEMENT THICKNESS
TRAFFIC
VEHICLE CHARACTERISTICS

25 228094

A WORKING SYSTEMS MODEL FOR RIGID PAVEMENT DESIGN

KHER RK
HUGSON WR
MCCULLOUGH BF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 130-45
6 FIG 20 REF

*PAVEMENT DESIGN
CONCRETE PAVEMENT DESIGN
COSTS
REINFORCEMENT
PAVEMENT THICKNESS
OVERLAY COURSE

COMPUTER PROGRAMS
SYSTEMS ANALYSIS
MATHEMATICAL MODELS
JOINTS
PAVEMENT MAINTENANCE

AREA 25 PAVEMENT DESIGN

25 228095

RELIABILITY CONCEPTS APPLIED TO THE TEXAS FLEXIBLE
PAVEMENT SYSTEMDARTER MI
MCCULLOUGH BF
BROWN JLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 146-61
6 FIG 17 REF

*PAVEMENT DESIGN	FLEXIBLE PAVEMENT DESIGN
SYSTEMS ANALYSIS	COSTS
COMPUTER APPLICATIONS	SERVICE
TRAFFIC	DEFLECTION

25 228097

PAVEMENT INVESTMENT DECISION-MAKING AND MANAGEMENT SYSTEM

PHANG WA
SLOCUM KHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 173-94
25 FIG 4 TAB 19 REF

*PAVEMENT DESIGN	PAVEMENTS
FLEXIBLE PAVEMENTS	MANAGEMENT
COMPARATIVE ANALYSIS	PAVEMENT DESIGN
COSTS	MODELS
INVESTMENTS	LIFE CYCLE PLANNING
PAVEMENT MANAGEMENT	

25 228713

RELATIONSHIPS BETWEEN PHYSIOGRAPHIC UNITS AND HIGHWAY DESIGN
FACTORS

WITCZAK MW

HIGHWAY RESEARCH BOARD NCHRP REPORTS 72
NO 132 161 PP
23 FIG 20 TAB 393 REF

APP

*PAVEMENT DESIGN	PAVEMENT DESIGN
PAVEMENT CONSTRUCTION	SOIL CONDITIONS
ENVIRONMENT	AGGREGATE SOURCES
PHYSIOGRAPHY	ENGINEERING GEOLOGY

AREA 26 PAVEMENT PERFORMANCE

26 204874

RIGID PAVEMENT PERFORMANCE INFLUENCED BY SLAB STRENGTH AND
THICKNESSVESIC AS
SAXENA SKHIGHWAY RESEARCH BOARD NCHRP DIGEST MAR69
NO 4, 4 PP, 1 FIG

*PAVEMENT PERFORMANCE	RIGID PAVEMENTS
PORTLAND CEMENT CONCRETES	CONCRETE PAVEMENTS
PAVEMENT PERFORMANCE	PAVEMENT DESIGN
CONCRETE PAVEMENT DURABILITY	
SLABS	THICKNESS DESIGN
TENSILE STRESS	LOAD FACTORS
PAVEMENT THICKNESS	PAVEMENT LIFE
TRAFFIC VOLUME	

AREA 26 PAVEMENT PERFORMANCE

26 205160

A SKID RESISTANCE STUDY IN FOUR WESTERN STATES

MILLS JA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 3-17, 20 FIG, 3 TAB, 2 REF

*PAVEMENT PERFORMANCE	HIGHWAY PAVEMENTS
SKID RESISTANCE TESTING	SKID RESISTANCE
SURFACE COURSES	BITUMINOUS SURFACING
PLANT MIX	SEAL COATS
CHIPS	ASPHALTIC CONCRETE
CONCRETES	OVERLAY COURSE
AGE	AVERAGE DAILY TRAFFIC

26 205161

DEVELOPMENT AND RESULTS OF A SKID RESEARCH AND ROAD
INVENTORY PROGRAM IN PENNSYLVANIASANDVIG LD
MACGREGOR LM
SHAFFER RK
MARTIN JP
MINNICK JDISCUSSER
DISCUSSERHIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 18-34, 11 FIG, 3 TAB, 21 REF

*PAVEMENT PERFORMANCE	HIGHWAY PAVEMENTS
SKID RESISTANCE TESTING	TRAILERS
TESTING EQUIPMENT	SURVEYS /DATA COLLECTION/
HIGHWAY MAINTENANCE	PAVEMENT EVALUATION
ROAD INVENTORY	SPECIFICATIONS

26 205164

PAVEMENT FRICTION AND TEMPERATURE EFFECTS

MEYER WE
KUMMER HWHIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 47-55, 15 FIG, 11 REF

*PAVEMENT PERFORMANCE	PAVEMENT SURFACE TEXTURE
FRICTION FACTOR	VISCOELASTICITY
SKIING	RUBBER TIRES
TEMPERATURE	ADHESION
HYSTERESIS	FIELD TESTS
LABORATORY TESTS	

26 205167

FACTORS AFFECTING SKID RESISTANCE AND SAFETY OF CONCRETE
PAVEMENTSCOLLEY BE
CHRISTENSEN AP
NOWLEN WJHIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 80-95, 19 FIG, 4 TAB, 38 REF

*PAVEMENT PERFORMANCE	SAFETY FACTORS
SKID RESISTANCE	CONCRETE PAVEMENTS
MOTOR VEHICLE ACCIDENTS	SKIING
PAVEMENT SURFACE TEXTURE	RUBBER TIRES
WEAR RESISTANCE	FINE AGGREGATES

AREA 26 PAVEMENT PERFORMANCE

26 205172

THERMAL FRACTURE PHENOMENA IN BITUMINDUS SURFACES

HAAS RC
TOPPER THHIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 136-153, 7 FIG, 26 REF

*PAVEMENT PERFORMANCE	THERMAL STRESSES
PAVEMENT CRACKING	PAVEMENT DESIGN
LOW TEMPERATURES	MIX DESIGN

26 205173

PAVEMENT CRACKING: CAUSES AND SOME PREVENTIVE MEASURES

MCDOWELL C

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 154-162, 5 FIG, 5 TAB, 1 PHOT, 9 REF

*PAVEMENT PERFORMANCE	PAVEMENT CRACKING
SHRINKAGE CRACKS	VOLUME CHANGES
COMPRESSIVE STRENGTH	STRENGTH OF MATERIALS
FLEXIBLE BASE PAVEMENTS	
FLEXIBLE PAVEMENT CONSTRUCTION	
FROST DAMAGE	FROST PROTECTION
TENSILE STRENGTH	

26 205876

EVALUATION OF STUDDED TIRES: PERFORMANCE DATA AND PAVEMENT WEAR MEASUREMENT

ROSENTHAL P
HASELTON FR
BIRO KD
JOSEPH PJHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 61, 66 PP, 1 FIG, 8 APP

*PAVEMENT PERFORMANCE	BIBLIOGRAPHIES
PAVEMENT PERFORMANCE	WEAR
STUDDER TIRES	REVIEWS
ROUGHNESS	MEASUREMENTS
ICE	SNOW
BRAKING	STOPPING DISTANCES
MATHEMATICAL ANALYSIS	

26 208446

PERFORMANCE OF CONTINUOUSLY REINFORCED CONCRETE PAVEMENT IN TEXAS

TREYBIG HJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 32-47, 17 FIG, 15 REF, 1 APP

*PAVEMENT PERFORMANCE	PAVEMENT PERFORMANCE
CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS	
TEST SECTIONS	SUBBASE
SUBGRADES	THICKNESS
PUMPING	PAVEMENT DEFLECTION
TRAFFIC	PAVEMENT CRACKING
FLEXURAL STRENGTH	CURING
TEMPERATURE	SERVICEABILITY INDEX

AREA 26 PAVEMENT PERFORMANCE

26 208447

CONCRETE PAVEMENTS WITH CONTINUOUS REINFORCEMENT AND ELASTIC JOINTS

PERSSON OF
FRIBERG FHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 48-56, 7 FIG, 2 TAB, 3 REF

*PAVEMENT PERFORMANCE	CONTINUOUS REINFORCEMENT
ELASTICITY	JOINTS
CONCRETE PAVEMENTS	TRANSVERSE STIFFENERS
CONTRACTION JOINTS	
CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS	
PAVEMENT PERFORMANCE	

26 208448

SERVICE PERFORMANCE OF CEMENT-TREATED BASES AS USED IN COMPOSITE PAVEMENTS

ZUBE E
GATES CG
SHIRLEY EC
MUNDAY HAHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 57-69, 9 FIG, 13 TAB, 10 REF

*PAVEMENT PERFORMANCE	CEMENT TREATED BASES
COMPOSITE PAVEMENTS	PAVEMENT PERFORMANCE
CEMENT CONTENT	COMPACTION
THICKNESS	ASPHALTIC CONCRETE
BITUMINOUS SURFACING	COMPRESSIVE STRENGTH

26 208452

TEMPERATURE DISTRIBUTION WITHIN ASPHALT PAVEMENTS AND ITS RELATIONSHIP TO PAVEMENT DEFLECTION

SOUTHGATE HF
DEEN RC
VASWANI NK
KINGHAM RIDISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 116-131, 13 FIG, 2 TAB, 14 REF

*PAVEMENT PERFORMANCE	TEMPERATURE DISTRIBUTION
ASPHALTIC CONCRETE	ESTIMATING
BENKELMAN BEAM	DEFLECTION TESTS
AASHO ROAD TEST	MODULUS OF ELASTICITY
TEST RESULTS	

26 208453

DETECTING SEASONAL CHANGES IN LOAD-CARRYING CAPABILITIES OF FLEXIBLE PAVEMENTS

MOORE WM
SCRIVNER FH
POEHL R
PHILLIPS MBHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 132

*PAVEMENT PERFORMANCE	SEASONAL VARIATIONS
BEARING CAPACITY	FLEXIBLE PAVEMENTS
DEFLECTION TESTS	MEASURING INSTRUMENTS
PLATE BEARING TESTS	BENKELMAN BEAM
WEIGHT LIMITS	LOAD RESTRICTIONS

AREA 26 PAVEMENT PERFORMANCE

26 208456

ANALYSIS OF STRUCTURAL BEHAVIOR OF ROAD TEST RIGID PAVEMENTS

VESIC AS
SAXENA SKHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 156-158, 1 FIG

*PAVEMENT PERFORMANCE	STRUCTURAL BEHAVIOR
REVIEWS	RIGID PAVEMENTS
THEORIES	MODULUS OF ELASTICITY
POISSONS RATIO	SUBGRADES
SUBGRADE REACTIONS /COEFFICIENTS/	MATHEMATICAL MODELS
AASHO ROAD TEST	STRESSES
PAVEMENT DEFLECTION	

26 208459

THE EFFECT OF DEGREE OF CONTINUITY ACROSS A VOID OR CRACK ON PERFORMANCE OF CONCRETE PAVEMENTS

NIU HP
PICKETT GHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 186-193, 3 TAB

*PAVEMENT PERFORMANCE	
REINFORCED CONCRETE PAVEMENTS	
PAVEMENT CRACKING	PAVEMENT DEFLECTION
MATHEMATICAL ANALYSIS	PAVEMENT CRACKING
SUBGRADE REACTIONS /COEFFICIENTS/	
SHEAR TRANSFER	

26 208460

ANALYSIS OF CONCRETE SLABS ON GROUND SUBJECTED TO WARPING AND MOVING LOADS

LEWIS KH
HARR MEHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 194-211, 13 FIG, 1 TAB, 52 REF

*PAVEMENT PERFORMANCE	
SLAB ON GROUND CONSTRUCTION	
VISCOELASTICITY	STRESSES
DEFLECTION	MOVING VEHICLES
THEORETICAL ANALYSIS	MATHEMATICAL MODELS
DIGITAL COMPUTERS	FORTRAN
COMPUTER PROGRAMS	
SUBGRADE REACTIONS /COEFFICIENTS/	

26 208461

PREDICTION OF SUBJECTIVE RESPONSE TO ROAD ROUGHNESS BY USE OF THE RAPID TRAVEL PROFILOMETER

HCLBROOK LF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 212-226, 15 FIG, 28 REF

*PAVEMENT PERFORMANCE	PAVEMENT SMOOTHNESS
PAVEMENT SURFACE TEXTURE	ROUGH METERS
OBSERVATION	PASSENGERS
MOTOR VEHICLES	

AREA 26 PAVEMENT PERFORMANCE

26 208462

A COMPARISON OF FOUR ROUGHNESS MEASURING SYSTEMS

PHILLIPS MB
SWIFT GHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 291, PP 227-235, 7 FIG, 2 TAB, 5 REF

*PAVEMENT PERFORMANCE	ROUGHNESS
MEASURING INSTRUMENTS	PAVEMENT SMOOTHNESS
PAVEMENT SURFACE TEXTURE	PROFILMETERS
ROUGH METERS	EVALUATION

26 209401

DETECTING SEASONAL CHANGES IN LOAD-CARRYING CAPABILITIES OF FLEXIBLE PAVEMENTS

SCRIVNER FH
PECHL R
MOORE WM
PHILLIPS MBHIGHWAY RESEARCH BOARD NCHRP REPORTS 09
NO 76, 37 PP, 67 FIG, 12 TAB, 10 REF, 4 APP

*PAVEMENT PERFORMANCE	SEASONAL VARIATIONS
FLEXIBLE PAVEMENTS	FROST ACTION
BEARING CAPACITY	FIELD STUDIES
FREEZING THAWING EFFECTS	DYNAFLECT
DEFLECTOMETER	PLATE BEARING TESTS
BENKELMAN BEAM	DEFLECTION TESTS
TESTING EQUIPMENT	NONDESTRUCTIVE TESTING

26 209438

UTAH'S USE OF DYNAFLECT DATA FOR PAVEMENT REHABILITATION

LIODLE WJ
PETERSON DEHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 10-5, 9 FIG, 3 REF

*PAVEMENT PERFORMANCE	*MAINTENANCE /GENERAL/
DEFLECTION TESTS	DEFLECTOMETER
DYNAFLECT	PAVEMENT EVALUATION
RESURFACING	SENSORS
GEOPHONES	BENKELMAN BEAM
TEST RESULTS	AASHO ROAD TEST
EQUATIONS	REHABILITATION
THICKNESS DESIGN	

26 209439

RATING FLEXIBLE PAVEMENT SURFACE CONDITION

WINNITON WE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 16-26, 18 FIG, 3 REF

*PAVEMENT PERFORMANCE	*MAINTENANCE /GENERAL/
*PAVEMENT DESIGN	PAVEMENT EVALUATION
REVIEWS	RATING
MAINTENANCE COSTS	FORECASTING
PAVEMENT MAINTENANCE	BITUMINOUS OVERLAYS
SEAL COATS	PAVEMENT CRACKING
RAVELING	SHEAR FAILURES
PLASTIC DEFORMATION	

AREA 26 PAVEMENT PERFORMANCE

26 210194

AN INVENTORY OF EXISTING PRACTICES AND SOLUTIONS TO SLIPPERY PAVEMENTS-1969

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB70
NO 106, 19 PP, 1 APP

*PAVEMENT PERFORMANCE	INVENTORIES
QUESTIONNAIRES	HIGHWAY DEPARTMENTS
PAVEMENT SKIDDING CHARACTERISTICS	SKID RESISTANCE
SKID RESISTANCE TESTING	ACCEPTANCE TESTS
DESIGN CRITERIA	COEFFICIENT OF FRICTION
AGGREGATES	

26 211622

STANDARD NOMENCLATURE AND DEFINITIONS FOR PAVEMENT COMPONENTS AND DEFICIENCIES

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 113, 29 PP, 47 FIG

*PAVEMENT PERFORMANCE	NOMENCLATURE
DEFINITION	PAVEMENT EVALUATION
PAVEMENT DISTRESS	RIGID PAVEMENTS
FLEXIBLE PAVEMENTS	INSPECTION
PHOTOGRAPHS	

26 213004

ANALYSIS OF STRUCTURAL BEHAVIOR OF AASHO ROAD TEST RIGID PAVEMENTS

VESIC AS
SAXENA SKHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 97, NCHRP PROJ 1-4A, 37 PP, 31 FIG, 12 TAB, 52 REF, 1 APP

*PAVEMENT PERFORMANCE	RIGID PAVEMENTS
AASHO ROAD TEST	STRUCTURAL BEHAVIOR
PAVEMENT DEFLECTION	PAVEMENT PERFORMANCE
STRESSES	THEORIES
REVIEWS	FIELD PERFORMANCE
SUBGRADE REACTIONS /COEFFICIENTS/	AXLE LOAD
TENSILE STRESS	SLABS
FLEXURAL STRENGTH	
THICKNESS	

26 213155

PHOTO-INTERPRETATION OF SKID RESISTANCE

SCHONFELD R
BALMER GGHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 311, PP 11-25, 18 FIG, 1 TAB, 5 REF

*PAVEMENT PERFORMANCE	PAVEMENT SURFACE TEXTURE
STEREOSCOPIC PHOTOGRAPHY	SKID RESISTANCE
PHOTOINTERPRETATION	MEASUREMENTS
TEST METHODS	THREE DIMENSIONAL
FILM THICKNESS	HIGHWAY DRAINAGE

AREA 26 PAVEMENT PERFORMANCE

26 213156

USING A MODIFIED BUREAU OF PUBLIC ROADS ROUGHNESS TO MEASURE PAVEMENT ROUGHNESS SPECTRA

QUINN BE
ENGJA H
ZABLE JLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 311, PP 26-35, 7 FIG, 5 REF

*PAVEMENT PERFORMANCE	ROUGHNESS
ROUGHNESS	MEASUREMENTS
PAVEMENT SURFACE TEXTURE	PAVEMENT SMOOTHNESS
STRAIN GAGES	

26 213157

A ROAD PROFILE DATA-GATHERING AND ANALYSIS SYSTEM

WALKER RS
HUDSON WRHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 311, PP 36-54, 16 FIG, 1 TAB, 4 REF

*PAVEMENT PERFORMANCE	DATA ACQUISITION
DATA ANALYSIS	PROFILES
ANALOG TO DIGITAL CONVERTERS	
PAVEMENT EVALUATION	
HIGHWAY PAVEMENTS	

26 213158

AN EXAMINATION OF CONCRETE PAVEMENT STRUCTURAL PERFORMANCE

HCLBROOK LF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 311, PP 55-67, 13 FIG, 8 REF

*PAVEMENT PERFORMANCE	CONCRETE PAVEMENTS
PAVEMENT PERFORMANCE	STRUCTURAL ANALYSIS
FACTOR ANALYSIS	MATHEMATICAL ANALYSIS
TRAFFIC VOLUME	COARSE AGGREGATES
CARBONATES	AVERAGE DAILY TRAFFIC
COMMERCIAL VEHICLES	MATHEMATICAL MODELS
SERVICEABILITY INDEX	WHEEL PATH

26 213160

PERFORMANCE RATING FOR AGGREGATE-SURFACED ROADS

LUND JW
HENDRICKSON LGHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 311, PP 91-98, 5 FIG, 2 TAB, 12 REF

*PAVEMENT PERFORMANCE	AGGREGATES
VOLCANIC ASH	FOREST ROADS
WEARING COURSE	SURFACE COURSES
RATING	PLASTIC DEFORMATION
TRAFFIC VOLUME	TRAFFIC SPEED
REGRESSION ANALYSIS	

AREA 26 PAVEMENT PERFORMANCE

26 214586

SKID RESISTANCE OF SNOW- OR ICE-COVERED ROADS

ICHIHARA K
MIZOGUCHI MHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 104-114, 7 FIG, 6 TAB

*PAVEMENT PERFORMANCE	SKID RESISTANCE
SNOW & ICE EFFECTS	COEFFICIENTS
TEMPERATURE	TIRES
CHEMICALS	DRIVING CONDITIONS
STOPPING DISTANCES	LONGITUDINAL GRADIENT
SPINNING	CROSS FALL

26 214587

EFFECT OF SALT ON REINFORCED CONCRETE HIGHWAY BRIDGES AND PAVEMENTS

HALL JN
LAHUE SP
CUNNINGHAM PE
SHACKELFORD JD

DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 115-120, 5 FIG 50 REF

*PAVEMENT PERFORMANCE	SALT /SODIUM CHLORIDE/
REINFORCED CONCRETE	HIGHWAY BRIDGES
DETERIORATION	BRIDGE DECKS
SPALLING	CORROSION
REINFORCING STEEL	

26 214588

PAVEMENT HEATING

WINTERS F

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 129-145, 12 FIG, 5 TAB, 6 PHOT

*PAVEMENT PERFORMANCE	HEATING
PAVEMENTS	SNOW & ICE CONTRL
PIPES	HEAT EXCHANGERS
HEAT TRANSFER	HEAT TRANSMISSION
ETHYLENE GLYCOLS	

26 214614

USE OF COLOR AERIAL PHOTOGRAPHY FOR PAVEMENT EVALUATION STUDIES

STOECKELER EG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 319, PP 40-57, 15 FIG, 2 TAB, 1 APP

*PAVEMENT PERFORMANCE	*PHOTOGRAMMETRY
*HIGHWAY DESIGN	
*EXPLORATION-CLASSIFICATION /SDILS/	PAVEMENT DISTRESS
PAVEMENTS	COLOR PHOTOGRAPHY
INFRARED PHOTOGRAPHY	FLEXIBLE PAVEMENTS
STEREOSCOPIC PHOTOGRAPHY	PHOTOINTERPRETATION
AERIAL PHOTOGRAPHY	

AREA 26 PAVEMENT PERFORMANCE

26 215250

SKID RESISTANCE OF LINSEED OIL TREATED PAVEMENTS

RUNKLE SN
MORRIS CE

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 327, PP 1-11, 3 FIG, 8 TAB, 2 REF

*PAVEMENT PERFORMANCE	PORTLAND CEMENT CONCRETES
CONCRETE PAVEMENTS	PAVEMENTS
WET PAVEMENT	SKID RESISTANCE
LINSEED OIL	PAVEMENT SURFACE TEXTURE
DRY CONDITIONS	INTERSTATE HIGHWAY SYSTEM
WET CONDITIONS	

26 215697

EFFECT OF STUDED TIRES ON THE DURABILITY OF ROAD SURFACING

KEYSER JH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 331, PP 41-53, 10 TAB, 10 PHOT, 43 REF

*PAVEMENT PERFORMANCE	STUDS
TIRES	PAVEMENTS
PAVEMENT PERFORMANCE	LABORATORY STUDIES
FIELD STUDIES	WEAR
WEAR RESISTANCE	COSTS
EFFECT	LABORATORY TESTS
FIELD TESTS	ICE
BITUMINOUS MIXTURES	CHIPPING
PRECAST AGGREGATE	PORTLAND CEMENTS
BITUMINOUS CONCRETES	STONE FILLED SHEET ASPHALT
RATE	SKIING
ROAD SURFACES	FREEZING

26 215698

PAVEMENT WEAR DUE TO STUDED TIRES AND THE ECONOMIC CONSEQUENCES IN ONTARIO

SMITH P
SCHONFELD RHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 331, PP 54-79, 1 FIG, 7 TAB, 7 PHOT, 10 REF, 1 APP

*PAVEMENT PERFORMANCE	STUDS
TIRES	PAVEMENT SURFACE TEXTURE
PAVEMENT PERFORMANCE	PAVEMENTS
PAVEMENT DISTRESS	BEFORE AND AFTER STUDIES
WEAR	BENEFITS

26 216357

STUDIES OF THE RELATIONSHIPS AMONG CRACK PATTERNS, COVER OVER REINFORCING STEEL, AND DEVELOPMENT OF SURFACE SPALLS IN BRIDGE DECKS

STARK D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 13-21, 8 FIG, 5 REF

*PAVEMENT PERFORMANCE	*BRIDGE DESIGN
BRIDGE DECKS	CONCRETE BRIDGE DECKS
REINFORCING STEEL	CORROSION
SPALLING	SURFACE CRACKS
CRACK PROPAGATION	AGGREGATES
COARSE AGGREGATES	POROSITY
COMPRESSIBILITY	WATER CEMENT RATIO
CRACKING /FRACTURING/	SALTS

AREA 26 PAVEMENT PERFORMANCE

26 216358

THE EFFECTS OF CRACKING ON THE DURABILITY OF CONCENTRATE BRIDGE DECKS

YOUNG JA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, P 22

*PAVEMENT PERFORMANCE	BRIDGE DECKS
CONCRETE BRIDGE DECKS	CRACKING /FRACTURING/
DURABILITY	LIVE LOADS
SALTS	

26 216359

DETERIORATION IN SALTED BRIDGE DECKS

STEWART CF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 23-28, 8 FIG

*PAVEMENT PERFORMANCE	*MAINTENANCE /GENERAL/
DEICERS	BRIDGE DECKS
CONCRETE BRIDGE DECKS	REINFORCING STEEL
CORROSION	CRACKING /FRACTURING/
SEAL COATS	IMPERVICUS MEMBRANES
EPOXY RESINS	COAL TARS
DURABILITY	GLASS FABRIC
SALTS	FABRICS
GLASS	

26 216360

RECENT ADVANCES IN DETECTING DELAMINATION IN CONCRETE BRIDGE DECKS

MOORE WM
SWIFT G
MILBERGER LJHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, P 29

*PAVEMENT PERFORMANCE	CONCRETE BRIDGE DECKS
DETECTING DEVICES	DELAMINATION
STRIPPING	SURFACES
PAVEMENT DISTRESS	

26 216362

EPOXY-ASPHALT OPEN-GRADED PAVEMENT AS A SKID-RESISTANCE TREATMENT ON THE SAN FRANCISCO BAY BRIDGE

BREWER RA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 42-47, 1 TAB, 11 REF

*PAVEMENT PERFORMANCE	EPOXY
ASPHALTS	SURFACE TREATMENTS
SKID RESISTANCE	BRIDGE DECKS
ABRASIVE BLASTING	GROOVING
EPOXY ASPHALT	OPEN GRADED AGGREGATE

AREA 26 PAVEMENT PERFORMANCE

26 216364

AN AMPLITUDE-FREQUENCY DESCRIPTION OF ROAD ROUGHNESS

BRICKMAN AD
WAMOLD JC
ZIMMERMAN JRHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 53-67, 21 FIG, 7 REF

*PAVEMENT PERFORMANCE	PROFILOMETERS
SURFACE DYNAMICS PROFILOMETER	
PAVEMENTS	ROUGHNESS
MEASUREMENTS	ANALCG COMPUTERS
ELECTRIC POTENTIAL	SIGNALS
DATA REDUCTION	FREQUENCIES
AMPLITUDE	

26 216365

PAVEMENT SERVICEABILITY EQUATIONS USING THE SURFACE DYNAMICS PROFILOMETER

ROBERTS FL
HUDSON WRHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 68-79, 5 FIG, 2 TAB, 11 REF

*PAVEMENT PERFORMANCE	PROFILOMETERS
SURFACE DYNAMICS PROFILOMETER	
PAVEMENTS	EQUATIONS
SERVICEABILITY INDEX	

26 216366

A 5-YEAR REPORT ON EVALUATION OF PAVEMENT SERVICEABILITY WITH SEVERAL ROAD METERS

BROKAW MP

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 80-91, 5 FIG, 9 TAB, 16 REF

*PAVEMENT PERFORMANCE	PROFILMETERS
PAVEMENTS	SERVICEABILITY INDEX
MEASUREMENTS	WIND VELOCITY
AUTOMOBILES	SPEED
TEMPERATURE	SEASONAL VARIATIONS
ROUGHNESS	

26 216367

THE IMPORTANCE OF RATIONAL AND COMPATIBLE PAVEMENT PERFORMANCE EVALUATION

HAAS RC
HUDSON WRHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 92-111, 9 FIG, 30 REF

*PAVEMENT PERFORMANCE	PAVEMENT EVALUATION
PAVEMENT PERFORMANCE	PAVEMENTS
SERVICEABILITY	JUDGMENT
STANDARDS	RATING

AREA 26 PAVEMENT PERFORMANCE

26 216368

WASHINGTON PAVEMENT RATING SYSTEM: PROCEDURES AND APPLICATION

LECLERC RV
MARSHALL TRHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 112-121, 6 FIG, 3 REF

*PAVEMENT PERFORMANCE PAVEMENTS SYSTEMS ROUGHNESS HIGHWAY MAINTENANCE STATISTICAL ANALYSIS	PAVEMENT EVALUATION RATING PAVEMENT DISTRESS RIDING QUALITY PREDICTIONS SURVEYS
---	--

26 216370

EVALUATION OF PAVEMENT SERVICEABILITY ON UTAH HIGHWAYS

MUIR DC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 131-133, 2 FIG

*PAVEMENT PERFORMANCE PAVEMENT PERFORMANCE PAVEMENTS	PAVEMENT EVALUATION SERVICEABILITY INDEX ROUGHNESS
--	--

26 216371

CONTINUING STUDIES OF PAVEMENT GROOVING IN CALIFORNIA

FARNSWORTH EE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 134-137, 1 TAB, 2 REF

*PAVEMENT PERFORMANCE GROOVING	PAVEMENTS SPECIFICATIONS
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26 216372

EFFECT OF TRANSVERSE STEEL IN CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

TREYBIG HJ
MCCULLOUGH BF
HUOSON WRHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 138-150, 9 FIG, 37 REF

*PAVEMENT PERFORMANCE CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS REINFORCING STEEL LOAD TRANSFER LONGITUDINAL CRACKING	TRANSVERSE REINFORCEMENT SERVICE LIFE
--	--

AREA 26 PAVEMENT PERFORMANCE

26 216373

TRENDS OF PAVEMENT CHARACTERISTICS DURING TWELVE MONTHS OF A DESIGNED EXPERIMENT

LAI JS
DARTER MI
VOKAC RHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 151-166, 12 FIG, 4 TAB, 4 REF

*PAVEMENT PERFORMANCE SURFACE COURSES THICKNESS RUBBER ASPHALTS PHYSICAL PROPERTIES STRENGTH ASPHALTIC CONCRETE STATISTICAL METHODS	EXPERIMENTAL ROADS BASE COURSES PAVEMENT COURSE THICKNESS ASPHALT CONTENT VISCOSITY PROPERTIES RECOVERY PAVEMENTS
---	--

26 216374

A FIELD INVESTIGATION OF CONCRETE PAVEMENT IN TEXAS

LEDBETTER WB
MEYER AH
TREYBIG HJHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 167-173, 5 FIG, 12 REF

*PAVEMENT PERFORMANCE CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS CONCRETES CRACKING /FRACTURING/ CONSTRUCTION JOINTS AGGREGATE GRADATION SIZE	CONCRETE PAVEMENTS CONSDOLIDATION CONCRETE CRACKING COARSE AGGREGATES TRANSVERSE JOINTS
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26 216375

PERFORMANCE OF CONCRETE PAVEMENTS ON COUNTY ROADS IN IOWA

BESTER WG

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 174-178, 4 FIG, 3 REF

*PAVEMENT PERFORMANCE RURAL AREAS SERVICEABILITY INDEX ROUGHNESS THICKNESS CONCRETE PAVEMENTS	SECONDARY ROADS PAVEMENT PERFORMANCE PAVEMENTS SURFACE COURSES THINNESS
--	---

26 219997

STUDIES OF STUDDER-TIRE DAMAGE AND PERFORMANCE IN ONTARIO DURING THE WINTER OF 1969-1970

SMITH P
SCHONFELD RHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 352, PP 1-15, 1 FIG, 10 TAB, 14 REF

*PAVEMENT PERFORMANCE PAVEMENT DISTRESS TRAFFIC MARKINGS CONCRETE PAVEMENTS ACCIDENT PREVENTION	STUDDER TIRES WEAR WEAR RESISTANCE BITUMINOUS PAVEMENTS ICE
---	---

AREA 26 PAVEMENT PERFORMANCE

26 21998

RESISTANCE OF VARIOUS TYPES OF BITUMINOUS CONCRETE AND CEMENT CONCRETE TO WEAR BY STUDED TIRES

KEYSER JH
PREUS CK DISCUSSEURHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 352, PP 16-38, 23 FIG, 8 TAB, 23 REF

*PAVEMENT PERFORMANCE	STUDED TIRES
PAVEMENT DISTRESS	WEAR
WEAR RESISTANCE	CONCRETE PAVEMENTS
BITUMINOUS PAVEMENTS	MIX DESIGN
MEASURING INSTRUMENTS	RATE

26 220702

CALIBRATION STUDY SHOULD ELIMINATE VARIATIONS IN SKID-TESTING TRAILERS

NEILL AH
BCYO PLHIGHWAY RESEARCH NEWS, HWY RES BOARD SEP71
NO 45, PP 31-36, 8 FIG, 2 TAB

*PAVEMENT PERFORMANCE	SKID RESISTANCE TESTING
TESTING MACHINES	TRAILERS
CALIBRATIONS	

26 221126

RELIABILITY OF HIGHWAY PAVEMENTS

LEMER AC
MOAVENZADEH FHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 1-8, 4 FIG, 2 TAB, 5 REF

*PAVEMENT PERFORMANCE	PAVEMENT PERFORMANCE
RELIABILITY	MONTE CARLO METHOD
PAVEMENT DESIGN	MODELS
PROBABILITY THEORY	STATISTICAL ANALYSIS
MATHEMATICAL MODELS	SIMULATIONS

26 221127

COMPREHENSIVE SYSTEMS ANALYSIS FOR PAVEMENTS

KHER RK
HUSDGN WR
MCCULLOUGH BFHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 9-20, 5 FIG, 17 REF

*PAVEMENT PERFORMANCE	SYSTEMS ANALYSIS
RIGID PAVEMENTS	RIGID PAVEMENT DESIGN
CDST DATA	MATHEMATICAL MODELS
COMPUTER PROGRAMS	

AREA 26 PAVEMENT PERFORMANCE

26 221128

EVALUATION OF TERMINAL ANCHORAGE INSTALLATIONS ON RIGID PAVEMENTS

MCCULLOUGH BF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 21-29, 7 FIG, 2 TAB, 5 REF

*PAVEMENT PERFORMANCE	RIGID PAVEMENTS
EXPANSION	ANCHORAGES
CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS	

26 221129

IMPACT EFFECT ON RIGID PAVEMENT CORNER HAVING LOW SPOTS

GHOSH RK
LAL R
VIJAYAKHAVAN SRHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 30-47, 17 FIG, 2 TAB, 5 REF

*PAVEMENT PERFORMANCE	RIGID PAVEMENTS
PAVEMENT DEFLECTION	SURFACE PROPERTIES
MATHEMATICAL ANALYSIS	PAVEMENT CORNERS
SLABS	JOINTS

26 221130

METHOD FOR SEPARATELY EVALUATING STRUCTURAL PERFORMANCE OF SUBGRADES AND OVERLYING FLEXIBLE PAVEMENTS

VASWANI NK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 48-62, 7 FIG, 2 TAB, 8 REF

*PAVEMENT PERFORMANCE	PAVEMENT PERFORMANCE
SUBGRADES	FLEXIBLE PAVEMENTS
STRUCTURAL ANALYSIS	PAVEMENT DEFLECTION
PAVEMENT STRUCTURES	

26 221131

PREDICTION OF SHRINKAGE STRESSES IN PAVEMENTS CONTAINING SOIL-CEMENT BASES

PRETKRUIS PC
MONISMITH CLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 63-86, 27 FIG, 23 REF, 1 APP

*PAVEMENT PERFORMANCE	SHRINKAGE
SOIL CEMENT	PAVEMENT BASES
PAVEMENT CRACKING	STRUCTURAL BEHAVIOR
ASPHALTIC CONCRETE	

26 221134

HIGH-SPEED PROFILMTRY

DARLINGTON JR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 98-103, 1 TAB, 8 REF

*PAVEMENT PERFORMANCE	PROFILMETERS
HIGH SPEED	WAVELENGTH

AREA 26 PAVEMENT PERFORMANCE

26 221135

PRACTICAL USES OF SPECTRAL ANALYSIS WITH SURFACE DYNAMICS
ROAD PROFILOMETERWALKER RO
HUDSON WRHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 362, PP 104-119, 10 FIG, 5 TAB, 26 REF, 1 APP

*PAVEMENT PERFORMANCE	PROFILMETERS
SURFACE DYNAMICS PROFILOMETER	
POWER SPECTRA	CONSTRUCTIVE CONTROL
SPECTRAL ANALYSIS	

26 222649

CORRECTIVE PROGRAMS FOR IMPROVING SKID RESISTANCE

MAHONEY DC
SHAFFER RKHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 54-58, 2 REF

*PAVEMENT PERFORMANCE	SKID RESISTANCE
PROGRAMS	CORRECTIONS
PAVEMENT SURFACE TEXTURE	SKIDDING
PAVEMENT DESIGN	MAINTENANCE
DESLICKING	HIGHWAY IMPROVEMENTS

26 222650

ANTI-SKID MEASUREMENT

MILLARD RS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 59-60, 1 FIG

*PAVEMENT PERFORMANCE	COEFFICIENT OF FRICTION
SKID RESISTANCE	MEASURING INSTRUMENTS
SKID TRAILER	LATERAL FORCES
CRITERIA	

26 222652

GROOVING PATTERN STUDIES IN CALIFORNIA

SHERMAN GB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 63-64, 3 FIG

*PAVEMENT PERFORMANCE	DESLICKING
GROOVING	SKID RESISTANCE
PAVEMENT SURFACE TEXTURE	HIGHWAY IMPROVEMENTS

26 222657

COMPARISON OF HIGHWAY PAVEMENT FRICTION MEASUREMENTS TAKEN
IN THE CORNERING-SLIP AND SKID MODESGALLAWAY BM
ROSE JGHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 107-122, 9 FIG, 6 TAB, 20 REF

*PAVEMENT PERFORMANCE	SKIDDING
SKID TRAILER	SLIPPERINESS
FRICTION TESTS	FRICTION
MEASURING INSTRUMENTS	
PAVEMENT SKIDDING CHARACTERISTICS	
MUMETER	SLIDING FRICTION
SKID RESISTANCE TESTING	

AREA 26 PAVEMENT PERFORMANCE

26 223050

LOCKED-WHEEL PAVEMENT SKID TESTER CORRELATION AND
CALIBRATION TECHNIQUESMEYER WE
HEGDMON RR
GILLESPIE TOHIGHWAY RESEARCH BOARD NCHRP DIGEST APR72
NO 38 5 PP
1 FIG

*PAVEMENT PERFORMANCE	SKID TRAILER
SKID RESISTANCE TESTING	MODELS
CORRECTIONS	STATISTICAL ANALYSIS
CALIBRATIONS	

26 224326

LONGEVITY OF HOT-POURED ELASTOMERIC JOINT SEALANTS

GAUS FO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 389 PP 25-7

*PAVEMENT PERFORMANCE	HOT JOINT SEALANTS
POLYVINYL CHLORIDE	ELASTOMERS
ARTIFICIAL WEATHERING TESTS	
BLISTERING	BUBBLING
COHESION	DURABILITY
HARDENING	TEMPERATURE
WEATHERING	

8 REF

26 224327

EFFECTS OF VARIOUS SEALING SYSTEMS ON PORTLAND CEMENT
CONCRETE JOINTS

BROWN DO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 389 PP 28-39
41 FIG

*PAVEMENT PERFORMANCE	JOINT SEALERS
NEOPRENE	COMPRESSION
PORTLAND CEMENT CONCRETES	HOT JOINT SEALANTS
COAL TARS	

26 224328

VISCOELASTIC MODEL FOR ELASTOMERIC PAVEMENT JOINT SEALS

VYAS RK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 389 PP 40-B
7 FIG 2 TAB 8 REF

*PAVEMENT PERFORMANCE	VISCOELASTICITY
MODELS	ELASTOMERS
JOINT SEALERS	TIME EFFECTS
DEFORMATION	

AREA 26 PAVEMENT PERFORMANCE

26 224656

PAVEMENT FRICTION NEEDS

MAHONE DC
RUNKLE SNHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 396 PP 1-11
7 FIG 5 TAB 9 REF

APP

*PAVEMENT PERFORMANCE	
PAVEMENT SKIDING CHARACTERISTICS	
SKID RESISTANCE	SKID TRAILER
STOPPING DISTANCES	REGRESSION ANALYSIS
TRAFFIC VOLUME	FRICTION TESTS
BITUMINOUS PAVEMENTS	LIMESTONES
PORTLAND CEMENT CONCRETES	WET CONDITIONS
TRAFFIC ACCIDENTS	SKID NUMBER

26 224657

DEVELOPMENT OF SPECIFICATIONS FOR SKID-RESISTANT ASPHALT CONCRETE

KEARNEY EJ
MCALPIN GW
BURNETT WCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 396 PP 12-20
4 FIG 2 TAB 6 REF

APP

*PAVEMENT PERFORMANCE	SKID RESISTANCE
ASPHALT PAVEMENTS	SKID NUMBER
SKID TRAILER	TRAFFIC VOLUME
AGGREGATES	AGGREGATE MIXTURES
CARBONATES	

26 224660

THE EFFECTS OF SALTS ON ROAD DRYING RATES, TIRE FRICTION, AND INVISIBLE WETNESS

MORTIMER TP
LUDEMA KCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 396 PP 45-58
17 FIG 6 REF

*PAVEMENT PERFORMANCE	WET CONDITIONS
SKID RESISTANCE	WATER FILM
SALTS	CALCIUM CHLORIDES
EQUATIONS	DRYING RATE

26 228083

FAULTING OF PORTLAND CEMENT CONCRETE PAVEMENTS

SPELLMAN DL
WOODSTROM JH
NEAL BFHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 1-9
6 FIG 7 TAB 2 REF

*PAVEMENT PERFORMANCE	PORTLAND CEMENT CONCRETES
CONCRETE PAVEMENTS	FAULTING
SHOULDERS	LEAN MIX CONCRETE
CEMENT TREATED BASES	ABRASION
SLIP FORM PAVING	

AREA 26 PAVEMENT PERFORMANCE

26 228084

EFFECT OF CRACKS ON BENDING STIFFNESS IN CONTINUOUS PAVEMENTS

ABOU-AYYASH A
HUDSON WR
TREYBIG MJHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 10-21
12 FIG 8 REF

*PAVEMENT PERFORMANCE	TRANSVERSE CRACKING
STIFFNESS	BENDING
CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS	MOMENT OF INERTIA
MATHEMATICAL ANALYSIS	

26 228087

PREDICTING LOW-TEMPERATURE CRACKING FREQUENCY OF ASPHALT CONCRETE PAVEMENTS

HAJEK JJ
HAAS ROCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 39-54
11 FIGS 6 TABS 16 REFS

*PAVEMENT PERFORMANCE	MATHEMATICAL MODELS
PAVEMENT LIFE	PAVEMENT CRACKING
SKRINKAGE CRACKS	ASPHALT PAVEMENTS
LOW TEMPERATURES	SUBGRADES
PAVEMENT THICKNESS	AGE
MATHEMATICAL MODELS	NOMOGRAPHS

26 228090

EVALUATION OF RIGID PAVEMENTS BY NONDESTRUCTIVE TESTS

BALAKRISHNA RAD HA
MARNAGE DHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 76-86
10 FIG 2 TAB 11 REF

*PAVEMENT PERFORMANCE	RIGID PAVEMENTS
NONDESTRUCTIVE TESTING	VIBRATIONS
SUBGRADE MODULUS	DEFLECTION
PLATE LOAD TEST	ELASTICITY

26 228092

FATIGUE CRACK FORMATION AND PROPAGATION IN PAVEMENTS CONTAINING SOIL-CEMENT BASES

PRETORIUS PC
BRUNETTE
KRUGER
STOFFBERG
HUGO
MCNISMITH CLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 407 PP 102-15
22 FIG 11 REF

*PAVEMENT PERFORMANCE	TRANSVERSE CRACKING
CRACK PROPAGATION	FATIGUE
CEMENT TREATED BASES	SOIL CEMENT TESTING
MATHEMATICAL ANALYSIS	

AREA 26 PAVEMENT PERFORMANCE

26 228093

CONCRETE SLAB RESTING ON A STRATIFIED MEDIUM

FREMUND M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 407 PP 116-29
 17 FIG 21 REF

*PAVEMENT PERFORMANCE SLABS CONTACT AREA VARIATIONS MATHEMATICAL MODELS ELASTIC HALF SPACE ELASTIC THEORY	CONCRETE PAVEMENTS PAVEMENT BASES TEMPERATURE DISPLACEMENT LAYERED SYSTEM MECHANICS DISCONTINUITY
---	--

26 228096

DEVELOPING A PAVEMENT FEEDBACK DATA SYSTEM

HAAS RC
 HUDSON WR
 MCCULLOUGH BF
 BROWN JL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 407 PP 162-72
 7 FIG 1 TAB 8 REF

*PAVEMENT PERFORMANCE PAVEMENT PERFORMANCE FEEDBACK COMPUTER APPLICATIONS	PAVEMENT DESIGN MANAGEMENT DATA PROCESSING
--	--

26 228552

STUDDED TIRE EFFECTS ON PAVEMENTS AND TRAFFIC SAFETY IN MINNESOTA

PREUS CK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 418 PP 44-54
 12 FIG 2 REF

*PAVEMENT PERFORMANCE PAVEMENT PERFORMANCE LAWS	STUDDERED TIRES TRAFFIC SAFETY
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26 228864

SKID RESISTANCE

HRB NCHRP SYNTHESIS OF HWY PRACTICE 72
 NO 14 66 PP
 APP 63 FIG 5 TAB 115 REF

*PAVEMENT PERFORMANCE PAVEMENTS PAVEMENT MAINTENANCE	SKID RESISTANCE PAVEMENT CONSTRUCTION
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26 229756

USE OF CAR ROAD METERS IN A ROAD MASS INVENTORY

TESSIER G

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
 NO 133 PP 107-13
 9 FIG 5 REF

*PAVEMENT PERFORMANCE PAVEMENT MAINTENANCE INVENTORIES	PAVEMENT MANAGEMENT ROAD METER HIGHWAYS
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AREA 27 BRIDGE DESIGN

27 205153

PROTECTION OF STEEL IN PRESTRESSED CONCRETE BRIDGES

HIGHWAY RESEARCH BOARD NCHRP DIGEST MAR69
 DIGEST NO 5, PROJECT 12-5, 3 PP

*BRIDGE DESIGN HIGH STRENGTH STEELS STEEL PROTECTION TENDONS PH VALUE BRIDGE SUPERSTRUCTURES CHLORIDES HOT DIP GALVANIZING PROTECTIVE COATINGS COVER	PRESTRESSED CONCRETE CONCRETE BRIDGES CORROSION PREVENTION HYDROGEN SULFIDE CARBONIZATION PRETENSING INHIBITORS EPGXY CONCRETES GROUTING
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27 207846

DISTRIBUTION OF WHEEL LOADS ON HIGHWAY BRIDGES

HIGHWAY RESEARCH BOARD NCHRP DIGEST SEP69
 NC 10, 4 PP, 1 TAB

*BRIDGE DESIGN HIGHWAY BRIDGES PLATES BRIDGE SPANS FOLDED PLATES SPECIFICATIONS	WHEEL LOAD DISTRIBUTION ORTHOTROPIC THEORIES CONCRETE BOX GIRDERS AASHTO ROAD TEST THEORETICAL ANALYSIS
--	--

27 208177

TENTATIVE SERVICE REQUIREMENTS FOR BRIDGE RAIL SERVICES

HIGHWAY RESEARCH BOARD NCHRP DIGEST OCT69
 DIGEST 12, 2 PP

*BRIDGE DESIGN SERVICE COLLISIONS ESTIMATES DECELERATION	BRIDGE RAILS REQUIREMENTS FORCES MOTOR VEHICLES DYNAMIC LOADS
--	---

27 208586

WATERPROOF EXPANSION JOINTS FOR BRIDGES

HIGHWAY RESEARCH BOARD NCHRP DIGEST OCT69
 DIGEST NO 14, 3 PP

*BRIDGE DESIGN WATERPROOFING TECHNIQUES INTERVIEWS INTERVIEWS SAWED JOINT SEALANTS FIELD PERFORMANCE	EXPANSION JOINTS JOINT SEALERS STATE OF THE ART STUDIES BRIDGES CONCRETE BRIDGES POLYURETHANE RESINS
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AREA 27 BRIDGE DESIGN

27 209206

END-MOVEMENT STUDIES OF VARIOUS TYPES OF HIGHWAY BRIDGES

ZUK W

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 1-4, 3 FIG, 1 TAB, 4 REF

*BRIDGE DESIGN	END MOVEMENTS
HIGHWAY BRIDGES	MEASURING INSTRUMENTS
TEMPERATURE	TEMPERATURE MEASUREMENT
RECORDING	MOTION PICTURES
BRIDGE ABUTMENTS	
COMPOSITE BEAM BRIDGE DECKS	MONOLITHS
CONCRETE BRIDGE DECKS	
REINFORCED CONCRETE BRIDGES	THERMAL EXPANSION
PRESTRESSED CONCRETE BEAMS	CREEP
VOLUME CHANGES	LENGTH
SHRINKAGE	
CHANGES	

27 209207

DESIGN OF BOX GIRDERS OF DEFORMABLE CROSS SECTION

WRIGHT RN

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 5-24, 14 FIGS, 13 TAB, 11 REFS, APP

*BRIDGE DESIGN	BOX GIRDERS
GIRDER BRIDGES	DEFORMATION
CROSS SECTIONS	BRIDGE DESIGN

27 209208

INSTRUMENTATION AND TESTING OF AN EXPERIMENTAL CONTINUOUS CONCRETE BRIDGE REINFORCED WITH HIGH-YIELD-STRENGTH STEEL

ANTONI CM
CORBISIERO JAHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 25-40, 10 FIG, 5 TAB, 10 REF

*BRIDGE DESIGN	CONTINUOUS REINFORCEMENT
REINFORCED CONCRETE BRIDGES	
HIGH STRENGTH STEELS	YIELD STRENGTH
FOUR LANE HIGHWAYS	BRIDGE SPANS
ULTIMATE STRENGTH DESIGN	MEASURING INSTRUMENTS
RECORDING	STRAINS
DEFLECTION	DEAD LOADS
LOAD DISTRIBUTION	BRIDGE DESIGN

27 209209

PRESTRESS LOSS AND CAMBER IN HIGHWAY BRIDGE BEAMS

FURR HL
SINNO R
BUTLER HD
HENNEBERGER WHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 41-55, 14 FIG, 3 TAB, 14 REF

*BRIDGE DESIGN	PRESTRESSED CONCRETE BEAMS
PRETENSIONING	BRIDGE BEAM CONSTRUCTION
LIGHTWEIGHT CONCRETES	STRUCTURAL ANALYSIS
HIGHWAY BRIDGES	INTERSTATE HIGHWAY SYSTEM
CAMBER	LOSSES
PRESTRESSING	CREEP
STRAINS	DEAD LOADS

AREA 27 BRIDGE DESIGN

27 209210

FIELD TESTING OF AN ORTHOTROPIC STEEL DECK BRIDGE

DAVIS KE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 56-65, 7 FIGS, 6 REF

*BRIDGE DESIGN	FIELD TESTS
ORTHOTROPIC	STEELS
BRIDGE DECKS	STRUCTURAL BEHAVIOR
THEORETICAL ANALYSIS	WEARING COURSE
DURABILITY	CONCENTRATION
LOADING TESTS	TRANSDUCERS
DATA ACQUISITION	ICING

27 209211

STRUCTURAL BEHAVIOR OF AN ORTHOTROPIC STEEL DECK BRIDGE

BOUWKAMP JG
POWELL GHHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 66-84, 16 FIGS, 1 TAB, 4 REF

*BRIDGE DESIGN	STRUCTURAL BEHAVIOR
ORTHOTROPIC	STEEL PLATES
BRIDGE DECKS	THEORETICAL ANALYSIS
STRUCTURAL ANALYSIS	GRID SYSTEMS

27 209212

LOADING HISTORY OF HIGHWAY BRIDGES

GALAMBOS CF
ARMSTRONG WLHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 85-98, 9 FIGS, 4 TAB, 4 REFS

*BRIDGE DESIGN	DATA ACQUISITION
MOVING VEHICLES	STRAIN MEASUREMENT
TRUCKS	HIGHWAY BRIDGES
COMPUTER PROGRAMS	
ANALOG TO DIGITAL CONVERTERS	INTERSTATE HIGHWAY SYSTEM
DIGITAL SYSTEMS	BRIDGE DESIGN
LIVE LOADS	

27 209213

INVESTIGATION OF HORIZONTALLY CURVED REINFORCED CONCRETE BOX BEAM

KIM JB
SMITH NG
CLOSE RAHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 99-112, 6 FIG, 3 TAB

*BRIDGE DESIGN	HORIZONTAL CURVATURE
REINFORCED CONCRETE BRIDGES	
BOX BEAMS	BOX GIRDERS
STRUCTURAL ANALYSIS	STRAIN GAGES
REINFORCING STEEL	STIRRUPS
CONTINUOUS REINFORCEMENT	LOADING TESTS
BRIDGE DESIGN	

AREA 27 BRIDGE DESIGN

27 209214

ANALYTICAL AND EXPERIMENTAL BEHAVIOR OF A SIMPLE-SPAN GIRDER BRIDGE

SARTWELL AD
HEINS CP
LOONEY CTHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 113-127, 15 FIGS, 1 TAB, 10 REFS

*BRIDGE DESIGN	STRUCTURAL BEHAVIOR
SIMPLE SPAN	GIRDER BRIDGES
FINITE DIFFERENCES	ORTHOTROPIC
CONTINUOUS STRUCTURES	STATIC LOADS
COMPUTER PROGRAMS	DEFLECTION TESTS
STRAIN GAGES	MOVING VEHICLES

27 209215

DYNAMIC INTERACTION OF A THREE-AXLE VEHICLE AND A TWO-SPAN, PARTIALLY CONTINUOUS PRESTRESSED CONCRETE BRIDGE

VARNEY KF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 295, PP 128-139, 6 FIGS, 6 TAB, 4 REF

*BRIDGE DESIGN	FIELD STUDIES
THEORETICAL ANALYSIS	PRESTRESSED CONCRETE
CONTINUOUS STRUCTURES	DYNAMIC RESPONSE
CONCRETE BRIDGES	MOVING VEHICLES
LIVE LOADS	BRIDGE SPANS
DISPLACEMENT	STRAIN MEASUREMENT
VIBRATIONS	

27 209288

THERMAL CHARACTERISTICS OF HIGHWAY BRIDGES

WAH T
KIRKSEY REHIGHWAY RESEARCH BOARD NCHRP SUMMARY 69
PROJECT 12-4, PP 79-95, FIGS, TABS, REFS

*BRIDGE DESIGN	THERMAL PROPERTIES
HIGHWAY BRIDGES	REVIEWS
TEMPERATURE GRADIENT	THERMAL STRESSES
THEORETICAL ANALYSIS	FIELD TESTS
LABORATORY TESTS	STRAIN MEASUREMENT
CREEP	GIRDER BRIDGES
THERMAL EXPANSION	BRIDGE BEAM CONSTRUCTION

HIGHWAY RESEARCH BOARD NCHRP

27 210601

BRIDGE VIBRATIONS - SUMMARY OF QUESTIONNAIRE TO STATE HIGHWAY DEPARTMENTS

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB70
NO 107, 12 PP, 1 FIG, 9 REF

*BRIDGE DESIGN	HIGHWAY DEPARTMENTS
QUESTIONNAIRES	HIGHWAY BRIDGES
VIBRATIONS	BRIDGE DECKS
BRIDGE SPANS	VEHICULAR TRAFFIC
PEDESTRIANS	PARKING
DEFLECTION	STRESS RATIO
STIFFNESS	DAMPING

AREA 27 BRIDGE DESIGN

27 210602

DISTRIBUTION OF WHEEL LOADS ON HIGHWAY BRIDGES

SANDERS WW
ELLEBY HAHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 83, 56 PP, 31 FIG, 16 TAB, 2 APP

*BRIDGE DESIGN	WHEEL LOAD DISTRIBUTION
HIGHWAY BRIDGES	BRIDGE DECKS
STATIC LOADS	BRIDGE SPANS
ASPECT RATIO	CAST IN PLACE STRUCTURES
BRIDGE BEAM CONSTRUCTION	BEAM TESTS
CONCRETE BOX GIRDERS	STIFFNESS
DIAPHRAGMS	REVIEWS
ORTHOTROPIC	THEORETICAL ANALYSIS
FOLDED PLATES	ARTICULATED PLATES
FLEXURE	TORSION
WIDTHS	

27 210721

THE DESIGN AND PERFORMANCE OF SAFER LUMINAIRE SUPPORTS

EDWARDS TC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 149-157, 3 FIG, 6 TAB, 9 REF

*BRIDGE DESIGN	LUMINAIRES
SUPPORTS	COLLISION TESTS
BREAKAWAY SUPPORTS	ALUMINUM
STEELS	FLANGES
SLIP BASES	ACCIDENT SEVERITY RATE
MOTOR VEHICLE ACCIDENTS	MATHEMATICAL MODELS
DESIGN	

27 210722

DYNAMIC FIELD TEST OF WOODEN SIGNPOSTS

SANKEY FC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 158-168, 13 FIG, 2 TAB, 2 REF

*BRIDGE DESIGN	WOOD
SIGN STRUCTURES	FIELD TESTS
DYNAMIC TESTS	COLLISION TESTS
HOLES	NOTCH
BREAKAWAY SUPPORTS	

27 210723

THE USE OF A SCREEN TO SUBDUCE GALE-FORCE WINDS ON A MOUNTAIN BRIDGE

ADROLIN EF
BOURGET LHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 169-178, 11 FIG, 10 REF

*BRIDGE DESIGN	WINDBREAKS
WIND	SCREENS
MOUNTAINS	HIGHWAY BRIDGES
TRAILERS	STEELS
CHAIN LINK FENCING	ALUMINUM
ACCIDENT PREVENTION	WIND LOADS

AREA 27 BRIDGE DESIGN

27 211359

TENTATIVE SERVICE REQUIREMENTS FOR BRIDGE RAIL SYSTEMS

LLSON RM
POST ERHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
REPT NO 80, 62 PP, 23 FIG, 12 TAB, 45 REF, 4 APP

*BRIDGE DESIGN	BRIDGE RAILS
STATE OF THE ART STUDIES	FIXED OBJECT
FATAL ACCIDENTS	COLLISIONS
MOTOR VEHICLE ACCIDENTS	DYNAMIC TESTS
FULL SCALE SPECIMENS	BRIDGE APPROACHES
GUARDRAILS	MATHEMATICAL MODELS
DESIGN CRITERIA	

27 211962

PERFORMED ELASTOMERIC BRIDGE JOINT SEALERS: THERMAL CHARACTERISTICS OF BRIDGE END MOVEMENTS

KOZLOV GS
DESAI DHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 302, PP 38-48, 6 FIG, 2 TAB, 13 REF

*BRIDGE DESIGN	THERMAL PROPERTIES
CONCRETE BRIDGE DECKS	PERFORMING
JOINT SEALERS	ELASTOMERS
END MOVEMENTS	TEMPERATURE
CONCRETES	HEAT TRANSFER

27 211963

IMPACT FACTORS FOR CURVED HIGHWAY BRIDGES

VASHI KM
SCHELLING DR
HEINS CPHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 302, PP 49-61, 9 FIG, 1 TAB, 11 REF, 1 APP

*BRIDGE DESIGN	DYNAMIC RESPONSE
SIMPLE SPAN	HORIZONTAL CURVATURE
HIGHWAY BRIDGES	Moving VEHICLES
CURVED BEAMS	IMPACT FACTOR
DESIGN CRITERIA	I BEAMS
WELDMENTS	COMPOSITE BEAMS
GIRDER BRIDGES	

27 211964

UPPER ANCHORAGE OF COLUMN BARS IN BRIDGE PYLONS

RAJAGOPALAN KS
FERGUSON PMHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 302, PP 62-71, 11 FIG, 7 PHOT, 2 REF

*BRIDGE DESIGN	COLUMNS /STRUCTURAL/
ANCHORAGES	ANCHOR BEAMS
BRIDGE SPANS	CANTILEVERS
LIVE LOADS	TENSILE STRESS
REINFORCING STEEL	BENDING STRESS
LENGTH	ULTIMATE STRENGTH DESIGN

AREA 27 BRIDGE DESIGN

27 211967

PRACTICAL ASPECTS OF CANTILEVER RETAINING WALL DESIGN

STILES JW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 302, PP 87-96, 6 FIG, 1 TAB, 3 REF, 3 APP

*BRIDGE DESIGN	RETAINING WALL DESIGN
BEARING STRENGTH	FOUNDINGS
CANTILEVERS	GRAPHICAL ANALYSIS
DIMENSIONAL MEASUREMENTS	

27 216355

BRIDGE DECKS: PRECEPTS TO CONCEPTS

VANSANT GF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, P 1

*BRIDGE DESIGN	BRIDGE DESIGN
BRIDGE DECKS	DESIGN
SYSTEMS ENGINEERING	PLANNING
ANALYSIS	CONCRETE BRIDGE DECKS
DURABILITY	CONCRETE DURABILITY
ENVIRONMENTAL EFFECTS	

27 216735

DYNAMIC TESTS OF THE CALIFORNIA TYPE 20 BRIDGE RAIL

NORDLIN EF
WOODSTROM JH
HACKETT RP
FELSON JJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 343, PP 57-74, 27 FIG, 2 TAB, 11 REF, 1 APP

*BRIDGE DESIGN	BRIDGE RAILS
VEHICLES	IMPACT TESTS
BARRIERS	IMPACT
REINFORCED CONCRETE	SPEED
ANGLES /GEOMETRY/	DAMAGE
OCCUPANTS	INJURIES
SAFETY BELTS	

27 220048

LOADING HISTORY OF HIGHWAY BRIDGES: COMPARISON OF STRESS-RANGE HISTOGRAMS

GALAMBOS CF
HEINS CPHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP 1-12, 10 FIG, 3 TAB, 6 REF

*BRIDGE DESIGN	LOADING PERIOD
FIELD TESTS	RURAL HIGHWAYS
BRIDGES	DATA REDUCTION
TRUCK EFFECTS /BRIDGES/	TYPES
WEIGHT	FATIGUE LIFE
HISTOGRAMS	DISTRESS

AREA 27 BRIDGE DESIGN

27 220049

DYNAMIC STRESS STUDY OF COMPOSITE-SPAN BRIDGE WITH CONVENTIONAL AND ELASTOMERIC BEARINGS

MCKEEL WT
KINNIER HLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP 13-26, 11 FIG, 4 TAB, 7 REF

*BRIDGE DESIGN	DYNAMIC LOADINGS
ELASTOMERS	BEARINGS
FLEXIBILITY	STEEL BRIDGES
COMPOSITE STRUCTURES	STEEL PLATES
ELASTOMERIC PADS	MODELS
VIBRATION	

27 220050

CONTROL OF SINGLE-SPAN HIGHWAY BRIDGE VIBRATIONS

DERBY TF
CALCATERRA PCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP 27-44, 12 FIG, 7 TAB, 3 REF

*BRIDGE DESIGN	DYNAMIC RESPONSE
BRIDGE DESIGN	DAMPING
CONCRETE BRIDGES	VEHICLE CLASSIFICATION
SPEED	MODELS
RIGIDITY	PASSIVE ABSORBERS
ACTIVE ABSORBERS	EFFECT
PERFORMANCE	

27 220051

DYNAMIC PROPERTIES OF SUSPENSION BRIDGES

MCLAMORE VR
STUBBS IR
HART GCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP 45-53, 9 FIG, 2 TAB, 6 REF

*BRIDGE DESIGN	NATURAL FREQUENCY
VIBRATIONS	SUSPENSION BRIDGES
MODE	DAMPING
DYNAMICS	COMPARISONS

27 220052

STATIC AND FATIGUE STRENGTHS OF BEAMS CONTAINING PRESTRESSED CONCRETE TENSION ELEMENTS

MIRZA JF
ZIA P
BHARGAVA JRHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP 54-60, 6 FIG, 2 TAB, 6 REF

*BRIDGE DESIGN	STATIC TESTS
FATIGUE TESTS	COMPOSITE BEAMS
TENSION ELEMENTS	PRECAST CONCRETE
PRESTRESSED CONCRETE	ELASTICITY
INELASTIC ACTION	CRACKING /FRACTURING/
HIGHWAY BRIDGES	SIMULATIONS
REPEATED LOADING	CORROSION PREVENTION

AREA 27 BRIDGE DESIGN

27 220053

FLANGE PROPORTIONS FOR CURVED PLATE GIRDERS

CULVER CG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP 61-66, 6 FIG, 8 REF

*BRIDGE DESIGN	FLANGES
BUCKLING	PLATE GIRDERS
WARPING	BENDING STRESS

27 223561

BRIDGE STRESS-RANGE HISTORY

CHRISTIANO PP
GOODMAN LL
SUN CNHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 382 PP 1-12
8 FIG 5 TAB 9 REF

*BRIDGE DESIGN	LOADING HISTORY
VEHICULAR TRAFFIC	FATIGUE LIFE
BRIDGES	STRINGERS
BRIDGE CAPACITY	STRESS CYCLE
LOAD DISTRIBUTION	LOADING
INSTRUMENTATION	

27 223562

FATIGUE LIFE OF BRIDGES UNDER REPEATED HIGHWAY LOADINGS

OCUGLAS TR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 382 PP 13-20
7 FIG 3 TAB 12 REF

*BRIDGE DESIGN	LOADING HISTORY
FATIGUE FAILURE	STRINGERS
TRUCK EFFECTS /BRIDGES/	INSTRUMENTATION
LOADING RATE	LOADING INTENSITY
STEEL BRIDGES	SERVICE LIFE
TRAFFIC VOLUME	

27 223563

COMPARISONS BETWEEN INDUCED GIRDER STRESSES AND CORRESPONDING VEHICLE WEIGHTS

HEINS CP
KHCSA RLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 382 PP 21-6
5 FIG 5 TAB 9 REF

*BRIDGE DESIGN	LOADING HISTORY
STEEL BRIDGES	INSTRUMENTATION
LOADING RATE	LOADING INTENSITY
TRAFFIC VOLUME	VEHICLE CHARACTERISTICS
FATIGUE LIFE	GIRDERS
STRESSES	WEIGHT

AREA 27 BRIDGE DESIGN

27 223564

LOADING HISTORY STUDY OF TWO HIGHWAY BRIDGES IN VIRGINIA

MCKEEL WT
MADDOX CE
KINNIER ML
GALAMBOS CFHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 382 PP 27-37
6 FIG 6 TAB 6 REF

*BRIDGE DESIGN	STEEL BRIDGES
CONCRETE BRIDGES	LOADING INTENSITY
LOADING RATE	WEIGHT MEASUREMENT
STRAIN MEASUREMENT	TRUCK EFFECTS /BRIDGES/
LOADING HISTORY	INSTRUMENTATION

27 223565

COMPARISON OF MEASURED AND COMPUTED ULTIMATE STRENGTHS OF FOUR HIGHWAY BRIDGES

BURDETTE EG
GOODPASTURE CWHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 382 PP 38-49
7 FIG 2 TAB 5 REF

*BRIDGE DESIGN	ULTIMATE LOADS
ULTIMATE STRENGTH	BRIDGE FAILURES
BEARING CAPACITY	
COMPOSITE BEAM BRIDGE DECKS	
SET	GIRDER BRIDGES
CONCRETE BRIDGES	FAILURE THEORY
LOADING HISTORY	INSTRUMENTATION

27 223566

STRUCTURAL BEHAVIOR OF THE SOUTH ROAD CURVED GIRDER BRIDGE

VICTOR RF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 382 PP 50-63
16 FIG 15 REF

*BRIDGE DESIGN	CURVED STEEL GIRDERS
STEEL BRIDGES	LOADING TESTS
LIVE LOADS	DEAD LOADS
STRUCTURAL BEHAVIOR	GIRDER BRIDGES
STRESSES	DEFLECTION
LOADING HISTORY	INSTRUMENTATION

27 223567

CLOSING REMARKS AT SYMPOSIUM ON BRIDGES: LOADING HISTORY, ULTIMATE STRENGTHS, AND PERFORMANCE

GALAMBOS CF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 382 P 64

*BRIDGE DESIGN	LOADING HISTORY
FATIGUE FAILURE	TRUCK EFFECTS /BRIDGES/
LOADING RATE	LOADING INTENSITY
URBAN AREAS	BRIDGE FAILURES

AREA 27 BRIDGE DESIGN

27 223891

PILOT STUDY OF THE BRIDGE ENGINEERING SUBSYSTEM OF TIES

RUBY JG
PCSTHAUER RJHIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
PP 54-8

SPECIAL REPORT NO 128

*BRIDGE DESIGN	BRIDGE DESIGN
COMPUTER APPLICATIONS	COMPUTER PROGRAMS

27 226106

PRACTICAL OPTIMIZATION OF STEEL HIGHWAY BRIDGE BEAMS

BUSEK RH
GAUNT JT
LEWIS ADHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 1-3
1 FIG 1 TAB 8 REF

*BRIDGE DESIGN	BRIDGE DESIGN
STEEL BRIDGES	PLATE GIRDERS
COMPUTER PROGRAMS	COSTS
OPTIMIZATION	COMPUTER AIDED DESIGN
WELDED BEAMS	STEEL BEAMS

27 226107

FATIGUE BEHAVIOR OF WELDED BEAMS

HIRT MA
FISHER JWHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 4-15
11 FIG 16 REF

*BRIDGE DESIGN	STEEL BEAMS
WELDED BEAMS	FATIGUE /MATERIALS/
FRACTURES	MECHANICS
STEEL STRUCTURES	CRACK PROPAGATION
FATIGUE LIFE	PORES
GASES	

27 226108

FULL-SCALE TORSION TESTS OF PRESTRESSED CONCRETE I-BEAMS

BUTH E
FURR HLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 16-28
15 FIG 3 TAB 6 REF

*BRIDGE DESIGN	TORSION TESTS
TORSION	LOADS
PRESTRESSED CONCRETE BEAMS	FAILURE LINES
SHEAR MODULUS	CONCRETE BRIDGE DECKS
FAILURE	

AREA 27 BRIDGE DESIGN

27 226109

INVESTIGATION OF PRESTRESSED REINFORCED CONCRETE FOR
HIGHWAY BRIDGESSCZEN MA
SIESS CPHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 29-36
5 FIG 18 REF

*BRIDGE DESIGN	PRESTRESSED CONCRETE BEAMS
FLEXURAL STRENGTH	SHEAR STRENGTH
TIME DEPENDENT PARAMETERS	BRIDGE ANCHRAGES
BOND	HIGHWAY BRIDGES

27 226111

FACTORS AFFECTING GIRDER DEFLECTIONS DURING BRIDGE DECK
CONSTRUCTION

HILTON MH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 55-68
11 FIG 4 REF

*BRIDGE DESIGN	BRIDGE DECKS
THICKNESS	SCREEDS
CONSTRUCTION	PLATE GIRDERS
DEFLECTION	FORMING
TEMPERATURE	FLANGES
DEAD LOADS	

27 226112

PERFORMED ELASTOMERIC BRIDGE JOINT SEALERS: INTERIM GUIDE
FOR DESIGN AND CONSTRUCTION OF JOINTS

KZLOV GS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 69-81
7 FIG 2 TAB 10 REF

*BRIDGE DESIGN	BRIDGE DECKS
JOINT SEALERS	JOINTS
DESIGN	CONSTRUCTION
ELASTOMERS	CONCRETE BRIDGE DECKS

27 226113

REPORT CONCERNING OBJECTS THROWN FROM STRUCTURES ONTO
FREEWAYS IN MILWAUKEE COUNTY (ABRIDGEMENT)

HARLEY CA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 82

*BRIDGE DESIGN	BRIDGES
OVERPASSES	WALKWAYS
MISSILES	THROWN OBJECTS
FREEWAYS	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 205174

REDUCTION IN TRANSVERSE PAVEMENT CRACKING BY USE OF SOFTER
ASPHALT CEMENTS

MCLEOD NW

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 85
NO 101, PP 163-170, 6 FIG

*BITUMINOUS MATERIALS AND MIXES	
TRANSVERSE CRACKING	PAVEMENT CRACKING
LOW TEMPERATURES	ASPHALT PAVEMENTS
PAVEMENT PERFORMANCE	ASPHALT CEMENTS
VISCOSITY	

31 206194

A NEW APPROACH IN ASPHALT RHEOLOGY

SCHWEYER HE
BUSUT JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 1-11, 9 FIG, 1 TAB, 22 REF

*BITUMINOUS MATERIALS AND MIXES	
ASPHALTS	RHEOLOGY
REVIEWS	DEFORMATION
FLEXIBLE PAVEMENT DESIGN	RHEOLOGICAL STUDIES
COMPRESSION TESTING	TESTING EQUIPMENT
STRESS STRAIN RELATIONS	COMPRESSIBILITY
CONSISTENCY	VISCOSITY
MATERIALS TESTING	

31 206195

SOME ASPECTS OF THE RHEOLOGICAL BEHAVIOR OF BITUMINOUS
MIXESYACKOVLEV V
BARENBERG EJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 12-27, 9 FIG, 1 TAB, 24 REF

*BITUMINOUS MATERIALS AND MIXES	
RHEOLOGICAL PROPERTIES	BITUMINOUS MIXTURES
VISCOELASTICITY	MATERIALS TESTING
THEORIES	DYNAMIC LOADS
STATIC LOADS	REVIEWS
FLEXURE	TENSILE STRESS
MODULUS OF ELASTICITY	TEMPERATURE
CURING	BINDERS
COMPACTION	DYNAMIC CHARACTERISTICS
STATIC TESTS	VISCOSITY

31 206196

RHEOLOGICAL ASPECTS OF AGING: PART II

MAJIDZADEH K

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 28-41, 11 FIG, 3 TAB, 14 REF

*BITUMINOUS MATERIALS AND MIXES	
AGING	ASPHALTS
BINDERS	SAND ASPHALT
BITUMINOUS MIXTURES	RHEOLOGY
CREEP	VISCOELASTICITY
MODELS	ACTIVATION
TEMPERATURE	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 206197

BLENDING LIGHTWEIGHT AGGREGATES WITH NATURAL AGGREGATES
FOR THE PRODUCTION OF BITUMINOUS CONCRETEGALLAWAY BM
HARGETT EKHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 42-52, 8 FIG, 4 TAB, 9 REF

*BITUMINOUS MATERIALS AND MIXES	
AGGREGATE BLENDING	LIGHTWEIGHT AGGREGATES
NATURAL AGGREGATES	BITUMINOUS MIXTURES
PARTICLES	PHYSICAL PROPERTIES
LABORATORY TESTS	SPECIFIC GRAVITY
UNIT WEIGHT	ABSORPTION
ABRASION	MIX DESIGN
DESIGN CRITERIA	
MARSHALL STABILITY & FLOW TEST	
STABILOMETERS	COHESIMETERS
AIR	PERMEABILITY

31 206198

EVALUATION OF MARSHALL STABILITY AND FLOW VALUES OF
ASPHALTIC PAVING MIXTURES

LEE D

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 53-62, 5 TAB, 9 REF

*BITUMINOUS MATERIALS AND MIXES	
MARSHALL STABILITY & FLOW TEST	
ASPHALTS	BITUMINOUS PAVING MIXTURES
SPECIMENS	THICKNESS
REGRESSION ANALYSIS	PLANT MIX
REMOLDING	CORES

31 206199

ORIENTATION OF PARTICLES WITH SPECIAL REFERENCE TO
BITUMINOUS PAVING MATERIALSLEES G
SALÉHI MHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 63-75, 8 FIG, 3 TAB, 23 REF

*BITUMINOUS MATERIALS AND MIXES	
BITUMINOUS MIXTURES	PARTICLE SIZE DISTRIBUTION
ORIENTATION /PARTICLES/	STATISTICAL METHODS
COMPACTION EFFORT	ROLLERS
ROLLER COVERAGE	LABORATORY COMPACTION
COMPRESSIVE STRENGTH TESTS	ANISOTROPY

31 206200

ASPHALT CONTENT DETERMINATION BY THE IGNITION METHOD

ANTRIM JD
BUSCHING HWHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 76-86, 5 FIG, 8 TAB, 2 REF

*BITUMINOUS MATERIALS AND MIXES	
ASPHALT CONTENT	BITUMINOUS PAVING MIXTURES
ASH TEST	TEMPERATURE
TESTING EQUIPMENT	HOT MIX PAVING MIXTURES

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 206201

MERITS OF ADDING NATURAL RUBBER TO BITUMINOUS ROAD
SURFACING MATERIALS

THOMPSON PD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 87-98, 10 FIG, 5 TAB, 5 REF

*BITUMINOUS MATERIALS AND MIXES	
NATURAL RUBBER	BITUMINOUS SURFACING
BITUMINOUS MATERIALS	ASPHALTS
BINDERS	SEAL COATS
BRITTLINESS	TEMPERATURE
SOFTENING POINTS	ROAD TESTS
TRAFFIC	CRACKING /FRACTURING/
RESISTANCE	ROLLING
MASTICS	STABILITY
BITUMINOUS MIXTURES	

31 206202

EFFECT OF WATER ON BEHAVIOR OF SAND-ASPHALT MIXTURES UNDER
REPEATED LOADINGMAJIDZADEH K
STANDER RRHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 273, PP 99-109, 8 FIG, 2 TAB, 23 REF

*BITUMINOUS MATERIALS AND MIXES	
ADHESION	STRIPPING
BITUMINOUS MIXTURES	REVIEWS
CONSTRUCTION METHODS	HOT MIX PAVING MIXTURES
SAND ASPHALT	DYNAMIC LOADING
REPEATED LOADING	COMPRESSIVE STRENGTH
DEFORMATION	

31 206995

RELATION OF ASPHALT RHEOLOGICAL PROPERTIES TO PAVEMENT
DURABILITYSISKO AW
BRUNSTRUM LCHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
RPT 67, 45 PP, 25 FIGS, 14 TABS, 27 REFS, 4 APPS

*BITUMINOUS MATERIALS AND MIXES	
*PAVEMENT PERFORMANCE	*PAVEMENT DESIGN
ASPHALTS	RHEOLOGICAL PROPERTIES
PHYSICAL PROPERTIES	CHEMICAL PROPERTIES
PAVEMENT DURABILITY	ASPHALT PAVEMENTS
LABORATORY TESTS	AGING
THIN FILM OVEN TEST	PAVEMENT EVALUATION
PAVEMENT PERFORMANCE	PAVEMENT CRACKING
RIDING QUALITY	PLASTIC DEFORMATION
MARSHALL STABILITY & FLOW TEST	
BITUMINOUS MIXTURES	MIX DESIGN

31 207685

STUDIES LEADING TO CHOICE OF EPOXY ASPHALT FOR PAVEMENT ON
STEEL ORTHOTROPIC BRIDGE DECK OF SAN MATEO-HAYWARD BRIDGE

BALALA B

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 12-18, 1 TAB, 11 REF

*BITUMINOUS MATERIALS AND MIXES	
*BRIDGE DESIGN	ASPHALTS
SYNTHETIC RESINS	BITUMINOUS SURFACING
ORTHOTROPIC	STEEL BRIDGES
BRIDGE DECKS	COAL TARS
ASPHALTIC CONCRETE	BITUMINOUS OVERLAYS
ASPHALT PAVEMENTS	ADHESION
EPOXY	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 210727

EFFECTS OF AGGREGATE SIZE, SHAPE, AND SURFACE TEXTURE ON PROPERTIES OF BITUMINOUS MIXTURES

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 109, 41 PP, 19 FIG, 6 TAB, REFS

*BITUMINOUS MATERIALS AND MIXES	
AGGREGATES	AGGREGATE SHAPE
PARTICLE SIZE DISTRIBUTION	GRAIN SIZES
SURFACE TEXTURE	BITUMINOUS PAVING MIXTURES
PHYSICAL PROPERTIES	BITUMINOUS CONCRETES
DURABILITY	FINE AGGREGATES
COARSE AGGREGATES	

31 210728

DOMINANT EFFECT OF FINE AGGREGATE ON STRENGTH OF DENSE-GRADED ASPHALT MIXES

FOSTER CR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 109, PP 1-3, 3 FIG, 2 REF

*BITUMINOUS MATERIALS AND MIXES	
FINE AGGREGATES	COARSE AGGREGATES
SAND ASPHALT	BITUMINOUS PAVING MIXTURES
ASPHALTS	ASPHALT CONTENT
MARSHALL STABILITY & FLOW TEST	
STRESS DISTRIBUTION	MODULUS OF ELASTICITY
CRUSHED AGGREGATE	STRENGTH OF MATERIALS
BITUMINOUS PAVEMENTS	PAVEMENT PERFORMANCE
PHYSICAL PROPERTIES	

31 210729

INFLUENCE OF SHAPE, SIZE, AND SURFACE TEXTURE ON THE STIFFNESS AND FATIGUE RESPONSE OF ASPHALT MIXTURES

MCNISMITH CL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 109, PP 4-11, 13 FIG, 1 TAB, 7 REF

*BITUMINOUS MATERIALS AND MIXES	
AGGREGATE SHAPE	PARTICLE SIZE DISTRIBUTION
GRAIN SIZES	SURFACE TEXTURE
AGGREGATES	BITUMINOUS PAVING MIXTURES
FATIGUE	STIFFNESS
ASPHALTIC CONCRETE	OPEN GRADED AGGREGATE
DENSE GRADED AGGREGATE	THICKNESS DESIGN
ASPHALT CONTENT	BEARING CAPACITY
STABILITY	PHYSICAL PROPERTIES
BITUMINOUS BASES	

31 210730

EFFECTS OF AGGREGATE SIZE, SHAPE, AND SURFACE TEXTURES ON THE PROPERTIES OF BITUMINOUS MIXTURES - A LITERATURE SURVEY

BENSON FJ

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 109, PP 12 - 22, 35 REF

*BITUMINOUS MATERIALS AND MIXES	
REVIEWS	AGGREGATES
AGGREGATE SHAPE	PARTICLE SIZE DISTRIBUTION
GRAIN SIZES	SURFACE TEXTURE
BITUMINOUS MIXTURES	BITUMINOUS PAVING MIXTURES
AGGREGATE GRADATION	SKID RESISTANCE
ASPHALT CONTENT	VOIDS
PHYSICAL PROPERTIES	STIFFNESS
FINE AGGREGATES	OPEN GRADED AGGREGATE
STABILITY	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 210731

EFFECTS OF AGGREGATE SIZE, SHAPE, AND SURFACE TEXTURE, ON DURABILITY OF BITUMINOUS MIXTURES

BRITTON WS

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 109, PP 23-24

*BITUMINOUS MATERIALS AND MIXES	
AGGREGATE SHAPE	PARTICLE SIZE DISTRIBUTION
SURFACE TEXTURE	GRAIN SIZES
BITUMINOUS PAVING MIXTURES	DURABILITY
SKID RESISTANCE	WEARING COURSE
COARSE AGGREGATES	BITUMINOUS CONCRETE
BITUMINOUS SURFACING	AGGREGATE GRADATION
PHYSICAL PROPERTIES	TRAFFIC VOLUME
PAVEMENT PERFORMANCE	

31 210732

EFFECTS OF SIZE SURFACE TEXTURE AND SHAPE OF AGGREGATE PARTICLES ON THE PROPERTIES OF BITUMINOUS MIXTURES

HARGETT ER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 109, PP 25-6

*BITUMINOUS MATERIALS AND MIXES	
BITUMINOUS CONCRETE	COHESION
FRICTIONAL RESISTANCE	AGGREGATE SHAPE
AGGREGATE GRADATION	PARTICLE SIZE DISTRIBUTION
GRAIN SIZES	INTERLOCKING
ASPHALTS	BINDERS
SHEAR RESISTANCE	BITUMINOUS PAVING MIXTURES
PHYSICAL PROPERTIES	

31 212432

USE OF DOMESTIC WASTE GLASS AS AGGREGATE IN BITUMINOUS CONCRETE

MALISCH WR

CAY DE

WIXSON BG

ANDERSON KO

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 307, PP 1-10, 4 FIG, 7 TAB, 9 REF

*BITUMINOUS MATERIALS AND MIXES	
*MINERAL AGGREGATES	WASTE PRODUCTS
GLASS	AGGREGATES
BITUMINOUS CONCRETES	
MARSHALL STABILITY & FLOW TEST	
MARSHALL MIX DESIGN METHOD	CRUSHING
MAXIMUM DENSITY /GRADATION/	
ASPHALT CONTENT	EXTRACTION
TESTING	STRIPPING
BITUMINOUS MATERIALS	BITUMINOUS MIXTURES
AGGREGATE GRADATION	DEGRADATION /AGGREGATE/
ASPHALT CEMENTS	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 213779

DESIGN CONSTRUCTION, AND INITIAL EVALUATION OF EXPERIMENTAL TEST SECTIONS OF ASPHALT CONTAINING SYNTHETIC RUBBER

DARTER MI
PETERSON DE
JONES GM
VCKAC RHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 313, PP 1-17, 8 FIG, 15 TAB, 5 REF

*BITUMINOUS MATERIALS AND MIXES	
*PAVEMENT DESIGN	ASPHALT PAVEMENTS
TEST SECTIONS	SYNTHETIC RUBBER
PAVEMENT DESIGN	PAVEMENT CONSTRUCTION
PAVEMENT PERFORMANCE	CONSTRUCTION METHODS
THICKNESS DESIGN	BITUMINOUS PAVING MIXTURES

31 213780

INITIAL EVALUATION OF THE EFFECT OF SYNTHETIC RUBBER ADDITIVES ON THE THERMORHEOLOGICAL PROPERTIES OF ASPHALT MIXTURES

FITZGERALD JE
LAI JSHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 313, PP 18-31, 5 FIG, 9 TAB, 14 REF, 1 APP

*BITUMINOUS MATERIALS AND MIXES	
SYNTHETIC RUBBER	VISCOELASTICITY
MECHANICAL PROPERTIES	ASPHALTS
BITUMINOUS PAVING MIXTURES	MECHANICAL PROPERTIES
ASPHALT CONTENT	VISCOSITY
TENSILE STRENGTH	COMPRESSIVE STRENGTH
CREEP	ULTIMATE STRENGTH

31 213782

FATIGUE AND FRACTURE OF A BITUMINOUS PAVING MIXTURE

MAJIDZADEH K
CHAN AT
RAMSAMOUJ DVHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 313, PP 44-54, 12 FIG, 2 TAB, 12 REF

*BITUMINOUS MATERIALS AND MIXES	
*PAVEMENT PERFORMANCE	FRACTURES
FATIGUE	FATIGUE LIFE
BITUMINOUS PAVING MIXTURES	SAND ASPHALT
REPEATED LOADING	MATHEMATICAL ANALYSIS
BEAM TESTS	CRACKING /FRACTURING/
STRESSES	

31 213783

EFFECT OF PARTICLE SHAPE AND SURFACE TEXTURE ON THE FATIGUE BEHAVIOR OF ASPHALTIC CONCRETE

MAUPIN GW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 313, PP 55-62, 9 FIG, 3 TAB, 11 REF

*BITUMINOUS MATERIALS AND MIXES	
*PAVEMENT PERFORMANCE	PARTICLE SHAPES
PARTICLES	SURFACE TEXTURE
FATIGUE	ASPHALTIC CONCRETE
BITUMINOUS PAVING MIXTURES	LABORATORY TESTS
AGGREGATES	AGGREGATE SHAPE
ETCHING	FATIGUE LIFE
CRACKING /FRACTURING/	MODULUS OF RUPTURE
LIMESTONES	BEAM TESTS

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 213784

TIME AND LOAD INDEPENDENT PROPERTIES OF BITUMINOUS MIXTURES

SWAMI SA
GGETZ WH
HARR MCHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 313, PP 63-78, 9 FIG, 3 TAB, 26 REF

*BITUMINOUS MATERIALS AND MIXES	
ASPHALTIC CONCRETE	BITUMINOUS PAVING MIXTURES
TIME	LOADS
FREQUENCY RESPONSE	SINUSOIDS
LOADING TESTS	LAPLACE TRANSFORMS
MATHEMATICAL ANALYSIS	DISPLACEMENT
TRANSFER FUNCTIONS	BEAM TESTS
STATIC LOADS	TEST SPECIMENS

31 213785

LONG-TERM COMPACTION OF ASPHALT CONCRETE PAVEMENTS

EPPS JA
GALLAWAY BM
SCOTT MWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 313, PP 75-91, 8 FIG, 3 TAB, 14 REF

*BITUMINOUS MATERIALS AND MIXES	
*PAVEMENT PERFORMANCE	ASPHALTIC CONCRETE
ASPHALT PAVEMENTS	COMPACTION
FLEXIBLE PAVEMENTS	AIR Voids CONTENT
FIELD TESTS	COMPACTION EFFORT
GYRATORY COMPACTOR	LABORATORY COMPACTION
RELATIVE COMPACTION	

31 215356

ISOTROPY AND AN ASPHALTIC CONCRETE

COFFMAN BS
ILVES G
EDWARDS WFHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 329, PP 65-76, 3 FIG, 11 TAB, 11 REF, 1 APP

*BITUMINOUS MATERIALS AND MIXES	
ASPHALTIC CONCRETE	CORES
PROPERTIES	ISOTROPY
BITUMINOUS PAVEMENTS	BEND TESTS
COMPRESSION	BENDING
MODULUS	

31 216350

GENERAL CONCEPTS OF ADHESION

DIBENEDETTO AT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 340, PP 1-12, 16 FIG, 9 REF

*BITUMINOUS MATERIALS AND MIXES	
ADHESION	INTERFACES
SURFACE ENERGY	SDIOS
TENSILE STRENGTH	MOLECULES
CONCEPTS	PHASE

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 216351

PRESSURE-INDUCED STRIPPING IN ASPHALTIC CONCRETE

LCTTMAN RP
JOHNSON DLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 340, PP 13-28, 9 FIG, 12 REF, 1 APP

*BITUMINOUS MATERIALS AND MIXES	
STRIPPING	ASPHALTIC CONCRETE
PRESSURE	VOIDS
WATER	THERMAL EXPANSION
COMPACTION	SATURATION
INTERFACES	LABORATORY TESTS
FIELD OBSERVATION	

31 216352

INTERFACIAL BEHAVIOR OF ASPHALTENES

CRATIN PD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 340, PP 29-37, 6 FIG, 3 TAB, 10 REF

*BITUMINOUS MATERIALS AND MIXES	
ASPHALTENE	INTERFACIAL TENSION
BEHAVIOR	MATHEMATICAL MODELS
PH VALUE	INTERFACES
OXYGEN	EMULSIONS
STABILITY	

31 216353

AN INVESTIGATION OF ASPHALT-AGGREGATE ADHESION BY MEASUREMENTS OF HEATS OF IMMERSION

ENSLEY EK
SCHOLZ HAHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 340, PP 38-44, 6 FIG, 15 REF

*BITUMINOUS MATERIALS AND MIXES	
ASPHALTS	AGGREGATES
ADHESION	HEAT OF IMMERSION
EXPERIMENTATION	QUARTZ
CALCITES	PHOSPHATES
CURVES	SLAGS
ANTISTRIP ADDITIVE	

31 216354

BITUMINOUS AGGREGATE BASE COURSE: SURVEY OF STATE PRACTICES

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 117, 67 PP, 4 TAB, 2 APP

*BITUMINOUS MATERIALS AND MIXES	
DATA	TABULATION
QUESTIONNAIRES	SURVEYS /DATA COLLECTION/
PRACTICES	BITUMINOUS AGGREGATES
STATES	BASE COURSES

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 216381

MATERIALS AND MIX DESIGNS FOR RESURFACING PAVEMENTS AND MAINTAINING BRIDGE DECKS

EPPS JA
GALLAWAY BMHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, PP 227-230, 2 FIG, 7 REF

*BITUMINOUS MATERIALS AND MIXES	
ASPHALTIC CONCRETE	RESURFACING
MANUFACTURED AGGREGATES	SEAL COATS
OVERLAY COURSE	SKID RESISTANCE
MIX DESIGN	BRIDGE DECKS
SURFACE TREATMENTS	

31 216484

BITUMINOUS CONSTRUCTION

HUGHES CS

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 110, PART I, PP 3-6, 2 TAB

*BITUMINOUS MATERIALS AND MIXES	
QUALITY CONTROL	
STATISTICAL QUALITY CONTROL	
STATISTICAL METHODS	ACCEPTANCE
STANDARDS	BITUMINOUS CONSTRUCTION
SPECIFICATIONS	TOLERANCES
VARIABILITY	

31 217082

PREDETERMINING THE POLISH RESISTANCE OF LIMESTONE AGGREGATES

SHERWOOD WC
MAHONE DCHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 341, PP 1-10, 4 FIG, 6 TAB, 12 REF, 1 APP

*BITUMINOUS MATERIALS AND MIXES	
*MINERAL AGGREGATES	*PAVEMENT PERFORMANCE
AGGREGATES	LIMESTONE AGGREGATES
PAVEMENTS	POLISHES
LIMESTONES	SUSCEPTIBILITY
FRICTION	RESISTANCE
STOPPING DISTANCES	UTILIZATION
TRAFFIC VOLUME	ECONOMICS
ACIDS	INSOLUBILITY

31 217083

A LABORATORY METHOD TO DETERMINE POLISH SUSCEPTIBILITY OF AGGREGATES

SMITH NL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 341, PP 11-14, 3 FIG

*BITUMINOUS MATERIALS AND MIXES	
*MINERAL AGGREGATES	AGGREGATES
AGGREGATE POLISHING	TIRES
SIZE	ROCKS
SLABS	TRAFFIC
STATISTICAL ANALYSIS	SKID NUMBER
REVOLUTION	COMPUTER PROGRAMMING
SKID RESISTANCE	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 217084

A REVIEW OF EUROPEAN PRACTICES FOR LABORATORY EVALUATION OF
AGGREGATE POLISHING CHARACTERISTICS

CLSEN KE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
VOL 341, PP 15-17

*BITUMINOUS MATERIALS AND MIXES	
*MINERAL AGGREGATES	AGGREGATE POLISHING
MATRIX	SURFACE TEXTURE
WEAR	PORTLAND CEMENTS
PAVING MIXTURES	PROFILES
LABORATORY STUDIES	ACCIDENTS
SKID RESISTANCE	MEASUREMENTS
STATISTICS	

31 217085

EFFECT OF AGGREGATE MINERALOGY ON POLISHING RATE AND SKID
RESISTANCE IN PENNSYLVANIA

GRAMLING WL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 341, PP 18-21, 3 FIG, 2 TAB

*BITUMINOUS MATERIALS AND MIXES	
*MINERAL AGGREGATES	*PAVEMENT PERFORMANCE
BITUMINOUS PAVEMENTS	SURFACES
COARSE AGGREGATES	SLAGS
GRAVELS	SANDSTONES
CARBONATES	BLENDS
PETROGRAPHIC INVESTIGATIONS	
AGGREGATE POLISHING	PAVEMENT LIFE
SKID RESISTANCE	

31 217086

MICHIGAN'S EXPERIENCE WITH DIFFERENT MATERIALS AND DESIGNS
FOR SKID RESISTANCE OF BITUMINOUS PAVEMENTS

SERAFIN PJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 341, PP 22-32, 31 FIG

*BITUMINOUS MATERIALS AND MIXES	
*MINERAL AGGREGATES	SKID RESISTANCE
BITUMINOUS PAVEMENTS	SURFACES
COEFFICIENT OF FRICTION	SANDSTONES
QUARTZITES	MATS
AGGREGATE POLISHING	SAND ASPHALT

31 217087

MACROTEXTURE MEASUREMENT AND RELATED SKID RESISTANCE AT
SPEEDS FROM 20 TO 60 MILES PER HOURROSE JG
GALLAWAY BM
HANKINS KDHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 341, PP 33-45, 13 FIG, 8 TAB, 24 REF

*BITUMINOUS MATERIALS AND MIXES	
*MINERAL AGGREGATES	MACROTEXTURE
FRICTION TESTS	PAVEMENTS
MEASUREMENTS	FRICTION
GRADIENTS	STATISTICAL ANALYSIS
METHODS	SPEED
PLOTTING	ROUGHNESS
SKID RESISTANCE	WATER FILM
THICKNESS	TREADS
SURFACES	TIRES

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 217088

EFFECT OF STUDDED TIRES ON AGGREGATE AND RELATED EFFECTS ON
SKID RESISTANCE

PREUS CK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
VOL 341, PP 46-48

*BITUMINOUS MATERIALS AND MIXES		
*MINERAL AGGREGATES		*PAVEMENT PERFORMANCE
TIRES		PAVEMENTS
WEAR		TRAFFIC VOLUME
SPEED		SURFACES
SURFACE FILM		COARSE AGGREGATES
LIMESTONE AGGREGATES		WHEEL PATH
MATRIX		EROSION
SKID NUMBER		AGGREGATES
SKID RESISTANCE		STUDS

31 218560

DEVELOPMENT OF SPECIFICATIONS FOR VISCOSITY-GRADED
ASPHALTSHALSTEAD WJ
WELBORN JY
KRCMA LC

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 350, PP 1-14, 9 FIG, 1 TAB, 8 REF

*BITUMINOUS MATERIALS AND MIXES	
VISCOSITY	VISCOSITY INDEX
VISCOSITY TEST	TEMPERATURE
THIN FILM OVEN TEST	SPECIFICATIONS
RESEARCH	PENETRATION TESTS
MIX DESIGN	KINEMATIC VISCOSITY
FLASH POINTS	CONSISTENCY LIMITS
BITUMINOUS MATERIALS	BITUMINOUS MIXTURES
BITUMINOUS PAVING MIXTURES	ASPHALT CEMENTS
CLASSIFICATION	ASPHALTS
GRADING	DUCTILITY
SPECIFICATIONS	

31 218561

SOME ALBERTA EXPERIENCE WITH PENETRATION - GRADED ASPHALT
CEMENTS HAVING DIFFERING VISCOSITIES AT 140 FANDERSON KD
SHIELDS BPHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 350, PP 15-25, 6 FIG, 4 TAB, 4 REF

*BITUMINOUS MATERIALS AND MIXES	
ASPHALT CEMENTS	PENETRATION TESTS
CLASSIFICATION	VISCOSITY
VISCOSITY TEST	TRANSVERSE CRACKING
TENSILE SPLITTING TESTS	TENSILE PROPERTIES
STRAIN CONTROL	STRAINS
LOW TEMPERATURE TESTS	LOW TEMPERATURES
LABORATORY TESTS	SPECIFICATIONS
FIELD PERFORMANCE	CLASSIFICATION
BITUMINOUS PAVING MIXTURES	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 218562

VISCOSITY GRADING FOR ASPHALT CEMENTS

SKOG J
SHERMAN GHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 350, PP 26-29, 1 FIG, 4 TAB, 4 REF

*BITUMINOUS MATERIALS AND MIXES	
VISCOSITY	VISCOSITY TEST
TEMPERATURE	TRANSVERSE CRACKING
SPECIFICATIONS	SERVICE LIFE
SIMULATIONS	PLASTIC DEFORMATION
ROLLING	LABORATORY STUDIES
WEATHERING	HARDENING
CLASSIFICATION	FIELD STUDIES
DENSIFICATION	BITUMINOUS PAVING MIXTURES
BINDERS	ASPHALT CEMENTS
CONSISTENCY	THIN FILM OVEN TEST

31 218563

TEMPERATURE-SUSCEPTIBILITY CONTROL IN ASPHALT-CEMENT SPECIFICATIONS

FROMM HJ
PHANG WA
WELBORN JY DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 350, PP 30-45, 5 FIG, 3 TAB, 2 APP

*BITUMINOUS MATERIALS AND MIXES	
PARAFFIN BASE CRUDES /PETROLEUM/	
ASPHALT CEMENTS	BITUMINOUS PAVING MIXTURES
SPECIFICATIONS	VISCOSITY
CONSISTENCY	PENETRATION TESTS
STIFFNESS	LOW TEMPERATURES
EQUATIONS	CRITICAL TEMPERATURE
COMPOSITIONS /INGREDIENTS/	BITUMINOUS MATERIALS

31 218564

PAVING ASPHALT PROPERTIES

GOTOLSKI WH
SMITH RW
ROBERTS JMHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 350, PP 46-61, 11 FIG, 4 TAB, 14 REF

*BITUMINOUS MATERIALS AND MIXES	
VISCOSITY	BITUMINOUS PAVING MIXTURES
PENETRATION	RELATIONSHIPS
WEARING COURSE	PHYSICAL PROPERTIES
CHEMICAL PROPERTIES	CHANGES
AIR VOIDS CONTENT	ASPHALTENE
ASPHALT PAVEMENTS	ASPHALTS
ASPHALTIC CONCRETES	DURABILITY
GRAPHICAL ANALYSIS	HARDENING

31 218565

GENERAL DISCUSSION OF VISCOSITY GRADING OF ASPHALTS

DAVIS RJ
FROMM HJ DISCUSSER
PHANG WA DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 350, PP 62-63

*BITUMINOUS MATERIALS AND MIXES	
VISCOSITY	TEMPERATURE
PENETRATION TESTS	SHEAR TESTS
LOW TEMPERATURE TESTS	LOW TEMPERATURES
ASPHALT PAVEMENTS	SPECIFICATIONS
ASPHALT CEMENTS	VISCOSITY TEST
CLASSIFICATION	RHEOLOGICAL PROPERTIES
BINDERS	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 218942

PREDETERMINING THE PDLISH RESISTANCE OF LIMESTONE AGGREGATES - DISCUSSION

NICHOLS FP
BALMER GHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 341, 7 PP, 1 FIG, 4 TAB, 3 REF

*BITUMINOUS MATERIALS AND MIXES	
AGGREGATE POLISHING	LIMESTONE AGGREGATES
SLIPPERINESS	TABLES /DATA/
AGGREGATE GRADATION	AGGREGATE MIXTURES
SIEVES	CARBONATE ROCKS
BLENDING	

HRIS 31 217082, ADDENDUM

31 221149

PAVEMENT TEMPERATURES IN THE SOUTHWEST

RUMNEY TN
JIMENEZ RAHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 361, PP 1-13, 7 FIG, 2 TAB, 13 REF

*BITUMINOUS MATERIALS AND MIXES	
TEMPERATURE	ASPHALT PAVEMENTS
MECHANICAL PROPERTIES	HEAT MEASUREMENT
SOLAR HEATING	DESERTS
WEATHER	ASPHALTIC CONCRETE

31 221150

EFFECT OF MODIFIED RECLAIMED RUBBER AND GROUND VULCANIZED RUBBER ON THE PHYSICAL PROPERTIES OF BITUMINOUS PAVEMENTS WAS EVALUATED BY THE GYRATORY TESTING MACHINES /ABRIDGEMENT/

MCRAE JL
LAGRONE BDHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 361, PP 14-19, 6 FIG, 1 TAB, 3 REF

*BITUMINOUS MATERIALS AND MIXES	
ELASTOMER MODIFIED ASPHALTS	
LABORATORY STUDIES	BITUMINOUS PAVING MIXTURES
MECHANICAL PROPERTIES	GYRATORY TESTS

31 221151

VOIDS CONCEPT FOR DESIGN OF SEAL COATS AND SURFACE TREATMENTS-WITH DISCUSSION

MAREK CR
HEKRIK M
DAVIS RL DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 361, PP 20-36, 6 FIG, 3 TAB, 9 REF

*BITUMINOUS MATERIALS AND MIXES	
BITUMINOUS SURFACE TREATMENTS	
VOID RATIOS	SEAL COATING
AGGREGATES	BINDERS
DESIGN	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 221152

ASPHALT CONTENT STUDIES BY THE NUCLEAR METHOD /ABRIDGEMENT/

GREY RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 361, PP 37-39, 2 FIG, 3 TAB, 6 REF

*BITUMINOUS MATERIALS AND MIXES	
NUCLEAR TESTING	FIELD TESTS
ASPHALT CONTENT	GAGES
NONDESTRUCTIVE TESTING	

31 271154

EVALUATION OF GAP-GRADED ASPHALT CONCRETE MIXTURES

LEE D
DUTT RNHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 361, PP 47-57, 15 FIG, 3 TAB, 17 REF

*BITUMINOUS MATERIALS AND MIXES	
GAP GRADING	BITUMINOUS AGGREGATES
COSTS	PHYSICAL PROPERTIES
AGGREGATE MIXTURES	AGGREGATE GRADATION
ASPHALT CONTENT	

31 221155

EXPERIMENTAL STUDIES ON VISCOSITY OF ASPHALT CEMENTS AT 77F

SCHWEYER HE
BUSDT JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 361, PP 58-70, 10 FIG, 9 TAB, 15 REF

*BITUMINOUS MATERIALS AND MIXES	
CAPILLARITY	RHEOLOGICAL STUDIES
MECHANICAL PROPERTIES	VISCOSITY TEST
ASPHALTIC CONCRETE	ASPHALT TESTS
EXPERIMENTATION	

31 221156

EFFECTS OF FIELD AGING ON FUNDAMENTAL PROPERTIES OF PAVING ASPHALTS

VALLERGA BA
HALSTEAD WJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 361, PP 71-92, 13 FIG, 4 TAB, 7 REF

*BITUMINOUS MATERIALS AND MIXES	
FIELD STUDIES	LABORATORY STUDIES
MECHANICAL PROPERTIES	AGING
ASPHALTS	BITUMINOUS MATERIALS

31 226023

RESEARCH PROBLEM STATEMENTS

HIGHWAY RES CIRCULAR, HWY RES BOARD AUG-72
NO 139, PP 1-3

*BITUMINOUS MATERIALS AND MIXES	
*CONSTRUCTION	AGGREGATES
BINDERS	ASPHALTS
TEMPERATURE	MOISTURE
TRAFFIC	DYNAMIC LOADING
ELECTROSLAG WELDING	RESEARCH
ELECTRIC WELDING	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 226020

RESULTS OF INDIRECT TENSILE TESTS RELATED TO ASPHALT FATIGUE

MAUPIN GW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 1-7
6 FIG 2 TAB 9 REF

*BITUMINOUS MATERIALS AND MIXES	
FATIGUE /MATERIALS/	STRAIN RATE
TENSILE STRENGTH	CORRELATIONS
ASPHALTIC CONCRETE	BEAMS
STIFFNESS	FAILURE
FLEXIBILITY	

31 226029

ULTRASONIC MODULI OF ASPHALT CONCRETE

STEPHENSON RW
MANKE PGHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 8-21
12 FIGS 1 TAB 12 REFS

*BITUMINOUS MATERIALS AND MIXES	
ASPHALTIC CONCRETE	ELASTIC CONSTANT
POISSONS RATIO	WAVE PROPAGATION
VELOCITY	ULTRASONICS
HVEEN TEST	TEMPERATURE
VOIDS	MODULUS

31 226030

A PRACTICAL METHOD FOR MEASURING THE RESILIENT MODULUS OF ASPHALT-TREATED MIXES

SCHMIDT RJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 22-32
11 FIGS 25 REFS

*BITUMINOUS MATERIALS AND MIXES	
MODULUS	RESILIENCE
POISSONS RATIO	BITUMINOUS MIXTURES
MIX DESIGN METHOD	

31 226031

A LABORATORY AND FIELD STUDY ON THE USE OF ELASTOMERS IN HOT-MIX EMULSIFIED ASPHALTS

GANNON CR
MAJIDZADEH KHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 33-41
10 FIGS 3 TABS 8 REFS

*BITUMINOUS MATERIALS AND MIXES	
ASPHALT PAVEMENTS	BITUMINOUS MIXTURES
INSERVICE	HOT MIX PAVING MIXTURES
ADDITIVES	ELASTOMERS
STRENGTH OF MATERIALS	CREEP
FATIGUE /MATERIALS/	EMULSIFIED ASPHALTS

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 226832

INFLUENCE OF AGGREGATE SHAPE ON ENGINEERING PROPERTIES OF ASPHALTIC PAVING MIXTURES

LIVNEH M
GREENSSTEINHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 42-56
23 FIGS 2 TABS 23 REFS

APP

*BITUMINOUS MATERIALS AND MIXES	
AGGREGATES	AGGREGATE CHARACTERISTICS
FLAKES	STRATIFICATION
COMPACTIBILITY	BREAKING
ASPHALTS	DENSITY
BITUMEN CONTENT	REVIEWS
ASPHALTIC MIXTURES	SPHERICITY

31 226833

BEHAVIOR OF COLD MIXES UNDER REPEATED COMPRESSIVE LOADS

HOWEEDY MF
HERRIN MHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 57-70
12 FIGS 2 TABS 8 REFS

*BITUMINOUS MATERIALS AND MIXES	
BITUMINOUS MIXTURES	COLO MIX PAVING MIXTURES
REPEATED LOADING	COMPRESSION TESTING
FATIGUE LIFE	MODULUS
RESILIENCE	AGGREGATE GRADATION
CURING	LIQUID ASPHALT
TEMPERATURE	

31 226834

ASPHALT PAVEMENT TEMPERATURES RELATED TO KUWAIT CLIMATE

BISSADA AF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 71-85
16 FIGS 2 TABS 20 REFS

*BITUMINOUS MATERIALS AND MIXES	
ASPHALT PAVEMENTS	CLIMATIC CONOITICNS
TEMPERATURE	TIME
STIFFNESS	PAVEMENT PERFORMANCE
LAYERS	ELASTICITY
PAVEMENT THICKNESS	VERTICAL STRESS
COMPRESSIVE STRENGTH	STRAINS

31 226835

ASPHALT CEMENT VISCOSITIES AT AMBIENT TEMPERATURES BY A RAPID METHOD

SCHWEYER HE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 86-96
7 FIG 6 TAB 6 REF

*BITUMINOUS MATERIALS AND MIXES	
ASPHALT CEMENTS	VISCOSITY
TEMPERATURE	SHEAR RESISTANCE
PLUNGERS	SHEAR RATE
FLOW INDEX	CAPILLARIES
LOAD CELLS	METHODS

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 226836

ASPHALT ABSORPTION AS RELATED TO PORE CHARACTERISTICS OF AGGREGATES

KANOHAL PS
LEE DHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 404 PP 57-111
8 FIGS 4 TABS 29 REFS

*BITUMINOUS MATERIALS AND MIXES	
ASPHALTS	ABSORPTION
AGGREGATES	BITUMINOUS CONCRETES
ASPHALT CONTENT	PORES
REVIEWS	METHODS
LIMESTONES	MERCURY
POROSIMETERS	POROSITY
IMMERSION	SPECIFIC GRAVITY
REGRESSION ANALYSIS	SIZE

31 226837

GRADING ASPHALT CEMENTS BY PENETRATION OR VISCOSITY AT 77 F

MCLEOD NW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NU 404 PP 112-20
13 FIGS

*BITUMINOUS MATERIALS AND MIXES	
ASPHALT GRADING	ASPHALT CEMENTS
ASPHALTS	GRADING
VISCOSITY	PENETRATION
TEMPERATURE	TRANSVERSE CRACKING
ASPHALT PAVEMENTS	

31 227967

ASPHALT DURABILITY AND ITS RELATION TO PAVEMENT PERFORMANCE-ADHESION

MGLASHAN OW

HIGHWAY RESEARCH BOARD NCHRP SUMMARY 72
PP 111-20
12 FIG 4 REF
PRCJ NO 9-2

*BITUMINOUS MATERIALS AND MIXES	
ASPHALT CEMENTS	AGGREGATES
ADHESION	MEASUREMENTS
METHODS	ELECTROKINETICS
QUANTITATIVE ANALYSIS	

31 228516

EVALUATION OF A NUCLEAR ASPHALT-CONTENT GAUGE

HUGHES CS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 412 PP 1-8
5 FIG 8 TAB 7 REF

*BITUMINOUS MATERIALS AND MIXES	
NUCLEAR APPLICATIONS	ASPHALT CCNTENT
GAGES	LABQKATORY TESTS
AGGREGATES	BITUMINOUS MIXTURES
CALIBRATIONS	

AREA 31 BITUMINOUS MATERIALS AND MIXES

31 228551

MIX DESIGN CRITERIA FOR WEAR RESISTANT BITUMINOUS PAVEMENT SURFACES WITH DISCUSSION

KEYSEK JH
KCHLER G

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 418 PP 26-43
14 FIG 8 TAB 11 REF

*BITUMINOUS MATERIALS AND MIXES	
MIX DESIGN	BITUMINOUS PAVEMENTS
STUDDED TIRES	WEAR RESISTANCE
LABORATORY TESTS	TEMPERATURE

AREA 32 CEMENT AND CONCRETE

32 205777

INVESTIGATION OF CONCRETE PROTECTIVE SEALANTS AND CURING COMPOUNDS

STEWART PD
SHAFFER RKHIGHWAY RESEARCH RECORD, HWY RES BOARD 65
NO 268, PP 1-16, 4 FIG, 13 TAB, 1 REF

*CEMENT AND CONCRETE	LABORATORY STUDIES
CONCRETES	CONCRETE CURING
PROTECTION	SEALANTS
FREEZE THAW DURABILITY	CURING AGENTS
COMPRESSIVE STRENGTH	FREEZE THAW TESTS
PENETRATION	DEPTH
TEST METHODS	SLABS
FLUORESCENCE	ULTRAVIOLET RAYS
BOND	BITUMINOUS OVERLAYS

32 205778

SIGNIFICANCE OF ACCELERATED DURABILITY TESTS OF CONCRETE

MIELENZ RC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 268, PP 17-34, 46 REF

*CEMENT AND CONCRETE	ACCELERATED TESTING
CONCRETE DURABILITY	FREEZE THAW DURABILITY
CEMENT AGGREGATE REACTION	ABRASION
CAVITATION	HIGH TEMPERATURE
DISINTEGRATION	CONSTRUCTION CONTROL
QUALITY CONTROL	FREEZING THAWING EFFECTS
HARDENED CONCRETE	TEST METHODS
SCALING	WETTING AND DRYING TESTS
EXPANSION	

AREA 32 CEMENT AND CONCRETE

32 205779

LABORATORY FREEZE-THAW TESTS VS OUTDOOR EXPOSURE TESTS

AXCN EO
MURRAY LT
RUCKER RMHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 268, PP 35-45, 1 FIG, 4 TAB, 5 REF

*CEMENT AND CONCRETE	LABORATORY TESTS
FREEZE THAW TESTS	EXPOSURE
AIR ENTRAINMENT	COARSE AGGREGATES
SATURATION	CONCRETE DURABILITY
FROST SUSCEPTIBILITY	ACCELERATED TESTING
SERVICE LIFE	CONCRETE PAVEMENTS

32 205780

THE EVALUATION OF CONCRETE BY OUTDOOR EXPOSURE

STURRUP VR
CLENDENNING TGHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 268, PP 48-61, 18 FIG, 3 REF

*CEMENT AND CONCRETE	EXPOSURE
CONCRETE DURABILITY	AGGREGATES
WATER CEMENT RATIO	PASTES
FREEZE THAW TESTS	ENTRAINED AIR
ACCELERATED TESTING	SONISCOPE
VISUAL CLASSIFICATIONS	

32 205781

PERFORMANCE OF CONCRETE SLABS IN OUTDOOR EXPOSURE

KIEGER P
LANDGREN RHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 268, PP 62-79, 9 FIG, 5 REF, 1 APP

*CEMENT AND CONCRETE	SLABS
CONCRETES	CONCRETE DURABILITY
EXPOSURE	CONCRETE CURING
CONCRETE AGGREGATES	CEMENTS
POZZULANS	DEICERS
CHEMICALS	ADMIXTURES
SURFACE TREATMENTS	

32 205783

CREEP OF CONCRETE WITH VARYING PROPORTIONS OF UNHYDRATED CEMENT

MULLICK AK
MILLS RH
NEVILLE AMHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 268, PP 90-98, 4 FIG, 6 TAB, 8 REF

*CEMENT AND CONCRETE	CONCRETE CREEP
HYDRATES	CEMENTS
CONCRETE TESTING	CLINKERS
MODULUS OF ELASTICITY	DEFORMATION
HYDRATION	WATER CEMENT RATIO
WETTING	

AREA 32 CEMENT AND CONCRETE

32 205784

ALKALI-SILICA-REACTIVE ROCKS IN THE CANADIAN SHIELD

DOLAR-MANTUANI L

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 268, PP 99-117, 14 FIG, 5 TAB, 29 REF, 1 APP

*CEMENT AND CONCRETE	CEMENT AGGREGATE REACTION
CONCRETE AGGREGATES	ROCKS
CHEMICAL TESTS	EXPANSION
CONCRETE DAMS	MORTARS
SILICA	CYLINDERS
AGGREGATE TESTING	

32 206243

ONE-CYCLE SLOW-FREEZE TEST FOR EVALUATIONS AGGREGATE PERFORMANCE IN FROZEN CONCRETE

WALKER RD
PENCF HJ
HAZLETT WH
ONG WJHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 65, 21 PP, 11 FIG, 20 TAB, 13 REF, 3 APP

*CEMENT AND CONCRETE	*MINERAL AGGREGATES
CONCRETES	CONCRETE TESTING
FREEZING	CONCRETE AGGREGATES
COARSE AGGREGATES	CONCRETE DURABILITY
STRAIN MEASUREMENT	TEST METHODS
SCREENING	LENGTH
TIME	COMPARISONS
FREEZE THAW TESTS	PERFORMANCE

32 210733

RESEARCH ON BITUMINOUS CONCRETE PROPERTIES WITH LARGE-SIZED AGGREGATES OF DIFFERENT PARTICLE SHAPE

KALCHEFF IV

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 109, PP 27-32, 3 FIG, 6 TAB, 7 REF

*CEMENT AND CONCRETE	TEST METHODS
BITUMINOUS MIXTURES	GRAIN SIZES
COARSE AGGREGATES	TRIAXIAL TESTING
DENSE GRADED AGGREGATE	TEMPERATURE CONTROL
HOT MIX PAVING MIXTURES	AGGREGATE SHAPE
MIXING	BITUMINOUS CONCRETES
ASPHALT CONTENT	ASPHALTIC CONCRETE
CRUSHED AGGREGATE	

32 210900

INVESTIGATION OF CONCRETE IN SERVICE

MIELENZ RC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 3-4

*CEMENT AND CONCRETE	INSERVICE
CONCRETES	PERFORMANCE
CONCRETE CONSTRUCTION	CONCRETE TESTING

AREA 32 CEMENT AND CONCRETE

32 210901

INVESTIGATION OF THE PERFORMANCE OF CONCRETE IN SERVICE

AXGN EO

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 5-8

*CEMENT AND CONCRETE	DETERIORATED CONCRETE
CONCRETES	PERFORMANCE
RECORDS	CONCRETE PAVEMENTS
DATA RECORDING	STANDARDS
CONCRETE PAVEMENT DESIGN	INSERVICE
CONCRETE PAVEMENT CONSTRUCTION	
PAVEMENT PERFORMANCE	PAVEMENT EVALUATION
SURVEYS /DATA COLLECTION/	

32 210902

CONDITION SURVEYS OF CONCRETE IN SERVICE

CLESUN CC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 9-12, 6 REF

*CEMENT AND CONCRETE	CONDITION SURVEY
CONCRETES	INSERVICE
CONCRETE BRIDGE DECKS	CONCRETE PAVEMENTS
FIELD STUDIES	DETERIORATED CONCRETE
PAVEMENT CRACKING	SAMPLING
NONDESTRUCTIVE TESTING	SONISCOPE
LABORATORY TESTS	

32 210903

SAMPLING OF CONCRETE IN SERVICE

ABDUN-NUR EA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 13-17

*CEMENT AND CONCRETE	SAMPLING
HARDENED CONCRETE	INSERVICE
NONDESTRUCTIVE TESTING	CORING
CUTTING	PRISMS
DIAMOND BITS	RANDOMIZATION

32 210904

PHYSICAL TESTS FOR INVESTIGATING PERFORMANCE OF CONCRETE

BRINK RH

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 18-28, 4 FIG, 1 TAB, 18 REF

*CEMENT AND CONCRETE	COMPRESSIVE STRENGTH
CONCRETES	PERFORMANCE
NONDESTRUCTIVE TESTING	NONDESTRUCTIVE TESTS
TEST METHODS	CORING
CUTTING	CONCRETE PAVEMENTS
CONCRETE PROPERTIES	SUNIC TESTING
IMPACT TESTS	NUCLEAR TESTING
TESTING EQUIPMENT	AIR CONTENT
ABSORPTION	PERMEABILITY
THERMAL EXPANSION	SHRINKAGE
UNIT WEIGHT	COMPRESSIVE STRENGTH

AREA 32 CEMENT AND CONCRETE

32 210905

ANALYTICAL TECHNIQUES

ERLIN B

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 29-37, 18 FIG, 6 REF

*CEMENT AND CONCRETE	CORES
CONCRETE TESTING	MICROSCOPY
CHEMICAL TESTS	AIR Voids CONTENT
CEMENTS	CONCRETE AGGREGATES
CONCRETE MIXING	CONCRETE PLACING
CONCRETE PAVEMENTS	CONCRETE CURING
CONSOLIDATION	SAMPLING
PERFORMANCE	

32 210906

MEASUREMENT OF VOLUME CHANGES OF CONCRETE IN SERVICE

CLESUN CC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 41-43, 6 FIG

*CEMENT AND CONCRETE	MEASURING INSTRUMENTS
VOLUME CHANGES	INSERVICE
CONCRETES	CONCRETE PAVEMENTS
TEMPERATURE MEASUREMENT	PAVEMENT CRACKING
CEMENT AGGREGATE REACTION	EXPANSION

32 210907

DETERIORATION OF CONCRETE SIDEWALKS AND CURBS

BUCK AD
MATHER BHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 44-52, 7 FIG, 5 TAB

*CEMENT AND CONCRETE	DETERIORATED CONCRETE
DETERIORATION	CORES
CONCRETE CURBING	CONCRETES
SIDEWALKS	SCALING
CONCRETE STRUCTURES	CONCRETE TESTING
AGGREGATE TESTING	COARSE AGGREGATES
FINE AGGREGATES	AIR CONTENT
CEMENT CONTENT	
PETROGRAPHIC INVESTIGATIONS	
FREEZING THAWING EFFECTS	AIR ENTRAINMENT

32 210908

SCALING OF AIR-ENTRAINED AND NON-AIR-ENTRAINED CONCRETE

ABDUN-NUR EA
MIELENZ RCHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 53-56, 1 FIG

*CEMENT AND CONCRETE	SCALING
AIR ENTRAINED CONCRETE	CASE HISTORIES
TEST SECTIONS	CONCRETE PAVEMENTS
CORES	PHOTOGRAPHS
PETROGRAPHIC INVESTIGATIONS	
FREEZING THAWING EFFECTS	WATER CEMENT RATIO
CEMENT AGGREGATE REACTION	AIR VOID RATIO
CONCRETE DURABILITY	

AREA 32 CEMENT AND CONCRETE

32 210909

RANDOM CRACKING OF BRIDGE DECKS CAUSED BY PLASTIC SHRINKAGE

NEWLON HH
MATHER B
GEYMAYER HGDISCUSSOR
DISCUSSORHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 57-61, 4 FIG, 1 TAB, 6 REF

*CEMENT AND CONCRETE	CRACKING /FRACTURING/
REINFORCED CONCRETE BRIDGES	PLASTIC CONCRETE
BRIDGE SPANS	TEMPERATURE CONTROL
SHRINKAGE CRACKS	WIND VELOCITY
CONSTRUCTION METHODS	
TEMPERATURE	
HUMIDITY	

32 210912

DETERIORATION OF CONCRETE CHIMNEYS

IDORN GM
THOMSEN AGHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 62-64, 3 FIG

*CEMENT AND CONCRETE	CHIMNEYS
CONCRETES	DETERIORATION
DETERIORATED CONCRETE	CONCRETE CRACKING
CONCRETE TESTING	X RAY DIFFRACTION
CHEMICAL ANALYSIS	CEMENT AGGREGATE REACTION
SULFATES	

32 210913

DETERIORATION OF SOME CONCRETE STRUCTURES OF A SULFURIC ACID PLANT

IDORN GM
KRECH HHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 65-66, 1 REF

*CEMENT AND CONCRETE	DETERIORATED CONCRETE
CONCRETE STRUCTURES	SULFURIC ACID
INDUSTRIAL PLANTS	CHEMICAL ANALYSIS
IRON	SULFUR
PYRITES	PH VALUE
CALCIUM COMPOUNDS	ALUMINATES

32 210914

DISINTEGRATION OF CONCRETE IN FOUNDATION AND ANCHORAGE BLOCKS FOR AN AERIAL MAST

IDORN GM
NEPPER-CHRISTENSEN PHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 106, PP 67-69, 3 FIG, 1 REF

*CEMENT AND CONCRETE	CEMENT AGGREGATE REACTION
CONCRETES	ANCHORAGES
FOUNDATIONS	DETERIORATION
DETERIORATED CONCRETE	FREEZING THAWING EFFECTS
VIBRATIONS	CEMENT AGGREGATE REACTION
FROST ACTION	REACTIVE AGGREGATE
DYNAMIC LOADING	

AREA 32 CEMENT AND CONCRETE

32 213005

CONCRETE BRIDGE DECK DURABILITY

HRB NCHRP SYNTHESIS OF HWY PRACTICE 70
 NC 4, NCHRP PROJECT 20-5, 28 PP, 13 FIG, 3 TAB, 102 REF

*CEMENT AND CONCRETE DETERIORATION SPALLING PAVEMENT CRACKING WEARING COURSE COVER WATERPROOFING TECHNIQUES	REVIEWS CONCRETE BRIDGE DECKS SCALING AIR ENTRAINED CONCRETE REINFORCING STEEL LINSEED OIL
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32 214418

EFFECT OF STRESS ON FREEZE-THAW DURABILITY OF CONCRETE BRIDGE DECKS

CALLAHAN JP
 SIESS CP
 KESLER CE

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
 NO 101, 70 PP, 150 FIG, 13 TAB, 34 REF

*CEMENT AND CONCRETE FREEZE THAW DURABILITY BRIDGE DECKS AIR ENTRAINED CONCRETE TENSILE STRESS COARSE AGGREGATES COMPRESSION DETERIORATION	STRESSES CONCRETES SIMULATIONS STATICS CRUSHED LIMESTONE BIAXIAL STRESS SLABS SPALLING
---	---

32 214918

CHARACTERISTICS OF THE ELASTIC DEFORMATIONS OF CONCRETE

POPOVICS S

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NC 324, PP 1-14, 5 FIG, 60 REF

*CEMENT AND CONCRETE DEFORMATION ELASTIC DEFORMATION STRESS STRAIN CHARACTERISTICS CRACKS DYNAMICS SHEAR MODULUS CONSTANTS ELASTICITY	CONCRETES LOADS STATICS MODULUS OF ELASTICITY POISSONS RATIO PROPAGATION REVIEWS
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32 214919

TIME-DEPENDENT DEFORMATION OF NONCOMPOSITE AND COMPOSITE PRESTRESSED CONCRETE STRUCTURES

BRANSON DE
 MEYERS BL
 KRIPANARAYANAN KM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 324, PP 19-43, 11 FIG, 7 TAB, 35 REF, 4 APP

*CEMENT AND CONCRETE DEFORMATION TIME DEPENDENCE LIGHTWEIGHT CONCRETES CONCRETE BEAMS BRIDGES COMPOSITE BEAMS STRENGTH CREEP EQUATIONS DESIGN	CONCRETES LOADS SANDS LABORATORY TESTS PRESTRESSED CONCRETE BEAMS GIRDERS CAMBER ELASTIC PROPERTIES SHRINKAGE PRESTRESSED BEAMS PRESTRESSING
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AREA 32 CEMENT AND CONCRETE

32 214920

STRAIN GRADIENT AND THE STRESS-STRAIN RELATIONSHIP ON CONCRETE IN COMPRESSION

GHOSH SK
 HANDA VK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 324, PP 44-53, 5 FIG, 1 TAB, 1 PHOT, 10 REF

*CEMENT AND CONCRETE DEFORMATION STRAINS STRESS STRAIN CURVES STRAIN RATE PRISMS	CONCRETES LOADS GRADIENTS COMPRESSIVE STRENGTH TESTS LABORATORY TESTS COMPRESSION
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32 214921

THE EFFECT OF HOLES ON TENSILE DEFORMATIONS IN PLAIN CONCRETE

IMBERT ID

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 324, PP 54-65, 3 FIG, 41 REF

*CEMENT AND CONCRETE DEFORMATION INELASTIC DEFORMATION TENSILE STRESS TENSILE STRENGTH UNIAXIAL TENSION PLATES INELASTIC ACTION	CONCRETES LOADS TENSION TENSION TESTS AXIAL TENSION HOLES MICROCRACKS MICROFRACTURING
--	--

32 214922

DEFORMATION OF CONCRETE AND ITS CONSTITUENT MATERIALS IN UNIAXIAL TENSION

JOHNSTON CD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 324, PP 66-76, 11 FIG, 7 TAB, 8 REF

*CEMENT AND CONCRETE DEFORMATION AXIAL TENSION STRESS STRAIN CURVES DIMENSIONLESS FUNCTIONS ROCKS TENSILE PROPERTIES AGGREGATE CHARACTERISTICS AGGREGATES AGGREGATE SIZE TANGENTS SHEAR	CONCRETES LOADS UNIAXIAL TENSION WATER CEMENT RATIO CEMENT PASTE CONCRETE MIXES TENSION TESTS AGGREGATE GRAADATION SIZE MODULUS OF ELASTICITY MODULUS TENSION
--	--

32 214923

YOUNG'S MODULUS, CREEP, AND SHRINKAGE OF GAP-GRADED CONCRETE VERSUS CONTINUOUSLY GRADED CONCRETE

LI ST
 RAMAKRISHNAN V

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 324, PP 77-88, 8 FIG, 5 TAB, 5 REF

*CEMENT AND CONCRETE DEFORMATION CONTINUOUS GRADING GAP GRADING CREEP CONCRETE CREEP AIR ENTRAINED CONCRETE TESTING COMPRESSIVE STRENGTH TESTS MATHEMATICAL ANALYSIS	CONCRETES LOADS GRADING /BY SIZE/ MODULUS OF ELASTICITY SHRINKAGE CONCRETE SHRINKAGE ENTRAINED AIR COMPRESSION WATER CEMENT RATIO
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AREA 32 CEMENT AND CONCRETE

32 214924

THE INELASTIC DEFORMATION OF CONCRETE

SWAMY N

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 324, PP 89-99, 9 FIG, 1 TAB, 2 PHOT, 27 REF

*CEMENT AND CONCRETE	CONCRETES
DEFORMATIONS	LOADS
STRESS STRAIN RELATIONS	STRAIN RATE
HYDRAULIC EQUIPMENT	TESTING EQUIPMENT
TESTING	HYDRAULIC SYSTEMS
ULTIMATE STRENGTH	AGGREGATE SIZE
AGE	STRENGTH
ULTIMATE STRAIN	STRAINS
SERVO MECHANISMS	STIFFNESS
FAILURE	INELASTIC DEFORMATION

32 214925

TTI STUDY EXPLORES DURABILITY OF STRUCTURAL LIGHTWEIGHT CONCRETE FOR HIGHWAY BUILDING

LEDBETTER WB
BOTH EHIGHWAY RESEARCH NEWS, HWY RES BOARD 70
NO 41, PP 31-38, 6 FIG, 2 TAB, 17 REF

*CEMENT AND CONCRETE	MANUFACTURED AGGREGATES
CONCRETE AGGREGATES	STRUCTURAL MATERIALS
LIGHTWEIGHT AGGREGATES	HIGHWAYS
HIGHWAY CONSTRUCTION	PHYSICAL PROPERTIES
MECHANICAL PROPERTIES	CHEMICAL PROPERTIES
DURABILITY	AGGREGATES
AUTOCURING	ABRASION
COARSE AGGREGATES	POROSITY
SATURATION	AGGREGATE CHARACTERISTICS
EXPANSION	LIGHTWEIGHT CONCRETES

32 215036

INFLUENCE OF THE DEGREE OF SATURATION OF COARSE AGGREGATE ON THE RESISTANCE OF STRUCTURAL LIGHTWEIGHT CONCRETE TO FREEZING AND THAWING

BOTH E
LEDBETTER WB
CHAMBERLIN WP

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 328, PP 1-16, 15 FIG, 1 TAB, 6 REF, 1 APP

*CEMENT AND CONCRETE	LIGHTWEIGHT AGGREGATES
LIGHTWEIGHT CONCRETES	FREEZE THAW TESTS
FREEZING	COARSE AGGREGATES
SATURATION	VOIDS
STRUCTURAL MATERIALS	CONCRETES
THAWING	RESISTANCE
CONCRETE DURABILITY	AGGREGATE DRYING
CONCRETE CURING	

32 215037

EFFECT OF AGGREGATE TYPE ON THE PROPERTIES OF SHRINKAGE-COMPENSATING CONCRETE

EPPS JA
POLIVKA MHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 328, PP 17-25, 5 FIG, 13 REF

*CEMENT AND CONCRETE	CONCRETES
SHRINKAGE CRACKS	
SHRINKAGE COMPENSATING CONCRETE	
NATURAL AGGREGATES	LIGHTWEIGHT AGGREGATES
PORTLAND CEMENTS	EXPANSION
SHRINKAGE	MODULUS OF ELASTICITY
SHRINKAGE COMPENSATING CEMENT	
CONCRETE CRACKING	CONCRETE CURING

AREA 32 CEMENT AND CONCRETE

32 215040

DURABILITY OF CONCRETE BRIDGE DECKS - A REVIEW OF COOPERATIVE STUDIES

FREYERMUTH CL
KLIEDER P
STARK DC
WENKE HNHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 326, PP 50-60, 11 FIG, 4 TAB, 7 REF

*CEMENT AND CONCRETE	CONCRETE BRIDGE DECKS
DURABILITY	DETERIORATION
SCALING	CRACKING / FRACTURING /
SPALLING	CONCRETE CRACKING
CONCRETES	SHRINKAGE
VOLUME CHANGES	SHRINKAGE CRACKS
REINFORCEMENT	BARS
CORROSION	HEAT

32 215042

EFFECTIVENESS OF CORROSION INHIBITORS AND THEIR INFLUENCE ON THE PHYSICAL PROPERTIES OF PORTLAND CEMENT MORTARS

CRAIG RJ
WOOD LFHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 328, PP 77-88, 8 FIG, 1 TAB, 34 REF

*CEMENT AND CONCRETE	PORTLAND CEMENTS
MORTARS	CEMENT MORTARS
CORROSION	CORROSION RESISTANCE
INHIBITORS	CEMENT ADDITIVES
CHEMICALS	REINFORCEMENT
BARS	ANODIC POLARIZATION
RUST CONTROL	CALCIUM CHLORIDES
PHYSICAL PROPERTIES	

32 215043

THE NEW MODEL OF HARDENED PORTLAND CEMENT PASTE

BRUNAUER S
GDLER I
YUDENFREUND M
FELOMAN RF
SEREDA PJ
SELIGMANN PDISCUSSE
DISCUSSE
DISCUSSEHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 328, PP 89-107, 1 TAB, 38 REF

*CEMENT AND CONCRETE	PORTLAND CEMENTS
PASTES	HYGROSCOPICITY
SURFACE AREA	POROSITY
WATER VAPOURS	ADSORPTION
NITROGEN	HARDENING

32 215044

TEMPERATURE CONTROL OF MASS CONCRETE IN JAPAN

YANAGIDA T

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 328, PP 108-117, 16 FIG, 6 REF

*CEMENT AND CONCRETE	CONCRETE STRUCTURES
CONCRETES	VOLUME CHANGES
CONCRETE CRACKING	HEAT
CRACKING / FRACTURING /	THERMAL STRESSES
MASS CONCRETE	TEMPERATURE CONTROL

AREA 32 CEMENT AND CONCRETE

32 216485

CONCRETE CONSTRUCTION

SMITH P

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 118, PART I, PP 7-10, 21 REF

*CEMENT AND CONCRETE STATISTICAL QUALITY CONTROL STATISTICAL METHODS SPECIFICATIONS ACCEPTANCE TOLERANCES	QUALITY CONTROL CONCRETE CONSTRUCTIONS STANDARDS PRODUCTION CONTROL
--	--

32 216654

CLIMATOLOGICAL LITERATURE PERTAINING TO PERFORMANCE OF
HIGHWAY CONCRETE

CADDY PD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 342, PP 1-4, 16 REF

*CEMENT AND CONCRETE SERVICEABILITY PARAMETERS TEMPERATURE CRITICAL LIMITS DOCUMENTS	CONCRETE PAVEMENTS ENVIRONMENT CLIMATE PREDICTIONS MACROSCALE MICROCLIMATE
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32 216655

MOISTURE AND HEAT TRANSPORT WITH PARTICULAR REFERENCE TO
CONCRETE

HARMATHY TZ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 342, PP 5-16, 4 FIG, 1 TAB, 45 REF

*CEMENT AND CONCRETE HEATS /ENERGIES/ POROSITY CAPILLARITY CONDENSATION PHASE SOLIDS TRANSPORT	MOISTURE MOVEMENTS DIFFUSION EVAPORATION THEORIES CONVECTION HYDRATION
---	--

32 216656

A REVIEW OF METHODS FOR MEASURING WATER CONTENT OF HIGHWAY
COMPONENTS IN PLACE

MONFORD GE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 342, PP 17-26, 6 FIG, 2 TAB, 72 REF

*CEMENT AND CONCRETE POROUS MATERIALS METHODS HIGHWAYS WATER CONTENT	WATER PRINCIPLES MEASUREMENTS INSTRUMENTATION MATERIALS
--	---

AREA 32 CEMENT AND CONCRETE

32 216657

FIELD AND LABORATORY STUDIES OF THE EFFECT OF SUBBASE TYPE
ON THE DEVELOPMENT OF D-CRACKING

STARK D

CADDY PD

CARRIER RE

DISCUSSER

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 342, PP 27-38, 13 FIG, 2 TAB, 2 REF

*CEMENT AND CONCRETE LABORATORY STUDIES PAVEMENTS CONCRETES SUBBASE DETERIORATION GRANULAR MATERIALS CEMENTS DISTRESS SATURATION	FIELD OBSERVATION D CRACKING COARSE AGGREGATES MOISTURE SLABS SIMULATIONS CLAYS MOVEMENTS FREEZE THAW TESTS SUBBASE MATERIALS
---	--

32 216658

A HEAT TRANSFER MODEL FOR EVALUATING FROST ACTION AND
TEMPERATURE-RELATED EFFECTS IN MULTILAYERED PAVEMENT
SYSTEMS

DEMPSEY BJ

THOMPSON MR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 342, PP 39-56, 10 FIG, 29 REF, 1 APP

*CEMENT AND CONCRETE MODELS TEMPERATURE PAVEMENTS COMPUTER PROGRAMMING METEOROLOGY WAVES PHYSICAL PROPERTIES MOISTURE CONTENT MATERIALS LATENT HEAT	HEAT TRANSFER FROST ACTION LAYERED SYSTEM MECHANICS FINITE DIFFERENCES PARAMETERS RADIATION CONVENTIONS THERMAL CONDUCTIVITY CLASSIFICATION HEAT CAPACITY
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32 217815

ADMIXTURES IN CONCRETE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 119, 32 PP, TABS, 56 REF

*CEMENT AND CONCRETE ACCELERATORS WATER REDUCING AGENTS POZZOLANS	CONCRETE ADMIXTURES AIR ENTRAINING AGENTS RETARDANTS
--	--

32 222175

A METHOD USED TO DETERMINE CEMENT CONTENT IN CONCRETE

TABIKH AA

BALCHUNAS MJ

SCHAEFER DM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 370, PP 1-7, 4 FIG, 2 TAB, 5 REF

*CEMENT AND CONCRETE HARDENED CONCRETE MALEIC ACID	CEMENT CONTENT CHEMICAL ANALYSIS
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AREA 32 CEMENT AND CONCRETE

32 222176

ASSESSMENT OF EXPERIMENTAL EVIDENCE FOR MODELS OF HYDRATED PORTLAND CEMENT

FELDMAN RF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 370, PP 8-24, 1 FIG, 2 TAB, 38 REF

*CEMENT AND CONCRETE PORTLAND CEMENTS REVIEWS CALCIUM SILICATE GEL INTERLAYER SPACES	MODELS HYDRATES SURFACE ENERGY PHYSICAL PROPERTIES
--	---

32 222177

PREDICTION OF POTENTIAL STRENGTH OF CONCRETE FROM THE RESULTS OF EARLY TESTS

HUDSON SB
STEELE GWHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 370, PP 25-35, 8 FIG, 2 TAB, 3 REF, 1 APP

*CEMENT AND CONCRETE STRENGTH CONCRETES PREDICTIONS	CONCRETE TESTING QUALITY CONTROL STATISTICAL ANALYSIS CYLINDERS
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32 222178

A NEW DEVELOPMENT IN THE MODIFICATION OF THE PROPERTIES OF CONCRETE FOR USE IN PAVEMENTS

LEES G
SINGH GHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 370, PP 36-47, 9 FIG, 1 TAB, 9 REF, 1 APP

*CEMENT AND CONCRETE CONCRETE PAVEMENT DURABILITY RIGID PAVEMENT DESIGN LABORATORY TESTS STRESS STRAIN CHARACTERISTICS LOAD DISTRIBUTION	STRUCTURAL BEHAVIOR FATIGUE TESTS
---	--

32 222179

CUMULATIVE FATIGUE DAMAGE CHARACTERISTICS OF PLAIN CONCRETE

BALLINGER CA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 370, PP 48-60, 7 FIG, 7 TAB, 5 REF

*CEMENT AND CONCRETE CONCRETE BEAMS FATIGUE TESTS LOADS STATIC TESTS	FATIGUE LIFE LABORATORY TESTS CONCRETE DURABILITY STRENGTH OKY SAMPLES
--	--

32 222180

USE OF SILICONE ADMIXTURE IN BRIDGE DECK CONCRETE

PATTERSON HL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 370, PP 61-74, 12 FIG, 3 TAB, PHOT, 2 REF

*CEMENT AND CONCRETE CONCRETE BRIDGE DECKS CONCRETE ADMIXTURES COARSE AGGREGATES FREEZE THAW TESTS	SILICONES CONCRETES FIELD TESTS SCALE
--	--

AREA 32 CEMENT AND CONCRETE

32 222181

MICROSTRUCTURE AND STRENGTH OF THE BOND BETWEEN CONCRETE AND STYRENE - BUTADIENE LATEX-MODIFIED MORTAR

ISENBURG JE
RAPP DE
SUTTON EJ
VANDEKHOFF JWHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 370, PP 75-89, 9 FIG, 3 TAB, PHOT, 4 REF

*CEMENT AND CONCRETE RESURFACING PORTARS BONDING STRENGTH ELECTRON MICROSCOPES LABORATORY TESTS	LATEX CONCRETES MICROSTRUCTURES SHEAR TESTS HIGH EARLY STRENGTH CEMENT SUBSTRATES
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32 222182

EFFECTS OF COMBINING TWO OR MORE ADMIXTURES IN CONCRETE

LCVEWELL CE
HYLAND EJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 370, PP 90-98, 6 FIG, 3 TAB, 9 REF

*CEMENT AND CONCRETE CONCRETE ADMIXTURES PERFORMANCE REVIEWS COMPRESSIVE STRENGTH	CONCRETE MIXES AIR ENTRAINED CONCRETE LABORATORY TESTS POZZOLANS
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32 223043

ADVANCES IN NONDESTRUCTIVE TESTING OF CONCRETE

LIS
RAMAKRISHNAN V
RUSSELL JEHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 378 PP 1-11

37 REF

*CEMENT AND CONCRETE NONDESTRUCTIVE TESTING STATE OF THE ART STUDIES CONSTRUCTION CONTROL	CONCRETE TESTING TEST METHODS QUALITY CONTROL TESTING
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32 223044

NONDESTRUCTIVE TESTING OF CONCRETE BY WAVE VELOCITY METHODS: A LABORATORY AND FIELD STUDY

BROWNFIELD WE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 378 PP 12-9
2 FIG

6 REF

*CEMENT AND CONCRETE NONDESTRUCTIVE TESTING MODULUS OF ELASTICITY ACOUSTIC MEASUREMENT	CONCRETE TESTING COMPRESSIVE STRENGTH SONISCOPE
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AREA 32 CEMENT AND CONCRETE

32 223045

PAVEMENT THICKNESS MEASUREMENT USING ULTRASONIC TECHNIQUES
MAILER HHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 378 PP 20-8
15 FIG 2 TAB 4 REF*CEMENT AND CONCRETE
NONDESTRUCTIVE TESTING
PAVEMENT THICKNESS
PULSE VELOCITY
CONCRETE TESTING
ULTRASONIC TESTING
PLASTIC CONCRETE

32 223046

INVESTIGATION OF APPLICABILITY OF ACOUSTIC PULSE VELOCITY
MEASUREMENTS TO EVALUATION OF QUALITY OF CONCRETE IN BRIDGE
DECKSSWIFT G
MCGRE WMHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 378 PP 29-39
8 FIG 1 TAB 11 REF*CEMENT AND CONCRETE
NONDESTRUCTIVE TESTING
ACOUSTIC MEASUREMENT
CONCRETE TESTING
ACOUSTIC VELOCITY
CONCRETE BRIDGE DECKS

32 223047

NONCONTACT MEASUREMENTS OF FOUNDATIONS AND PAVEMENTS WITH
SWEEP-FREQUENCY RADAR

LUNDIEN JR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 378 PP 40-9
5 FIG 1 TAB 1 REF*CEMENT AND CONCRETE
NONDESTRUCTIVE TESTING
RADAR
LAYERS
CONCRETE TESTING
RADAR APPLICATIONS
THICKNESS

32 223048

FIELD INVESTIGATION OF CONCRETE QUALITY USING THE WINDSOR
PRDPE TEST SYSTEM

KLOTZ RC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 378 PP 50-4
2 FIG 2 TAB*CEMENT AND CONCRETE
NONDESTRUCTIVE TESTING
PENETRATION TESTS
CONCRETE TESTING
COMPRESSIVE STRENGTH

32 223049

IMPACT AND PENETRATION TESTS OF PORTLAND CEMENT CONCRETE

ARNI HT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 378 PP 55-67
3 FIG 5 TAB 9 REF*CEMENT AND CONCRETE
NONDESTRUCTIVE TESTING
PENETRATION TESTS
CONCRETE TESTING
IMPACT TESTS
COMPRESSIVE STRENGTH

AREA 32 CEMENT AND CONCRETE

32 223920

GUIDE TO COMPOUNDS OF INTEREST IN CEMENT AND CONCRETE
RESEARCHHIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 127 PP 1-53 143 REF*CEMENT AND CONCRETE
CHEMISTRY
PORTLAND CEMENTS
COMPOUNDS
CEMENTS

32 226110

TIME-DEPENDENT BEHAVIOR OF CONCRETE MADE WITH HAWAIIAN
AGGREGATESHAMADA HS
ZUNDELEVICH S
CHIU ANHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 37-54
20 FIG 2 TAB 13 REF*CEMENT AND CONCRETE
CONCRETE AGGREGATES
PRESTRESSED CONCRETE BEAMS
AXIAL LOADS
DEFLECTION
SHRINKAGE
CONCRETE SHRINKAGE
TIME DEPENDENT FUNCTIONS
LIGHTWEIGHT CONCRETES
CYLINDERS
CAMBER
CONCRETE CREEP
CONCRETES

32 228518

CONCRETE ANALYSIS BY NEUTRON-CAPTURE GAMMA RAYS USING
CALIFORNIUM 252GUFFEY D
WIGGINS PF
SENFLE FE
ELKADY AAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 412 PP 13-24
FIG 9 TAB 3 20 REF*CEMENT AND CONCRETE
NONDESTRUCTIVE TESTING
CEMENTS
FEASIBILITY
GAMMA NEUTRON LOGGING
NUCLEAR TESTING
CONCRETE TESTING
CONCRETE COMPOSITION

32 228519

WATER CONTENT OF FRESH CONCRETE MEASURED BY NEUTRON
RADIATIONLEPPER HA
RODGERS RB
CHAMBERLAIN OEHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 412 PP 25-34
8 FIG 11 REF*CEMENT AND CONCRETE
RADIATION COUNTERS /SENSORS/
NEUTRONS
NONDESTRUCTIVE TESTING
CONCRETE COMPOSITION
WATER CONTENT
NUCLEAR TESTING
CONCRETES

AREA 33 CONSTRUCTION

33 205168

TEXTURING OF CONCRETE PAVEMENT

SPELLMAN DL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 65
NO 101, PP 100-103

*CONSTRUCTION	CONCRETE PAVEMENTS
TEXTURES	CONSTRUCTION PRACTICE
PAVEMENT SURFACE TEXTURE	SURFACE TREATMENTS
SKID RESISTANCE TESTING	CURING AGENTS
HARDENERS	GROOVING

33 205169

CONSTRUCTION OF NONSKID PAVEMENT SURFACES

SPICKELMIRE LS

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 65
NO 101, PP 104-109, 2 TAB

*CONSTRUCTION	CONSTRUCTION METHODS
SKID RESISTANCE	PORTLAND CEMENT CONCRETES
ASPHALTIC CONCRETE	
CONCRETE PAVEMENT CONSTRUCTION	
CONCRETE PAVEMENTS	GROOVING
EXISTING PAVEMENTS	PAVEMENT SURFACE TEXTURE
CONCRETE CURING	SURFACE TREATMENTS
COMPACTION	CONCRETE AGGREGATES

33 207684

CONSTRUCTION PRACTICES FOR PLACING 48-INCH PRECAST,
PRESTRESSED CONCRETE PILING IN DEEP WATER

GRIMES WM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 1-11, 13 FIG

*CONSTRUCTION	CONSTRUCTION PRACTICE
PRECAST CONCRETE PILES	PRESTRESSED CONCRETE PILES
PLACEMENT	ECONOMIC ANALYSIS
I BEAMS	PILE GROUPS
BENTS	CYLINDERS
SPIRALS	REINFORCEMENT
PILE DRIVING	CHALKS
JETTING	BACKFILLING
SANDS	REINFORCING STEEL
EPOXY	BOLTS

33 207689

INSTALLATION OF PREFORMED NEOPRENE COMPRESSION JOINT SEALS

WATSON SC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 53-58, 10 FIG

*CONSTRUCTION	PREFORMING
JOINT SEALERS	COMPRESSION
CONTRACTION JOINTS	EXPANSION JOINTS
LONGITUDINAL JOINTS	TRANSVERSE JOINTS
POSITIONING	BEVELING
SAWED JOINT	SEALANTS
SEALING	CONDITION SURVEY
BRIDGE APPROACHES	JOINT SEALING METHODS
JOINT SEALING EQUIPMENT	

AREA 33 CONSTRUCTION

33 207693

FABRICATION AND ERECTION OF POPLAR STREET ORTHOTROPIC-PLATE
DECK GIRDER BRIDGESHIELDS EJ
SCHMIDT AEHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 87-98, 19 FIG

*CONSTRUCTION	*BRIDGE DESIGN
BRIDGE DESIGN	CONSTRUCTION
ORTHOTROPIC	GIRDER BRIDGES
STEEL PLATES	WELDING
BOX GIRDERS	WELDING MACHINES
JIGS	SUBMERGED ARC WELDING
ERECTION	CONSTRUCTION EQUIPMENT
BRIDGE DECKS	GIRDERS

33 207783

EVALUATION OF CONSTRUCTION CONTROL PROCEDURES: AGGREGATE
GRADATION VARIATIONS AND EFFECTSHUDSON SB
WALLER HFHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 49, 58 PP, 39 FIG, 43 TAB, 17 REF, 5 APP

*CONSTRUCTION	*MINERAL AGGREGATES
CONSTRUCTION CONTROL	EVALUATION
AGGREGATE GRADATION	HIGHWAY CONSTRUCTION
COARSE AGGREGATES	
CONSTRUCTION CONTROL PROCEDURES	
PORTLAND CEMENT CONCRETES	BITUMINOUS MIXING PLANTS
HOT PLANT	COMPRESSIVE STRENGTH
WORKABILITY	FINE AGGREGATES
ASPHALT CONTENT	SIEVES
JOB MIX FORMULA	PARTICLE SIZE DISTRIBUTION
SPECIFICATIONS	

33 207898

EMBANKMENT COMPACTION VARIABILITY - CONTROL TECHNIQUES AND
STATISTICAL IMPLICATIONS

WILLIAMSON TG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 290, PP 9-22, 3 FIG, 4 TAB, 12 REF

*CONSTRUCTION	FIELD CONTROL
EMBANKMENT COMPACTION	FILLS
IN PLACE DENSITY	MEASUREMENTS
MEASURING INSTRUMENTS	CONSTRUCTION
COMPACTION CHARACTERISTICS	VARIABLES
STATISTICAL QUALITY CONTROL	
DECISION THEORY	RANDOMIZATION

33 207899

MEASURING THE VARIABILITY OF COMPACTED EMBANKMENTS

JORGENSEN JL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 290, PP 23-34, 14 FIG, 2 TAB, 4 REF, 1 APP

*CONSTRUCTION	EMBANKMENT COMPACTION
VARIABLES	PERCENT COMPACTION
MEASUREMENTS	MOISTURE CONTENT
HIGHWAY CONSTRUCTION	RANDOMIZATION
SAMPLES	IN PLACE DENSITY
NUCLEAR MOISTURE DENSITY DETERMINATIONS	
DENSITY MEASUREMENT	INSITU METHODS
MOISTURE CONTENT	FIELD DENSITY
SOIL CHEMICAL PROPERTIES	

AREA 33 CONSTRUCTION

33 207900

CONTROL AND ACCEPTANCE OF AGGREGATE GRADATION BY STATISTICAL METHODS

MILLS WH
FLETCHER OSHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 290, PP 35-49, 4 FIG, 5 TAB

*CONSTRUCTION	AGGREGATE GRADATION
STATISTICAL QUALITY CONTROL	
STATISTICAL METHODS	CONTROL DEVICES
RANDOMIZATION	SAMPLES
ANALYSIS OF VARIANCE	TEST METHODS
ACCEPTANCE TESTS	

33 207901

STATISTICAL STUDY OF THE COMPLIANCE WITH SPECIFICATION OF CONCRETE SUPPLIED FOR HIGHWAY STRUCTURES IN THE UNITED KINGDOM

MATHEWS DH
METCALF JBHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 290, PP 50-57, 6 FIG, 1 TAB, 4 REF

*CONSTRUCTION	CONCRETES
STRENGTH OF MATERIALS	HIGHWAY CONSTRUCTION
SPECIFICATIONS /PERFORMANCE TYPE/	ACCEPTANCE TESTS
STATISTICAL METHODS	

33 209274

THE CURRENT STATE OF THE ART OF COMPACTION PROCEDURES

FOSTER CR

HIGHWAY RESEARCH BOARD 14JAN69
ANNUAL MEETING
21 PP, 2 FIG, 4 TAB, 9 REF

*CONSTRUCTION	STATE OF THE ART STUDIES
COMPACTION EFFORT	HOT MIX PAVING MIXTURES
ASPHALTIC CONCRETE	COMPACTION
COMPACTION EQUIPMENT	REPEATED LOADING
TEMPERATURE	ROLLERS
TANDUM ROLLERS	RUBBER TIRE ROLLERS

33 210608

REVIBRATION OF RETARDED CONCRETE FOR CONTINUOUS BRIDGE DECKS

HILSDDRF HK
LQTT JLHIGHWAY RESEARCH BOARD NCHRP DIGEST APR70
DIGEST 16, 3 PP

*CONSTRUCTION	REINFORCED CONCRETE
CONCRETE BRIDGE DECKS	SPALLING
PLASTIC CONCRETE	VIBRATIONS
PAVEMENT CRACKING	PAVEMENT DURABILITY

AREA 33 CONSTRUCTION

33 211968

METAL BRIDGE DECK FORM SPECIFICATION DEVELOPED COOPERATIVELY BY INDUSTRY AND GOVERNMENT

DEUTERMAN M
JONES TJ
LEE RE
LESSARD FH
SPANGLER RWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 302, PP 97-107, 1 FIG, 2 TAB, 14 PHUT, 4 REF, 1 APP

*CONSTRUCTION	CONCRETE BRIDGE DECKS
STEELS	FORMS /CONCRETE/
STAY IN PLACE	SPECIFICATIONS
QUESTIONNAIRES	CONSOLIDATION
CONCRETES	CORROSION PREVENTION

33 213973

CONSTRUCTION CONTROL OF RIGID PAVEMENT ROUGHNESS

HAVILAND JE
RIDER RWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 15-32, 11 FIG, 5 TAB, 7 REF, 2 APP

*CONSTRUCTION	CONSTRUCTION CONTROL
CONCRETE PAVEMENTS	CONCRETE PLACING
ROUGHNESS	SLIP FORM PAVING
FINISHING	ROUGHNESS

33 213975

COMPUTER SIMULATION FOR QUALITY ASSURANCE IN ASPHALTIC CONCRETE PRODUCTION

BCLYEA NF
CLARK WHHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 47-62, 6 FIG, 1 TAB, 10 REF, 1 APP

*CONSTRUCTION	ASPHALTIC CONCRETE
COMPUTER APPLICATIONS	SIMULATIONS
QUALITY CONTROL	COMPUTER PROGRAMS
FORTRAN	MATHEMATICAL MODELS
STATISTICAL METHODS	

33 213977

A STUDY OF CESSATION REQUIREMENTS FOR CONSTRUCTING HOT MIX ASPHALT PAVEMENTS

FOSTER CR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 70-75, 9 FIG, 2 TAB, 2 REF

*CONSTRUCTION	HOT MIX PAVING MIXTURES
MATHEMATICAL MODELS	THICKNESS
TEMPERATURE	BREAKDOWN
ROLLING	

AREA 33 CONSTRUCTION

33 213979

EFFECT OF AGGREGATE TYPE ON THE PROPERTIES OF SHRINKAGE -
COMPENSATING CONCRETEEPPS JA
PGLIVKA MHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 82-90, 5 FIG, 13 REF

*CONSTRUCTION	
SHRINKAGE COMPENSATING CEMENT	
EXPANSIVE CEMENT CONCRETE PAVEMENT	
REINFORCING STEEL	DRYING
SHRINKAGE	NATURAL AGGREGATES
LIGHTWEIGHT AGGREGATES	NATURAL AGGREGATES
CALCIUM COMPOUNDS	PORTLAND CEMENTS
SHRINKAGE	EXPANSION
COMPRESSIVE STRENGTH	MODULUS OF ELASTICITY
CEMENT CONTENT	WATER CEMENT RATIO

33 213980

THE APPLICATION OF TIME-LAPSE PHOTOGRAPHY IN WORK
SIMPLIFICATION STUDIES OF CONSTRUCTION OPERATIONS

JACOBSON JA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 91

*CONSTRUCTION	TIME LAPSE PHOTOGRAPHY
CONCRETE BRIDGE DECKS	CONSTRUCTION OPERATIONS
CONSTRUCTION METHODS	

33 214464

RAPID TEST METHODS FOR FIELD CONTROL OF HIGHWAY CONSTRUCTION

ANTRIM JO
BROWN FB
BUSCHING HW
CHISHAM JA
MOORE JH
ROSTRON JP
SCHWARTZ AEHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 103, 89 PP, 62 FIG, 25 TAB, 226 REF, 5 APP

*CONSTRUCTION	
*BITUMINOUS MATERIALS AND MIXES	
*MINERAL AGGREGATES	*FOUNDATIONS /SCILS/
QUALITY CONTROL TESTING	QUALITY CONTROL
STATISTICAL QUALITY CONTROL	
TEST METHODS	ACCEPTANCE TESTS
HIGHWAY CONSTRUCTION	ASPHALT CONTENT
COMPACTION CONTROL	AGGREGATE GRADATION
BASE COURSES	DENSITY
SOILS	

33 214915

CONTROL AND PERFORMANCE DURING CONSTRUCTION OF A HIGHWAY
EMBANKMENT ON WEAK SOILSELIAS V
STORCH HHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 60-70, 10 FIG, 3 TAB, 8 REF

*CONSTRUCTION	EMBANKMENTS
FOUNDATIONS	COMPRESSIBILITY
SHEAR FAILURES	FAILURE
HIGHWAY CONSTRUCTION	EMBANKMENT STABILITY
CIRCULAR ARC ANALYSIS	INTERSTATE HIGHWAY SYSTEM
COMPUTER PROGRAMS	PORE PRESSURES
SOILS	INSITU METHODS
UNSTABLE SOIL	

AREA 33 CONSTRUCTION

33 215058

RESEARCH NEEDS IN CONCRETE PAVEMENT CONSTRUCTION

HIGHWAY RES CIRCULAR, HWY RES BOARD AUG7C
NO 109, 4 PP

*CONSTRUCTION	CONCRETE PAVEMENTS
RIGID PAVEMENTS	PORTLAND CEMENT CONCRETES
PAVEMENT SURFACE TEXTURE	SMOOTHNESS
CONCRETE PAVEMENT CONSTRUCTION	
JOINTS	QUALITY CONTROL
PAVEMENT CONSTRUCTION	RESEARCH
EDUCATION	FINISHING
SKID RESISTANCE	PLASTIC CONCRETE
PROPERTIES	CONCRETE CURING
LOAD TRANSFER	CONCRETE PLACING
WEATHER	TEMPERATURE
PLACING TEMPERATURE	

33 215483

REINFORCEMENT OF RETARDED CONCRETE FOR CONTINUOUS BRIDGE DECKS

HILSDORF MK
LCTT JLHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 106, 67 PP, FIGS, PHOTS, TABS, 26 REF, 7 APP

*CONSTRUCTION	*BRIDGE DESIGN
*CEMENT AND CONCRETE	CONCRETE BRIDGE DECKS
CONTINUOUS SPANS	CONCRETE CRACKING
CONCRETE PLACING	RETARDED CONCRETE
SPALLING	REINFORCED CONCRETE
BRIDGE DECKS	VIBRATIONS
REINFORCEMENT	REINFORCING STEEL
CRACKS	FREEZING THAWING EFFECTS
DEICERS	CONCRETE DURABILITY
TRANSVERSE CRACKING	

33 215706

PILE DRIVING: HAMMERS AND DRIVING METHODS

GENDRON GJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 16-22

*CONSTRUCTION	PILE DRIVING
PILES	HAMMERS
METHODS	SOURCES
POWER	PILE DRIVING EQUIPMENT
VIBRATORS	CAP BLOCKS

33 215707

PILE-DRIVING FORMULAS

MOSLEY ET
RAAMOT THIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 23-32, 4 FIG, 1 TAB, 6 REF

*CONSTRUCTION	PILE DRIVING FORMULAS
ENERGY LOSS /PILE DRIVING/	CHANGES
WAVE EQUATION FORMULA	

AREA 33 CONSTRUCTION

33 215708

PILE-DRIVING ANALYSIS BY ONE DIMENSIONAL WAVE THEORY:
STATE OF THE ARTHIRSH TJ
LOWERY LL
COYLE HM
SAMSON CHHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 33-54, 20 FIG, 6 TAB, 30 REF

*CONSTRUCTION ANALYSIS	PILE DRIVING DATA
WAVE EQUATION FORMULA	COMPUTER APPLICATIONS
HAMMERS	STRESSES
STATIC RESISTANCE	PILE DRIVING
PILES	PILE DRIVING EQUIPMENT
ENERGY	FIELD TESTS
OUTPUT	SOILS
WAVE EQUATION FORMULA	EVALUATION

33 215714

CURRENT CONSTRUCTION PRACTICES IN THE INSTALLATION OF
HIGH-CAPACITY PILING

GERWICK BC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 113-122, 5 PHOT, 5 REF

*CONSTRUCTION INSTALLATIONS	CONSTRUCTION PRACTICE
PILE BEARING CAPACITIES	PILES
SOILS	METHODS
IMPROVEMENT	INTERACTION
BRIDGE ENGINEERING	DESIGN

33 216150

THE CORPS OF ENGINEERS NUCLEAR CONSTRUCTION RESEARCH
ACTIVITIES

DAY WC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 339, PP 1-18, 20 FIG, 18 REF

*CONSTRUCTION	
*EXPLORATION-CLASSIFICATION /SOILS/	
CRATEKS	GEOLOGIC INVESTIGATIONS
NUCLEAR EXCAVATION	ALLUVIUMS
BASALTS	RHYDLITE
SHALES	CALIBRATIONS
HARBORS	ROCKFILL
AGGREGATE SOURCES	QUARRYING

33 216151

TUNNELING MACHINES OF TODAY AND TOMORROW

WILLIAMSON TN

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 339, PP 19-25, 4 FIG, 1 TAB, 10 REF

*CONSTRUCTION	TUNNELING MACHINES
ROCK DISINTEGRATION	ROOFS
SUPPORTS	MATERIALS HANDLING
ROCKS	TUNNELS

AREA 33 CONSTRUCTION

33 216152

DESIGN OF TUNNEL SUPPORT SYSTEMS

DEERE DU
PECK RB
PARKER HW
MONSEES JE
SCHMIOT BHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 339, PP 26-33, 1 FIG, 4 TAB, 10 REF

*CONSTRUCTION	TUNNELS
ROCKS	SOILS
SUPPORTS	TUNNEL LININGS
DESIGN	

33 216153

TUNNEL SITE INVESTIGATIONS AND GEOLOGIC FACTORS AFFECTING
MECHANICAL EXCAVATION METHODSIRWIN WH
LCGAN MH
KLEIN IEHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 339, PP 34-41, 2 FIG

*CONSTRUCTION	GEOLOGIC INVESTIGATIONS
TUNNELS	SITES
ENGINEERING GEOLOGY	GEOPHYSICS
COMPUTER APPLICATIONS	DATA STORAGE
DATA RETRIEVAL	JOINTING OF ROCK
DRILLING METHODS	AIR PHOTOINTERPRETATION

33 216154

SUMMARY REMARKS

LUCKE WN

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 339, PP 42-43

*CONSTRUCTION	TUNNELING
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33 216356

A STUDY OF THE EFFECTS OF CONSTRUCTION PRACTICES ON BRIDGE
DECK CONSTRUCTIONCADY PD
THEISEN JCHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 2-12, 7 FIG, 1 TAB, 5 REF

*CONSTRUCTION	*BRIDGE DESIGN
STAY-IN-PLACE FORMS	BRIDGE DECKS
CONCRETE BRIDGE DECKS	CONSTRUCTION
DURABILITY	ENVIRONMENTAL EFFECTS
SLUMPS	AIR CONTENT
WIND	TEMPERATURE
CONCRETE PLACING	CONSTRUCTION PRACTICE

AREA 33 CONSTRUCTION

33 216361

PRECAST, PRESTRESSED CONCRETE FOR BRIDGE DECKS

GUTZWILLER MJ
LEE RH
SCHOLER CFHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 30-41, 12 FIG, REF

*CONSTRUCTION PRECAST CONCRETE CONCRETES CONCRETE BRIDGE DECKS TESTING	*BRIDGE DESIGN PRESTRESSED CONCRETE SLABS DESIGN
--	---

33 216486

CONSTRUCTION PRACTICES

DEYDUNG CE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 118, PART I, PP 11-12, 9 REF

*CONSTRUCTION CONSTRUCTION PRACTICE CONSTRUCTION METHODS CONSTRUCTION SPECIFICATIONS STATISTICAL QUALITY CONTRL QUALITY CONTROL ACCEPTANCE SPECIFICATIONS	HIGHWAY CONSTRUCTION CONSTRUCTION CONTROL STATISTICAL METHODS STANDARDS
--	--

33 216488

HIGHWAY DEPARTMENT NEEDS

STEELE GW
LEGG FE
BEATON JL
MCALPIN GWHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 118, PART II, PP 17-22, 1 FIG, 2 REF

*CONSTRUCTION STATISTICAL QUALITY CONTROL QUALITY CONTROL SPECIFICATIONS MANAGEMENT	HIGHWAY NEEDS ACCEPTANCE STANDARDS HIGHWAY PLANNING
---	--

33 220054

DYNAMIC DETERMINATION OF PILE LOAD-BEARING CAPACITY

GNIRK PF
KRAUSE KE
BUMP VL
ANDERSON KEHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP 67-79, 10 FIG, 2 TAB, 1 REF

*CONSTRUCTION PILE BEARING CAPACITIES PREDICTIONS ANALOG COMPUTERS STATIC LOADING	DYNAMIC TESTS PILE DRIVING MODELS INERTIA
---	--

AREA 33 CONSTRUCTION

33 220658

CONSTRUCTION OF EMBANKMENTS

HRB NCHRP SYNTHESIS OF HWY PRACTICE 71
NO 8, 38 PP, 27 FIG, 3 TAB, APP

*CONSTRUCTION CONSTRUCTION SUBSURFACE EXPLORATIONS FILLS RESEARCH	EMBANKMENTS DESIGN EMBANKMENT FLUATION QUALITY CONTRL
---	--

33 220778

THE EFFECT OF GOOD VIBRATION ON THE DURABILITY OF CONCRETE PAVEMENT

BOWER LC
GERHARDT BBHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 357, PP 1-23, 29 FIG, 8 TAB, 1 REF

*CONSTRUCTION CONCRETE PAVEMENT DURABILITY VIBRATORS CONSOLIDATION NUCLEAR TESTING	CONCRETE PAVEMENTS VOIDS PAVEMENT PERFORMANCE
--	---

33 220779

DEVELOPMENT AND TRIAL USE OF ACCEPTANCE SAMPLING PLANS FOR COMPACTED EMBANKMENTS

JORGENSEN JL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 357, PP 24-34, 4 FIG, 3 TAB, 6 REF

*CONSTRUCTION CONSTRUCTION SPECIFICATIONS EMBANKMENT COMPACTION ACCEPTANCE SAMPLING	STATISTICAL SAMPLING EMBANKMENTS
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33 220780

DEVELOPMENT AND TRIAL USE OF ACCEPTANCE SAMPLING PLANS FOR ASPHALT CONSTRUCTION

JORGENSEN JL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 357, PP 35-38, 1 FIG, 2 TAB

*CONSTRUCTION PAVEMENT CONSTRUCTION CONSTRUCTION SPECIFICATIONS ACCEPTANCE SAMPLING	ASPHALT PAVEMENTS
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33 220781

STATISTICAL SPECIFICATION FOR THE ACCEPTANCE OF PUG MILL-MIXED BASE AND SUBBASE MATERIALS

ANDAY MC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 357, PP 39-52, 6 FIG, 5 TAB

*CONSTRUCTION STATISTICAL QUALITY CONTROL PUG MILLS PAVEMENT BASES MATERIALS SPECIFICATIONS	SUBBASE MATERIALS JOB MIX FORMULA
---	--------------------------------------

AREA 33 CONSTRUCTION

33 220782

SUMMARY OF SURFACE FACTORS INFLUENCING THE FRICTION PROPERTIES OF CONCRETE PAVEMENTS

ROSE JG
LEDBETTER WBHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 357, PP 53-63, 6 FIG, 3 TAB, 3 REF

*CONSTRUCTION FRICTIONAL PROPERTIES SKID RESISTANCE	PORTLAND CEMENT CONCRETES PAVEMENT SURFACE TEXTURE CONCRETE PAVEMENTS
---	---

33 220783

AN ELECTRICAL METHOD FOR EVALUATING BRIDGE DECK COATINGS

SPELLMAN DL
STRATFULL RFHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 357, PP 64-71, 7 FIG, 2 TAB, 15 REF

*CONSTRUCTION SEAL COATING COATINGS DEICERS	BRIDGE DECKS ELECTRICAL RESISTANCE MEMBRANES
--	--

33 220784

ANALYSIS OF ELASTOMERIC PAVEMENT SEALS

VYAS RK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 357, PP 72-79, 8 FIG, 2 TAB

*CONSTRUCTION NEOPRENE CONCRETE PAVEMENTS STRESSES DEFLECTION	ELASTOMERS SEALANTS LOADS JOINT SEALERS
---	--

33 221153

EVALUATION OF BITUMINOUS COMPACTION PROCEDURES USING NUCLEAR GAGES

GREY RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 361, PP 40-46, 2 TAB, 7 REF

*CONSTRUCTION *BITUMINOUS MATERIALS AND MIXES COMPACTION NONDESTRUCTIVE TESTING GAGES	NUCLEAR TESTING DENSITY MEASUREMENT BITUMINOUS CONSTRUCTION
---	---

33 222308

COMPACTION CONTROL BY RATIO OF VOLUME OF GYRATORY SPECIMENS TO VOLUME OF TEST HOLES

MCOOWELL C
SMITH AWHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 374, PP 7-20, 16 FIG, 2 TAB

*CONSTRUCTION SOIL COMPACTION COMPACTION CONTROL GYRATORY COMPACTION SOIL TESTS	SOILS COMPACTION CURVES DENSITY MOISTURE CONTENT MATERIALS
---	--

AREA 33 CONSTRUCTION

33 222309

THE USE OF AN IMPACT ROLLER IN COMPACTING A COLLAPSING SAND SUBGRADE FOR A FREEWAY

WILLIAMS AA
MARAIS GPHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
VOL 374, PP 21-28, 10 FIG, 11 REF

*CONSTRUCTION SANDS FREEWAYS COMPACTION EQUIPMENT IMPACT DENSITY PENETRATION RESISTANCE	SUBGRADES VOID RATIOS COLLAPSE COMPACTION REQUIREMENTS ROLLERS MOISTURE CONTENT
---	--

33 222310

PREDICTION OF THE BEHAVIOR OF ELASTOPLASTIC ROADS DURING REPEATED ROLLING USING THE MECHANO-LATTICE ANALOGY

YANDELL WO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
VOL 374, PP 29-41, 20 FIG, 10 REF

*CONSTRUCTION MATERIALS TRIAXIAL TESTING ELASTICITY BEHAVIOR LATTICES	ROAD SURFACES HIGHWAY RESEARCH PLASTICITY LOADING ROLLING
--	---

33 223206

HRB QUESTIONNAIRE ON BRIDGE DECK FINISHING

HIGHWAY RES CIRCULAR, HWY RES BOARD MAY72
NO 133 5 P
1 TAB

*CONSTRUCTION FINISHING CONSTRUCTION PRACTICE CONCRETE FINISHING	SCREENS CONSTRUCTION EQUIPMENT BRIDGE DECKS
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33 224323

MECHANICAL METHODS OF STEEL PLACEMENT FOR SLIP-FORM CONSTRUCTION OF CONTINUOUSLY REINFORCED CONCRETE PAVEMENTS

SCHOLER CF
OLATEJU OTHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 389 PP 1-4

*CONSTRUCTION CONTINUOUSLY REINFORCED CONCRETE PVMTS SLIP FORM PAVING WIRE MESH PLACEMENT QUESTIONNAIRES	STEEL REINFORCEMENT VIBRATING EQUIPMENT MECHANICAL EQUIPMENT PAVING MACHINES
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AREA 33 CONSTRUCTION

33 224324

PILOT FIELD STUDY OF CONCRETE PAVEMENT TEXTURING METHODS

CHAMBERLIN WP
AMSLER DEHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 385 PP 5-17
9 FIG 8 TAB 10 REF

APP

*CONSTRUCTION	CONCRETE PAVEMENTS
TEXTURES	SKID RESISTANCE
DEPTH	
CONCRETE PAVEMENT DURABILITY	
FINISHING	

33 224325

CONSTRUCTION OF A PREFABRICATED HIGHWAY TEST SECTION

LARSON LJ
HAUG WRHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 385 PP 18-24
6 FIG 2 TAB 9 REF

*CONSTRUCTION	TEST SECTIONS
PREFABRICATIUN	PRECAST CONCRETE
PRESTRESSED CONCRETE	BITUMINOUS SURFACING
CDSTS	FUTURE GROWTH

33 224774

COLD-WEATHER PAVING OF THIN LIFTS OF HOT-MIXED ASPHALT ON PREHEATED ASPHALT BASE

CCRLEW JS
DICKSON PFHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
SIST ANNUAL MEETING
NO 385 PP 1-6
6 FIG 5 REF

*CONSTRUCTION	COLD WEATHER OPERATIONS
HOT MIX PAVING MIXTURES	EXISTING PAVEMENTS
ASPHALT PAVEMENTS	PAVEMENT BASES
SEAL COATS	PREHEATING
WEARING COURSE	LABORATORY TESTS
COMPUTER SIMULATION MODELS	THERMAL CONDUCTIVITY
TEMPERATURE DISTRIBUTION	

33 224775

STANHOPE STUDY OF COMPACTION METHODS FOR BITUMINOUS STABILIZED BASE

SANTORO RR
AFFERTON KC
WALZ JA
GELLER MHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
SIST ANNUAL MEETING
NO 385 PP 7-18
2 FIG 7 TAB

*CONSTRUCTION	BITUMINOUS STABILIZATION
BASE COURSES	VIBRATORY ROLLERS
TANDEM ROLLERS	
VIBRATORY COMPACTING EQUIPMENT	
COMPACTION EQUIPMENT	DENSITY
RIDING QUALITY	EFFICIENCY
ASPHALTIC CONCRETE	

AREA 33 CONSTRUCTION

33 224776

STATISTICAL ACCEPTANCE OF DENSE-GRADED BITUMINOUS MIXES BASED ON THE EXTRACTION OF PAVEMENT CORES

GORMAN RF
TUNNICLIFF DG

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
SIST ANNUAL MEETINGNO 385 PP 19-25
2 FIG 2 TAB 3 REF

*CONSTRUCTION	DENSE GRADED AGGREGATE
BITUMINOUS MIXTURES	
STATISTICAL QUALITY CONTROL	
ACCEPTANCE TESTS	CORES
MIX DESIGN	STATISTICAL ANALYSIS
ASPHALT PAVEMENTS	

33 224777

VIRGINIA'S EXPERIENCE WITH A QUALITY ASSURANCE AND ACCEPTANCE SPECIFICATION FOR ASPHALTIC CONCRETE

HUGHES CS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
SIST ANNUAL MEETINGNO 385 PP 26-35
2 FIG 3 TAB 2 REF

APP

*CONSTRUCTION	ASPHALTIC CONCRETE
STATISTICAL QUALITY CONTROL	
ACCEPTANCE TESTS	SPECIFICATIONS
BITUMINOUS MIXTURES	VARIABILITY

33 224778

RATIONAL QUALITY ASSURANCE

KUHN SM
WALKER RN
SAVAGE PF
DAVIS RL

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
SIST ANNUAL MEETINGNO 385 PP 36-51
11 FIG 4 TAB 16 REF

*CONSTRUCTION	SYSTEMS ANALYSIS
STATISTICAL QUALITY CONTROL	
HIGHWAY CONSTRUCTION	HIGHWAY ENGINEERING
MATHEMATICAL MODELS	

33 224825

STATE OF THE ART: COMPACTION OF ASPHALT PAVEMENTS

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
SPEC REPT 131 PP 1-25
51 FIG TABS 11 REF

APP

*CONSTRUCTION	
*BITUMINOUS MATERIALS AND MIXES	
ASPHALT PAVEMENTS	HOT MIX PAVING MIXTURES
COMPACTION	STATE OF THE ART STUDIES

AREA 33 CONSTRUCTION

33 226478

INTRODUCTION

BROWN HE
MCKEEL WT
GUNDERMAN WGHIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 1-2

*CONSTRUCTION BRIDGES CONSTRUCTION TECHNOLOGY STEELS ALUMINUM	*BRIDGE DESIGN SYSTEMS ENGINEERING BRIDGE DESIGN CONCRETES BRIDGE FOUNDATIONS TIMBER /STRUCTURAL/
--	--

33 226479

WHAT DIRECTION IN BRIDGE BUILDING?

BARTLETT RG

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 3-5

*CONSTRUCTION HISTORY CONSTRUCTION	BRIDGES BRIDGE DESIGN SYSTEMS ENGINEERING
--	---

33 226480

SYSTEMS BUILDING: FOUNDATIONS

WIGGINTON WB

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 6-8
4 FIG

*CONSTRUCTION BRIDGES PREFABRICATION	BRIDGE FOUNDATIONS SYSTEMS ENGINEERING CONSTRUCTION
--	---

33 226481

SYSTEMS CONCEPTS FOR PRECAST AND PRESTRESSED CONCRETE BRIDGE CONSTRUCTION

ANDERSON AR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 5-21
20 FIG 1 TAB

*CONSTRUCTION PRESTRESSED CONCRETE BEAMS CONTINUOUS BEAMS CURVED BEAMS CONCRETE BRIDGES	PRECAST CONCRETE CONCRETE BEAMS BOX GIRDERS MONORAILS CONSTRUCTION
---	--

33 226482

CONSTRUCTION ECONOMY THROUGH SYSTEMS BUILDING

ZETLIN L

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 22-30
28 FIG

*CONSTRUCTION DESIGN STRUCTURAL DESIGN SYSTEMS ENGINEERING	CONSTRUCTION METHODS CONSTRUCTION MATERIALS FUTURE CONCEPTS
---	---

AREA 33 CONSTRUCTION

33 226483

CURRENT PRACTICES IN STEEL CONSTRUCTION

ELSASSER HB

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 31-3

*CONSTRUCTION SYSTEMS ENGINEERING	STEEL CONSTRUCTION
--------------------------------------	--------------------

33 226485

DESIGN, MANUFACTURE, TRANSPORTATION, AND ERECTION OF SYSTEMS BRIDGES

HANSON TA
ELLIOTT AL
WHITLOCK JO
MCLESAPPE JC
ELASSER HBHIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 42-50

*CONSTRUCTION BRIDGES TRANSPORTATION CONSTRUCTION SITES SYSTEMS ENGINEERING	CONSTRUCTION BRIDGE DESIGN MANUFACTURING FUTURE CONCEPTS
---	---

33 226486

FOUNDATIONS, PIERS AND ABUTMENTS, SUPERSTRUCTURES, AND DETAILS AND APPURTENANCES OF SYSTEMS BRIDGES

ELLIOTT AL
KAPP MS
ZUK W
GRAND BA
FOX GF
ALISON GAHIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 51-9

*CONSTRUCTION BRIDGE ABUTMENTS BRIDGE PIERS PREFABRICATION	BRIDGE FOUNDATIONS BRIDGE ELEMENTS BRIDGE SUPERSTRUCTURES BRIDGES
---	--

33 226487

STEEL, CONCRETE, ALUMINUM, AND TIMBER IN SYSTEMS BRIDGES

SCHOLER CF
LALLY A
PFEIFER DW
CLARK JW
WILLIAMSON TGHIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 60-71

*CONSTRUCTION CONSTRUCTION PRECAST CONCRETE STEELS TIMBER /STRUCTURAL/	BRIDGES PREFABRICATION CONCRETES ALUMINUM
--	--

AREA 33 CONSTRUCTION

33 226488

INFORMAL DISCUSSION ON SYSTEMS, BUILDING FOR BRIDGES

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
NO 132 PP 72-4*CONSTRUCTION BRIDGES
SYSTEMS ENGINEERING

33 230396

EVALUATING THE ELECTROSTATIC WELDING PROCESS FOR DYNAMIC
LOADING CONDITIONSHIGHWAY RES CIRCULAR, HWY RES BOARD AUG72
NO 139 PP 3-5*CONSTRUCTION BRIDGES
CONSTRUCTION WELDING
ELECTROSLAG WELDING TESTING
RESEARCH DYNAMIC LOADS

AREA 34 GENERAL MATERIALS

34 205413

THE MECHANISMS OF ABRASION OF ALUMINUM ALLOY CULVERT,
RELATED FIELD EXPERIENCES, AND A METHOD TO PREDICT CULVERT
PERFORMANCE

KOEPE AH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 262, PP 44-55, 7 FIG, 3 TAB, 8 REF*GENERAL MATERIALS ABRASION
ALUMINUM ALLOYS CULVERTS
EXPOSURE MATHEMATICAL ANALYSIS
BED LOAD ENERGY
PERFORMANCE

34 205414

CORROSION EVALUATION OF ALUMINUM CULVERT BASED ON FIELD
PERFORMANCELCWE TA
VATERLAUS RH
LINDBERG RI
LAWRENCE LRHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 262, PP 56-68, 7 FIG, 5 TAB, 15 REF*GENERAL MATERIALS ALUMINUM
CULVERTS CORROSION
ENVIRONMENTAL EFFECTS PH VALUE
RESISTIVITY ALUMINUM ALLOYS
FIELD PERFORMANCE SOILS
GRANULAR SOILS SEA WATER
SERVICE LIFE RUNOFF
SULFURIC ACID

AREA 34 GENERAL MATERIALS

34 205785

NUCLEAR TECHNIQUES FOR CEMENT DETERMINATION

IDDINGS FA
ARMAN A
PEREZ AW
KIESEL DW
WOODS JWHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 262, PP 118-130, 8 FIG, 9 TAB, 8 REF*GENERAL MATERIALS CEMENT CONTENT
CONCRETES SOIL CEMENT
NUCLEAR TESTING
NEUTRON ACTIVATION ANALYSIS
ALUMINUM CALCIUM
AGGREGATES RADIOACTIVE ISOTOPES
RADIOACTIVITY

34 206300

PROTECTIVE COATINGS FOR HIGHWAY STRUCTURAL STEEL

KEANE JO

HIGHWAY RESEARCH BOARD NCHRP DIGEST JUL69
NO 8, 1 TAB*GENERAL MATERIALS CORROSION PREVENTION
STRUCTURAL STEELS PROTECTIVE COATINGS
REVIEWS PAINTS
FILM THICKNESS EXPOSURE
TESTING PRIMERs

34 207686

POLYESTER CONCRETE: LOAD RATE VARIANCE

KNAB LI

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 19-31, 8 FIG, 9 TAB, 5 REF*GENERAL MATERIALS LOADING RATE
POLYESTERS CONCRETES
COMPRESSIVE STRENGTH TENSILE STRENGTH
AGGREGATE GRADATION PORTLAND CEMENT CONCRETES
CONCRETE TESTING MODULUS OF ELASTICITY
ULTIMATE STRENGTH STATIC LOADING
STRESSES STRAINS

34 207687

ATMOSPHERIC CORROSION TESTS OF UNPAINTED STEELS FOR USE IN
CONSTRUCTION OF HIGHWAY BRIDGESCCSABOUM B
KCZLOV GS
ZOGGOLA J
DAESEN JR

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 32-45, 14 FIG, 2 TAB, 1 REF*GENERAL MATERIALS
ATMOSPHERIC CORROSION TESTS
LOW ALLOY STEELS PAINTS
HIGHWAY BRIDGES RUSTING
SALTS TIME

AREA 34 GENERAL MATERIALS

34 207688

ULTRASONIC TESTING OF STRUCTURAL WELDS

CLSSON DA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 46-52, 16 FIG, 2 TAB, 1 REF

*GENERAL MATERIALS WELDMENTS QUALITY	ULTRASONIC TESTING BUTT WELDS TESTING
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34 207690

PREFORMED ELASTOMERIC BRIDGE JOINT SEALERS: EVALUATION OF THE MATERIAL

KOZLCV GS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 59-75, 4 FIG, 6 TAB, 4 REF, 1 APP

*GENERAL MATERIALS ELASTOMERS SEALANTS QUALITY CONTROL	PREFORMING JOINT SEALERS SPECIFICATIONS SERVICE LIFE
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34 207691

NEW DEVELOPMENTS IN JOINT SEALING PRACTICE FOR LONGER SPANS

WATSON SC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 76-80, 9 FIG

*GENERAL MATERIALS JOINT SEALING METHODS IMPROVEMENT STRUCTURAL ANALYSIS DISTRESS PERFORMANCE SAWED JOINT SKEW BRIDGES ADHESIVES SEALANTS CUSHIONING	*BRIDGE DESIGN BRIDGES SURVEYS /DATA COLLECTION/ AESTHETICS JOINTS BRIDGE DESIGN EXPANSION JOINTS LUBRICANTS PRECOMPRESSION RUBBER COMPRESSION
--	--

34 207692

DEVELOPMENT OF EFFECTIVE POURED-IN-PLACE SYSTEMS FOR CONCRETE PAVEMENT JOINTS

PACHUTA JM
SMITH DJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 287, PP 81-86, 6 FIG, 1 TAB, 2 REF

*GENERAL MATERIALS JOINT SEALERS SEALANTS TESTING ADHESION STRESS RELAXATION JOINTS TEST METHODS VERTICAL SHEAR PERFORMANCE TESTS	TRANSVERSE JOINTS HIGHWAY PAVEMENTS FAILURE TEMPERATURE GRADIENT COHESION DYNAMIC RESISTANCE MOVEMENTS SHEAR DISPLACEMENT
--	---

AREA 34 GENERAL MATERIALS

34 207897

MINIMIZING NUCLEAR SOIL DENSITY AND MOISTURE CONTENT GAGE ERRORS

GARDNER RP

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 290, PP 1-8, 15 REF

*GENERAL MATERIALS NUCLEAR MOISTURE DENSITY DETERMINATIONS DENSITY MEASUREMENT CALIBRATIONS SAMPLES	ERRORS SOIL DENSIFICATION MATHEMATICAL ANALYSIS
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34 208909

PROTECTIVE COATINGS FOR HIGHWAY STRUCTURAL STEEL

KEANE JD

HIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 74, 64 PP, 14 FIG, 19 TAB, 5 APP

*GENERAL MATERIALS PROTECTIVE COATINGS REVIEWS EXPOSURE FILM THICKNESS SILICONES COSTS BLAST CLEANING SPECIFICATIONS	STATE OF THE ART STUDIES STRUCTURAL STEELS PAINTS TESTING SURFACE TREATMENTS EPOXY PAINTING INSPECTION MEASUREMENTS
--	---

34 211246

PROTECTION OF STEEL IN PRESTRESSED CONCRETE BRIDGES

MOORE DG
KLCOT DT
HENSEN RJ

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 90, 86 PP, FIGS, TABS, 103 REF, 12 APP

*GENERAL MATERIALS CONCRETE BRIDGES CORROSION PREVENTION TENDONS FIELD INVESTIGATIONS CHLORIDES METHODS HOT DIP GALVANIZING	PRESTRESSED CONCRETE STEELS CORROSION QUESTIONNAIRES GRUETING PRESTRESSING PROTECTIVE COATINGS EPOXY
--	---

34 211356

MINIMIZING ERRORS IN GAMMA-RAY SURFACE TYPE DENSITY GAGES: EXISTING GAGES AND NEW DESIGN CONCEPTS

DUNN WL
MCDOUGALL FH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 301, PP 40-52, 2 FIG, 8 TAB, 6 REF

*GENERAL MATERIALS GAMMA RAYS NUCLEAR MOISTURE DENSITY DETERMINATIONS GEIGER COUNTER IODIDES	BACKSCATTERING SODIUM COMPOUNDS DENSITY MEASUREMENT
--	---

AREA 34 GENERAL MATERIALS

34 211358

DEVELOPMENT OF FORMED-IN-PLACE WET REFLECTIVE PAVEMENT MARKERS

DALE JM

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
REPT 25, 28 PP, 18 FIG, 7 TAB, 4 REF, 4 APP

*GENERAL MATERIALS	REFLECTOR MARKERS
TRAFFIC MARKINGS	FORMED-IN-PLACE
FIELD TESTS	WET CONDITIONS
TRAFFIC MARKING EQUIPMENT	EPOXY RESINS
GLASS	BEADING
PLASTICS	TRAFFIC MARKING
SNOWPLOW	RUBBER

34 211623

JOINT SEALING: A GLOSSARY

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 112, 30 PP

*GENERAL MATERIALS	JOINT SEALERS
JOINT SEALING EQUIPMENT	JOINT SEALING METHODS
GLOSSARIES	

34 212555

WELDED HIGHWAY BRIDGES--AN ANALYSIS OF INSPECTION FACTORS

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 114, 85 PP, 36 FIG, 15 REF

*GENERAL MATERIALS	HIGHWAY BRIDGES
WELDMENTS	WELDING
TESTING	INSPECTOR
INSPECTION PROCEDURE	INSPECTORS
WELDERS	WELDING ELECTRODES
TEMPERATURE	BASE METAL
AUTOMATIC WELDING	WELDING FLUXES
WELD DEFECTS	NONDESTRUCTIVE TESTS
RADIOGRAPHIC INSPECTION	ULTRASONICS
MAGNETIC FIELDS	DYES
PENETRANTS	

34 213008

EFFECTS OF WELDMENTS ON FATIGUE STRENGTH OF STEEL BEAMS

HIGHWAY RESEARCH BOARD NCHRP DIGEST JUN70
DIGEST NO 18, 4 PP

*GENERAL MATERIALS	WELDMENTS
FATIGUE LIFE	GIROER BRIDGES
STEELS	BRIDGE BEAM CONSTRUCTION
BEAM TESTS	FLANGES
FATIGUE TESTS	LOADING TESTS
FILLET WELDS	STEEL PLATES
STRESSES	MATHEMATICAL MODELS

34 214617

THE PHOTOELASTIC STRESS ANALYSIS OF A PREFORMED COMPRESSION SEAL

CCOK JP

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 320, PP 1-2, 9 FIG, 6 REF, 1 APP

*GENERAL MATERIALS	*BRIDGE DESIGN
*MAINTENANCE /GENERAL/	PREFORMS
SEALANTS	STRESS ANALYSIS
PHOTOELASTIC METHOD	JOINT SEALERS
JOINT SEALING METHODS	COMPRESSION SEALS
PREFORMED SEALERS	INCOMPRESSIBLES

AREA 34 GENERAL MATERIALS

34 214618

BRIDGE EXPANSION JOINT SEALANTS

GUNDERSON BJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 320, PP 9-16, 12 FIG, 2 TAB, 4 APP

*GENERAL MATERIALS	*BRIDGE DESIGN
*MAINTENANCE /GENERAL/	SEALANTS
JOINT SEALERS	BRIDGES
PREFORMS	ELASTOMERS
EXPANSION JOINTS	NEOPRENE
POLYURETHANE	PREFORMED SEALERS

34 214619

A CONCEPT OF PREENGINEERED, PREFABRICATED, PRESTRESSED MODULAR AND MULTIMODULAR SEALING SYSTEMS FOR MODERN BRIDGES AND STRUCTURES

WATSON SC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 320, PP 20-28, 7 FIG, 1 REF

*GENERAL MATERIALS	*BRIDGE DESIGN
*MAINTENANCE /GENERAL/	JOINT SEALING METHODS
MODULAR CONSTRUCTION	JOINT SEALERS
BRIDGES	COMPRESSION SEALS
STRESS ANALYSIS	

34 214620

HOT-POURED SEALANTS

DZIMIAN RJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 320, PP 29-33

*GENERAL MATERIALS	*BRIDGE DESIGN
*MAINTENANCE /GENERAL/	ASPHALTS
SEALANTS	HOT JOINT SEALANTS
ELASTOMER MODIFIED ASPHALTS	
JOINT SEALERS	

34 214621

EVALUATION OF COATINGS ON COASTAL STEEL BRIDGES, 16-YEAR PERIOD

ROONEY MA
WOODS AL
SHELLY TLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 320, PP 34-40, 6 FIG

*GENERAL MATERIALS	*BRIDGE DESIGN
*MAINTENANCE /GENERAL/	BRIDGES
STEEL BRIDGES	CORROSION
MARINE ATMOSPHERES	STEELS
CORROSION RESISTANCE	ANTICORROSION PAINT
COATINGS	

AREA 34 GENERAL MATERIALS

34 214622

EVALUATION OF WELDED DEFORMED WIRE FABRIC REINFORCEMENT IN MACHINE-MADE CONCRETE PIPE

HEGER FJ
CHAMBERS RE
PODOLNY W
BALLARG LLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 320, PP 41-54, 1 FIG, 8 TAB, 4 REF, 2 APP

*GENERAL MATERIALS	*BRIDGE DESIGN
*MAINTENANCE /GENERAL/ WELDED WIRE FABRIC	REINFORCED CONCRETE PIPES WIRE FABRIC
DEFORMED WIRE FABRIC	SMOOTH WIRE FABRIC

34 214906

EFFECT OF WELDMENTS ON THE FATIGUE STRENGTH OF STEEL BEAMS

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NCHRP RPT 102, 114 PP, FIGS, TABS, PHOTOS, 63 REF, 11 APP

*GENERAL MATERIALS	*BRIDGE DESIGN
STEEL STRUCTURES	WELDMENTS
BRIDGES	FATIGUE TESTS
BRIDGE BEAM CONSTRUCTION	STEEL BRIDGES
BEAMS	GIRDERS
STEELS	SPECIFICATIONS
COVER PLATES	WELDED STEEL BEAMS
STEEL BEAMS	FATIGUE STRENGTH

34 214926

ATOMIC-POWERED SIGN ENDS FIRST YEAR OF SERVICE WITH ARIZONA HIGHWAY DEPARTMENT

HIGHWAY RESEARCH NEWS, HWY RES BOARD 70
NO 41, PP 38-40, 2 PHOT

*GENERAL MATERIALS	NUCLEAR ENERGY
TRAFFIC SIGNS	RADIOACTIVE ISOTOPES
KRYPTON 85	OVERHEAD TRAFFIC SIGNS
PHOSPHORS	BRIGHTNESS
EMISSIONS	ILLUMINATED TRAFFIC SIGNS

34 215039

CHLORIDES AND BRIDGE DECK DETERIORATION

SPELLMAN DL
STRATFULL KFHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 328, PP 38-49, 6 FIG, 4 TAB, 16 REF

*GENERAL MATERIALS	CONCRETE BRIDGE DECKS
CHLORIDES	CORROSION
STEELS	REINFORCING STEEL
DEICERS	SALTS
DETECTORS	ELECTRIC POTENTIAL
DETERIORATION	

AREA 34 GENERAL MATERIALS

34 215041

LABORATORY AND FIELD TESTS ON CONCRETE SEALING COMPOUNDS

RYELL J
CHCJNACKI B
MORRIS CE DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 328, PP 61-76, 4 FIG, 6 TAB, 6 REF

*GENERAL MATERIALS	*CEMENT AND CONCRETE
CONCRETES	SEALANTS
CONCRETE CURING	CURING AGENTS
AIR ENTRAINED CONCRETE	NONAIR ENTRAINED CONCRETE
FREEZE THAW TESTS	LINSEED OIL
KEROSENE	DURABILITY
RESINS	RUBBER
CHLORINATED RUBBER	

34 215059

SUMMARY OF RESEARCH ON ADHESIVE AND BONDING TECHNOLOGY

HIGHWAY RES CIRCULAR, HWY RES BOARD SEP70
NO 110, 3 PP

*GENERAL MATERIALS	ADHESIVES
BONDING	BINDERS
SEAL COATS	MORTARS
EPOXY RESINS	RESEARCH
SEALANTS	SKID RESISTANCE
POLYMERS	CONCRETE PAVEMENTS
CONCRETE BRIDGE DECKS	DEFERENTIATION
AGGREGATES	PHYSICAL PROPERTIES
RHEOLOGICAL PROPERTIES	SURFACES
PREPARATION	

34 215734

ELASTOMERIC BEARING RESEARCH

MINOR JC
EGEN KAHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 109, 53 PP, 76 FIG, 9 TAB, 51 REF, 7 APP

*GENERAL MATERIALS	BRIDGE BEARINGS
ELASTOMERS	NEOPRENE
SHAPE	TEMPERATURE
HARDNESS TESTS	HARDNESS
COMPRESSION	SHEAR MODULUS
STRESS RELAXATION	SHEAR
DESIGN CRITERIA	COMPRESSION TESTING

34 215743

RESULTS OF THE 1970 QUESTIONNAIRE ON HIGHWAY APPLICATIONS OF NUCLEAR TECHNIQUES

BROWN W

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB71
NO 121, 5 PP, 1 FIG, 1 TAB

*GENERAL MATERIALS	NUCLEAR APPLICATIONS
NUCLEAR MOISTURE DENSITY DETERMINATIONS	QUESTIONNAIRES
HIGHWAYS	
STATE HIGHWAY ADMINISTRATION	
HIGHWAY DEPARTMENTS	SURFACE AREA
TESTING	SOIL TESTING
AGGREGATE TESTING	GAGES
ASPHALT PAVEMENTS	DENSITY
ASPHALT CONTENT	SPECIFICATIONS
MOISTURE CONTROL	DENSITY MEASUREMENTS
COMPARISONS	

AREA 34 GENERAL MATERIALS

34 216347

OPTIMIZATION OF DENSITY AND MOISTURE CONTENT MEASUREMENTS
BY NUCLEAR METHODSGARDNER RP
DUNN WL
MCCOUGALL FH
LIPPOLD WJHIGHWAY RESEARCH BOARD NCHRP DIGEST MAR 71
NO 29, 8 PP, 1 FIG

*GENERAL MATERIALS	
*EXPLORATION-CLASSIFICATION /SOILS/	
SOILS	DENSITY
MOISTURE CONTENT	
NUCLEAR MOISTURE DENSITY DETERMINATIONS	
OPTIMIZATION	GAMMA RAYS
ERRORS	MINIMIZATION
NUCLEAR APPLICATIONS	GAGES
MEASUREMENTS	ACCURACY
MEASURING INSTRUMENTS	

34 216348

FATIGUE STRENGTH OF HIGH-YIELD REINFORCING BARS

HANSON JM
SOMES HF
HELGASON T
CORLEY WG
HOGNESTAD EHIGHWAY RESEARCH BOARD NCHRP DIGEST APR 71
NO 30, 4 PP

*GENERAL MATERIALS	FATIGUE /MATERIALS/
FATIGUE TESTS	STRENGTH
HIGH STRENGTH STEELS	REINFORCING STEEL
BARS	
REINFORCED CONCRETE BRIDGES	
STRESSES	SPECIFICATIONS

34 216481

STATE SURVEY OF PROCEDURES AND SPECIFICATIONS FOR THE USE
OF NUCLEAR GAUGESHIGHWAY RES CIRCULAR, HWY RES BOARD APR 71
NO 125, PP 1-5

*GENERAL MATERIALS	
NUCLEAR MOISTURE DENSITY DETERMINATIONS	
SPECIFICATIONS	NUCLEAR TESTING
METHODS	

34 216487

GENERAL MATERIALS

ACAM V

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 118, PART I, PP 13-14, 10 REF

*GENERAL MATERIALS	
STATISTICAL QUALITY CONTROL	
QUALITY CONTROL	STATISTICAL METHODS
ACCEPTANCE	STANDARDS
SPECIFICATIONS	CONSTRUCTION MATERIALS
SAMPLING	

AREA 34 GENERAL MATERIALS

34 221394

OPTIMIZATION OF DENSITY AND MOISTURE CONTENT MEASUREMENTS BY
NUCLEAR METHODSGARDNER RP
DUNN WL
MCCOUGALL FH
LIPPOLD WJHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 125, 86 PP, FIGS, TABS, REFS, 3 APP

*GENERAL MATERIALS	
*EXPLORATION-CLASSIFICATION /SOILS/	
*CONSTRUCTION	NUCLEAR TESTING
GAMMA RAYS	MONTI CARLO METHOD
MOISTURE CONTENT	DRY DENSITY /SOILS/
GAGES	ERRORS

34 222190

RESPONSE OF CORRUGATED STEEL PIPE TO EXTERNAL SOIL
PRESSURES, WITH DISCUSSION AND CLOSUREWATKINS RK
MCSEER AP
SPANGLER HG
PARMELE RADISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 373, PP 86 - 112, 26 FIG, PHGTS, 17 REF, 2 APP

*GENERAL MATERIALS	CORRUGATED METAL PIPES
STEEL PIPES	DESIGN CRITERIA
SOIL PRESSURES	LOADS
PERFORMANCE TESTS	
RING COMPRESSION AND FLEXIBILITY FACTOR	
SOIL PROPERTIES	

34 228517

MEASUREMENT OF AUTOMOBILE EXHAUST POLLUTANT CONCENTRATIONS
BY USE OF SOLID KRYPTONATES

GOODMAN P

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 412, PP 9-12
4 FIG 4 REF

*GENERAL MATERIALS	SOLID STATE
INSPECTION	EXHAUST EMISSION CONTROL
KRYPTONATES	CARBON MONOXIDE
MEASURING INSTRUMENTS	HYDROCARBONS
NITRIC OXIDE	

34 228520

CORROSION AND SERVICE LIFE OF CORRUGATED METAL PIPE IN
KANSASWORLEY HE
CRUMPTON CFHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 412, PP 35-40
3 FIG 3 TAB 15 REF

*GENERAL MATERIALS	CORROSION
CORRUGATED PIPE CULVERTS	BITUMINOUS MATERIALS
COATINGS	COAL MINES
MINE WATERS	GALVANIZING
ALUMINUM	

AREA 34 GENERAL MATERIALS

34 228522

GLASS BEADS IN PAINT

CRUMPTON CF
MCCASKILL GAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 412 PP 52-63 18 REF
13 FIG

*GENERAL MATERIALS	GLASS
GLASS BEADS	PAINTS
ABRASION	WEAR
PAVEMENT SURFACE TEXTURE	MICROSCOPES
REFLECTORIZED PAINTS	

34 228550

NEW TIRE-STUD DEVELOPMENTS

CANTZ R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 418 PP 11-25 50 REF
53 FIG 1 TAB

*GENERAL MATERIALS	STUDED TIRES
PAVEMENT DURABILITY	WEAR
IMPROVEMENT	

34 229717

EVALUATION OF BREAKAWAY CABLE TERMINALS FOR GUARDRAILS

HIGHWAY RESEARCH BOARD NCHRP DIGEST GCT72
NO 43 10 PP
4 FIG

*GENERAL MATERIALS	GUARDRAIL TERMINALS
GUARDRAIL DESIGN	COLLISION TESTS
BREAKAWAY SUPPORTS	

AREA 35 MINERAL AGGREGATES

35 205165

RELATION BETWEEN WEAR AND PHYSICAL PROPERTIES OF ROADSTONES

STIFFLER AK

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 56-68, 10 FIG, 16 REF

*MINERAL AGGREGATES	AGGREGATE POLISHING
ABRASIVES	WEAR
WEIGHT	MODULUS OF ELASTICITY
HARDNESS	MELTING
TEMPERATURE	MICROSCOPY
PITTING	SCRATCHES

AREA 35 MINERAL AGGREGATES

35 205166

PRE-EVALUATION OF PAVEMENT MATERIALS FOR SKID-RESISTANCE A
REVIEW OF U. S. TECHNIQUES

GOODWIN WA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 69-79, 10 FIG, 15 REF

*MINERAL AGGREGATES	LABORATORY TESTS
MATERIALS TESTING	SKID RESISTANCE
TEST METHODS	MINERALS
MINERAL AGGREGATE TESTING	MINERAL AGGREGATES
PAVEMENTS	PERMEABILITY

35 206994

IDENTIFICATION OF FROST-SUSCEPTIBLE PARTICLES IN CONCRETE
AGGREGATESLARSON TO
CADDY PDHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
RPT NO, 62 PP, 30 FIG, 44 TAB, 10 REF, 8 APP

*MINERAL AGGREGATES	*CEMENT AND CONCRETE
CONCRETE DURABILITY	COARSE AGGREGATES
FREEZING THAWING EFFECTS	VOLUME CHANGES
DETERIORATION	FROST SUSCEPTIBILITY
FROST ACTION EFFECTS	PARTICLES
AGGREGATE TESTING	FIELD PERFORMANCE
TEST METHODS	PERMEABILITY
PETROGRAPHIC INVESTIGATIONS	

35 207902

IN-SERVICE DEGRADATION OF BASE COURSE AGGREGATES

DUNN KH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 290, PP 58-71, 2 FIG, 8 TAB, 5 REF

*MINERAL AGGREGATES	DEGRADATION /AGGREGATE/
AGGREGATES	BASE COURSES
AGGREGATE TESTING	PHYSICAL PROPERTIES
DOLOMITE	IGNEOUS ROCKS
GRAVELS	AGGREGATE GRADATION
COMPACTION	HANDLING

35 210607

BIBLIOGRAPHY-DEGRADATION OF AGGREGATES 1911-1968

HIGHWAY RESEARCH BOARD BIBLIOGRAPHY 70
NO 91, 39 PP, 74 REF

*MINERAL AGGREGATES	BIBLIOGRAPHIES
MINERAL AGGREGATES	DEGRADATION
DISINTEGRATION	

AREA 35 MINERAL AGGREGATES

35 212433

CONSTRUCTION SPECIFICATIONS FOR VOLCANIC CINDERS USED AS ROAD-SURFACING AGGREGATE

HENORICKSON LG
LUND JWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 307, PP 11-20, 1 FIG, 2 TAB, 3 PHOT, 9 REF

*MINERAL AGGREGATES	
CONSTRUCTION SPECIFICATIONS	
VOLCANIC AGGREGATE	CINDERS
ROAD SURFACES	WEARING COURSE
FOREST ROADS	UNPAVED HIGHWAYS
REVIEWS	RATING
MATERIALS TESTING	DENSITY
AGGREGATE SOURCES	AGGREGATE GRADATION
DURABILITY	PLASTICITY
LDS ANGELES ABRASION TEST	CRUSHING

35 212434

LIGHTWEIGHT CONCRETE AGGREGATE FROM SINTERED FLY ASH

MINNICK LJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 307, PP 21-32, 6 FIG, 4 TAB, 4 PHOT, 10 REF

*MINERAL AGGREGATES	*CEMENT AND CONCRETE
LIGHTWEIGHT AGGREGATES	LIGHTWEIGHT CONCRETES
SINTERING	BITUMINOUS COAL
FLY ASH	PHYSICAL PROPERTIES
CONCRETE PROPERTIES	ABSORPTION
POZZOLANIC ACTION	CEMENT FACTOR
LEAN MIX CONCRETE	CONCRETE MIX DESIGN
COMPRESSIVE STRENGTH	

35 212435

FIRED-CLAY AGGREGATES FOR USE IN FLEXIBLE BASES

MOORE WM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 307, PP 33-43, 2 FIG, 4 TAB, 12 PHOT, 4 REF, 2 APP

*MINERAL AGGREGATES	MANUFACTURED AGGREGATES
KILNS	PLASTIC SOILS
CLAYS	EVALUATION
FLEXIBILITY	BASE COURSES

35 212436

AN EVALUATION OF THE BULK SPECIFIC GRAVITY FOR GRANULAR MATERIALS

KANDHAL PS
LEE DYHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 307 PP 44-55
6 FIGS 9 TABS 8 REFS

1 APP

*MINERAL AGGREGATES	BULK SPECIFIC GRAVITY
AGGREGATE TESTING	CRUSHED AGGREGATE
MANUFACTURED AGGREGATES	SYNOPL
TEST METHODS	CHEMICAL TESTS
GRANULAR MATERIALS	GRAIN SHAPES
BITUMINOUS PAVING MIXTURES	PORTLAND CEMENT CONCRETES
COBALT COMPOUNDS	CHLORIDES

AREA 35 MINERAL AGGREGATES

35 213944

RESEARCH NEEDS RELATING TO PERFORMANCE OF AGGREGATES IN HIGHWAY CONSTRUCTION

WALKER RD
LARSON TD
CADY PDHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 100, 68 PP, 9 TAB, REFS, 3 APP

*MINERAL AGGREGATES	AGGREGATES
HIGHWAY PAVEMENTS	PORTLAND CEMENT CONCRETES
HARDENED CONCRETE	AGGREGATE GRADATION
SKID RESISTANCE	BASE COURSES
HIGHWAY CONSTRUCTION	

35 214463

TESTS FOR EVALUATING DEGRADATION OF BASE COURSE AGGREGATES

WEST TR
JOHNSON RB
SMITH NMHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 98, 92 PP, FIG, TAB, PHOT, 9 APP

*MINERAL AGGREGATES	*FOUNDATIONS /SOILS/
NATURAL AGGREGATES	AGGREGATES
BASE COURSES	SUBBASE
DEGRADATION /AGGREGATE/	

35 215038

SLOW-COOLING TESTS FOR FROST SUSCEPTIBILITY OF PENNSYLVANIA AGGREGATES

HARMAN JW
CADY PD
BOLLING NBHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 328, PP 26-37, 12 FIG, 4 TAB, 8 REF

*MINERAL AGGREGATES	*CEMENT AND CONCRETE
CONCRETE AGGREGATES	FROST
FROST SUSCEPTIBILITY	FROST DAMAGE
GRAVELS	LIMESTONES
SANDSTONES	FREEZE THAW TESTS
PASTES	GLACIAL SOILS

35 216483

AGGREGATES

BLDEM DL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 118, PART 1, PP 1-2, 6 REF

*MINERAL AGGREGATES	QUALITY CONTROL
QUALITY CONTROL TESTING	AGGREGATES
STATISTICAL QUALITY CONTROL	
STATISTICAL METHODS	ACCEPTANCE
AGGREGATE TESTING	PERFORMANCE
STANDARDS	

AREA 35 MINERAL AGGREGATES

35 219981

LATE-EXPANSION ALKALI-REACTIVE CARBONATE ROCKS

DOLAR-MANTUANI L

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 353, PP 1-14, 9 FIG, 4 TAB, 18 REF

*MINERAL AGGREGATES CHARACTERISTICS MINERAL AGGREGATE TESTING PETROGRAPHIC INVESTIGATIONS GRAPHICAL ANALYSIS	CARBONATE ROCKS SODIUM HYDROXIDE SHRINKAGE TESTS
--	--

35 219982

MODIFICATION OF THE STANDARD LOS ANGELES ABRASION TEST

LARSON LJ
MATHIOWETZ RP
SMITH HJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 353, PP 15-24, 4 FIG, 2 TAB, 15 REF

*MINERAL AGGREGATES CHANGES PETROGRAPHY	LOS ANGELES ABRASION TEST AGGREGATE TESTING
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35 219983

ROTARY KILN-FIRED SYNTHETIC AGGREGATES MANUFACTURED FROM
TEXAS LIGNITE FLY ASHBONIFAY DW
SCOTT WM
EPPS JA
GALLAWAYHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 353, PP 25-30, 2 FIG, 6 TAB, 8 REF

*MINERAL AGGREGATES WASTE PRODUCTS EXTRUSION EFFECT ASPHALTIC CONCRETE BASE COURSES	MANUFACTURED AGGREGATES FLY ASH AGGLOMERATION PHYSICAL PROPERTIES PORTLAND CEMENT CONCRETE
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35 219984

A GENERALIZED INVESTIGATION OF THE POTENTIAL AVAILABILITY OF
AGGREGATE BY REGIONAL GEOMORPHIC UNITS WITHIN THE
CONTINENTAL 48 STATESWITCZAK MW
LEVELL CW
YODER EJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 353, PP 31-42, 7 FIG, 6 TAB, 9 REF

*MINERAL AGGREGATES AGGREGATES CLASSIFICATION	AVAILABILITY GEOMORPHOLOGY DISTRIBUTION
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AREA 35 MINERAL AGGREGATES

35 219985

UPGRADING ABSORPTIVE AGGREGATES BY CHEMICAL TREATMENTS

DUTT RN
LEE DYHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 353, PP 43-46, 4 FIG

*MINERAL AGGREGATES AGGREGATES ASPHALT PAVEMENTS	ABSORPTION CHEMICAL PROCESSES
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35 222658

TWO LABORATORY METHODS FOR EVALUATING SKID RESISTANCE
PROPERTIES OF AGGREGATESMULLEN WG
DAHIR SH
BARNES BOHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 123-135, 14 FIG, 4 TAB, 11 REF

*MINERAL AGGREGATES AGGREGATE POLISHING	SKID RESISTANCE TESTING LABORATORY TESTS
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35 222659

FACTORS INFLUENCING AGGREGATE SKID-RESISTANCE PROPERTIES

DAHIR SH
MULLEN WGHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 136-148, 3 FIG, 6 TAB, 18 REF

*MINERAL AGGREGATES AGGREGATE CHARACTERISTICS SKID RESISTANCE TESTING	SKID RESISTANCE PETROGRAPHY
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35 228521

COMPARATIVE INVESTIGATIONS OF INTERNATIONAL TEST METHODS FOR
SMALL-SIZED COARSE AGGREGATESKOHLER G
NAGEL JHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 412 PP 41-51
7 FIG 6 TAB 37 REF

*MINERAL AGGREGATES TEST METHODS STRAINS COMPRESSION TESTING ABRASION TEST	COARSE AGGREGATES COMPARATIVE ANALYSIS STRESSES IMPACT TESTS
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AREA 35 MINERAL AGGREGATES

35 229046

PROMISING REPLACEMENTS FOR CONVENTIONAL AGGREGATES FOR
HIGHWAY USEMAEK CR
HEKIN M
KESLER CE
BARENBERG EJ

HIGHWAY RESEARCH BOARD NCHRP REPORTS 72

APP NO 135 53 PP 112 REF

*MINERAL AGGREGATES AGGREGATES
HIGHWAY CONSTRUCTION QUALITY
MANUFACTURED AGGREGATES WASTE PRODUCTS

AREA 40 MAINTENANCE, GENERAL

40 205170

REDUCTION OF ACCIDENTS BY PAVEMENT GROOVING

BEATON JL
ZUBE E
SKOG JHIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NO 101, PP 110-125, 5 FIG, 4 TAB, 6 REF, 1 APP*MAINTENANCE /GENERAL/ ACCIDENT PREVENTION
CONCRETE PAVEMENTS SKID RESISTANCE
GROOVING ACCIDENT RATES
WET CONDITIONS TRAFFIC ACCIDENTS

40 205782

A STUDY OF DETERIORATION IN CONCRETE BRIDGE DECKS

AXON EO
MURRAY LT
RUCKER RM
MATHER BHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 268, PP 80-89, 1 FIG, 4 TAB, 5 REF*MAINTENANCE /GENERAL/ CONCRETE BRIDGE DECKS
DETERIORATION SURVEYS /DATA COLLECTION/
FRACTURES SURFACE BEHAVIOR
AIR ENTRAINED CONCRETE CONCRETE CURING
REINFORCEMENT CONTINUOUS SPANS
SIMPLE SPAN BRIDGE DESIGN

40 206366

DATA STRUCTURE FOR A CONSTRUCTION COMPANY MANAGEMENT SYSTEM

FROEMMING AP
FENVES SJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 278, PP 22-34, 9 FIG, 4 REF*MAINTENANCE /GENERAL/ ACCOUNTING
DATA PROCESSING CONSTRUCTION INDUSTRY
MANAGEMENT CONSTRUCTION OPERATIONS
PLANNING SALARIES
CONSTRUCTION SCHEDULING ESTIMATING
BIOS INFORMATION SYSTEMS

AREA 40 MAINTENANCE, GENERAL

40 208179

THE LOUISIANA MAINTENANCE MANAGEMENT SYSTEM

HIGHWAY RESEARCH NEWS, HWY RES BOARD 69
NO 37, PP 47-50, 1 FIG*MAINTENANCE /GENERAL/ MAINTENANCE ADMINISTRATION
HIGHWAY MAINTENANCE MAINTENANCE COSTS
ECONOMICS MAINTENANCE PERSONNEL
PERSONNEL TRAINING MAINTENANCE STANDARDS
PLANNING SCHEDULING
MANAGEMENT

40 208409

PROGRESS REPORT OF HRB-AASHO JOINT COMMITTEE ON MAINTENANCE
PERSONNELHIGHWAY RES CIRCULAR, HWY RES BOARD OCT69
NO 102, 19 PP*MAINTENANCE /GENERAL/ *PERSONNEL MANAGEMENT
STATE GOVERNMENT HIGHWAY DEPARTMENTS
MAINTENANCE PERSONNEL SALARY WAGE PRACTICES
SICKNESS BENEFITS POLICY
CIVIL SERVICE RETIREMENT
INSURANCE UNIONS /LABOR/
WORK RULES HOURS
CONVITIONS

40 208497

EFFECT OF STRESS ON FREEZE-THAW DURABILITY OF CONCRETE
BRIDGE DECKSHIGHWAY RESEARCH BOARD NCHRP DIGEST OCT69
DIGEST NO 13, 2 PP*MAINTENANCE /GENERAL/ REINFORCED CONCRETE
CONCRETE BRIDGE DECKS STRESSES
FREEZE THAW DURABILITY CONCRETE DURABILITY
REINFORCING STEEL CORROSION
SCALING SPALLING
TRANSVERSAL CRACKING DETERIORATED CONCRETE

40 209421

PERFORMANCE BUDGETING FOR MAINTENANCE: A BUDGET BASED ON
QUALITY, QUANTITY AND PRODUCTIVITY STANDARDS

HELLAND HC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 298, 4 FIG, 2 TAB, 1 APP*MAINTENANCE /GENERAL/ HIGHWAY MAINTENANCE
PERFORMANCE BUDGETING
ALLOCATIONS RESOURCES
MAINTENANCE OPERATIONS MAINTENANCE PERSONNEL
MAINTENANCE EQUIPMENT MAINTENANCE ADMINISTRATION
PLANNING REPORTING
STANDARDS

AREA 40 MAINTENANCE, GENERAL

40 209422

A DETECTION SYSTEM FOR FROST SNOW AND ICE ON BRIDGES AND HIGHWAYS

CIEMOCHOWSKI MF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 298, PP 17-24, 7 FIG

*MAINTENANCE /GENERAL/ DETECTION ICE HIGHWAY BRIDGES OVERPASSES INTERSTATE HIGHWAY SYSTEM HUMIDITY BRIDGE RAILS FLASHING SIGN	DETECTING DEVICES FROST SNOW BRIDGE DECKS WARNING SYSTEMS HIGHWAY PAVEMENTS SENSORS ELECTRIC HEATING AIRPORT RUNWAYS
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40 209423

THE USE OF SALT FOR WINTER MAINTENANCE OF ROADS IN GREAT BRITAIN

WILLING-DENTON E K

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 298, PP 25-32, 1 FIG, 2 REF, 2 APP

*MAINTENANCE /GENERAL/ HIGHWAY MAINTENANCE ROCK SALT COVERINGS SNOWPLOW	COLD WEATHER OPERATIONS PROTECTION PLASTICS SPREADERS RURAL AREAS
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40 209424

CHANGING CHARACTER OF PAVEMENT MAINTENANCE

LEIGH CO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 298, PP 10-12, 4 FIG

*MAINTENANCE /GENERAL/ HIGHWAY MAINTENANCE DECISION MAKING CHIPS REPLACEMENTS UNIT COSTS SURFACE TREATMENTS ECONOMIC PLANNING	PAVEMENT MAINTENANCE MAINTENANCE COSTS RESURFACING SEAL COATS EPDXY MAINTENANCE PERSONNEL PATCHING MAINTENANCE ADMINISTRATION
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40 209425

ASPHALTIC PAVEMENT PATCHING IN KANSAS

DELP L

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 298, PP 13-16, 2 FIG

*MAINTENANCE /GENERAL/ PLANNING HIGHWAY MAINTENANCE BITUMINOUS PAVEMENT MAINTENANCE MAINTENANCE PERSONNEL MAINTENANCE EQUIPMENT	MAINTENANCE OPERATIONS HIGHWAY PAVEMENTS ASPHALT PAVEMENTS PERSONNEL TRAINING
--	--

AREA 40 MAINTENANCE, GENERAL

40 209436

PAVEMENT REHABILITATION: BACKGROUND AND INTRODUCTION

SWANBERG JH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 1-3

*MAINTENANCE /GENERAL/ TRAFFIC VOLUME PAVEMENTS REHABILITATION HIGHWAY NEEDS RESURFACING OVERLAY COURSE PAVEMENT EVALUATION WEARING COURSE	*PAVEMENT DESIGN STRESSES PAVEMENT MAINTENANCE RECONSTRUCTION MAINTENANCE COSTS BITUMINOUS SURFACING SERVICEABILITY INDEX LEVELING COURSE
--	--

40 209437

WHAT AN OVERLAY DESIGN PROCEDURE SHOULD ENCOMPASS

MCCULLOUGH BF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 43-45, 8 FIG, 1 REF

*MAINTENANCE /GENERAL/ OVERLAY COURSE PAVEMENT DESIGN PAVEMENT PERFORMANCE BEARING CAPACITY	*PAVEMENT DESIGN OVERLAY THICKNESS PAVEMENT DISTRESS PAVEMENT DEFLECTION STRESS STRAIN RELATIONS
---	--

40 209440

REHABILITATION OF SLIPPERY ROADS

MAHONE DC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 27-32, 6 FIG, 3 TAB, 4 REF

*MAINTENANCE /GENERAL/ SURVEYS /DATA COLLECTION/ TEST METHODS REHABILITATION SLURRY SEAL ACCIDENT PREVENTION PAVEMENT SURFACE TEXTURE PAVEMENT SKIDDING CHARACTERISTICS	QUESTIONNAIRES SKID RESISTANCE TESTING RESURFACING SLIPPERINESS GROOVING TEST SECTIONS
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40 209441

TENTATIVE OVERLAY DESIGN FOR MINNESOTA ASPHALT PAVEMENTS

SKOK EL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 33-36, 6 TAB, 3 REF

*MAINTENANCE /GENERAL/ ASPHALT PAVEMENTS OVERLAY COURSE DEFLECTION TESTS TEMPERATURE EMBANKMENTS AXLE LOAD EQUATIONS	*PAVEMENT DESIGN OVERLAY THICKNESS FLEXIBLE PAVEMENT DESIGN AASHO ROAD TEST TEST SECTIONS SEASONS SERVICEABILITY INDEX COMPUTER PROGRAMS
---	---

AREA 40 MAINTENANCE, GENERAL

40 209442

ASPHALT OVERLAY DESIGN

KINGHAM KI

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 37-42, 3 FIG, 1 TAB, 14 REF

*MAINTENANCE /GENERAL/ ASPHALTIC CONCRETE DESIGN CRITERIA THICKNESS DESIGN EXISTING PAVEMENTS PAVEMENT DEFLECTION MAINTENANCE COSTS	*PAVEMENT PERFORMANCE BITUMINOUS OVERLAYS MANUALS OVERLAY COURSE PAVEMENT EVALUATION ELASTIC THEORY
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40 209443

OVERLAY DESIGN: WHAT ARE THE STATES PRESENTLY DOING?

MCCULLOUGH BF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 4-9, 6 FIG

*MAINTENANCE /GENERAL/ SURVEYS /DATA COLLECTION/ OVERLAY THICKNESS QUESTIONNAIRES PAVEMENT DEFLECTION MAINTENANCE COSTS WHEEL LOAD FLEXIBLE PAVEMENT DESIGN	*PAVEMENT DESIGN OVERLAY COURSE PAVEMENT DESIGN SERVICEABILITY INDEX RIDING QUALITY SKID RESISTANCE AASHO ROAD TEST VOLUME CHANGES
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40 209444

CONSTRUCTION PROCEDURES FOR PAVEMENT REHABILITATION

OWEN CV

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 50-1

*MAINTENANCE /GENERAL/ PAVEMENTS PAVEMENT WIDENING SURFACE TREATMENTS	REHABILITATION PAVEMENT MAINTENANCE OVERLAY COURSE ROAD SURFACES
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40 209445

OPEN-GRADED PLANT-MIXED SEALS

HEWETT JW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 52-57, 5 FIG, 1 REF

*MAINTENANCE /GENERAL/ OPEN GRADED AGGREGATE SEAL COATS ASPHALT PAVEMENTS ASPHALT CONTENT CONSTRUCTION METHODS	PLANT MIX CHIPS SKID RESISTANCE AGGREGATE GRADATION PAVEMENT DURABILITY COSTS
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AREA 40 MAINTENANCE, GENERAL

40 209446

PROCEDURE FOR THE SELECTION OF ASPHALT CONCRETE RESURFACING THICKNESS

SCHWARTZ DR
WARNING CRHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, PP 59-65, 7 FIG, 2 TAB, 2 REF

*MAINTENANCE /GENERAL/ COMPOSITE PAVEMENTS THICKNESS DESIGN RESURFACING PORTLAND CEMENT CONCRETES AASHO ROAD TEST RIGID PAVEMENT DESIGN PAVEMENT EVALUATION EQUATIONS NOMOGRAPHS	*PAVEMENT DESIGN PAVEMENT DESIGN ASPHALTIC CONCRETE REHABILITATION CONCRETE PAVEMENTS FLEXIBLE PAVEMENT DESIGN EXISTING PAVEMENTS AXLE LOAD PAVEMENT PERFORMANCE
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40 209447

DENSE-GRADED, HOT-MIXED SURFACES

BEAGLE CW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 300, P 58

*MAINTENANCE /GENERAL/ BITUMINOUS CONCRETES ASPHALT PAVEMENTS CONCRETE PAVEMENTS ELASTOMER MODIFIED ASPHALTS HOT MIX PAVING MIXTURES SAND ASPHALT RIDING QUALITY	COMPARISONS BITUMINOUS SURFACING EXISTING PAVEMENTS EMULSIFIED ASPHALTS MIXING PAVEMENT PERFORMANCE
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40 209491

SYMPOSIUM ON SNOW REMOVAL AND ICE CONTROL RESEARCH

HIGHWAY RES CIRCULAR, HWY RES BOARD DEC69
NO 103, 13 PP

*MAINTENANCE /GENERAL/ SNOW REMOVAL ICE CONTROL PAVEMENTS SNOWPLOWS	SYMPOSIUM SNOW & ICE CONTROL ICING SNOWDRIFTS ECONOMICS
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40 214576

MODELS FOR PREDICTING SNOW-REMOVAL COSTS AND CHEMICAL USAGE

MILLER EL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 267-278, 4 FIG, 10 TAB, 4 REF

*MAINTENANCE /GENERAL/ PREDICTIONS COSTS MAINTENANCE COSTS SNOW & ICE CONTROL REGRESSION ANALYSIS	MODELS SNOW REMOVAL CHEMICALS LANES AVERAGE DAILY TRAFFIC WEATHER
--	--

AREA 40 MAINTENANCE, GENERAL

40 214578

CLASSIFICATION OF SNOW AND ICE ON ROADS

KINDSITA S
AKITAYA E
VCLZ ME
PGULIN A

DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 8-16, 2 FIG, 2 TAB, 13 PHOT, 5 REF

*MAINTENANCE /GENERAL/ SNOW & ICE CONTROL WEATHER DRIVING HARDNESS SOILS SNOW	CLASSIFICATION SNOW REMOVAL TRAFFIC DENSITY TEMPERATURE SNOW & ICE PROPERTIES ICING MEASUREMENTS
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40 214580

PREDICTION OF PREFERENTIAL ICING CONDITIONS ON HIGHWAY BRIDGES

BIRNIE C
MEYER WE
GLAUZ WD
BLACKBURN RR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 27-35, 4 FIG, 5 TAB, 5 PHOT, 6 REF

*MAINTENANCE /GENERAL/ ICING WEATHER PREFERENTIAL ICING LOCATIONS SIMULATIONS MODELS	PREDICTIONS HIGHWAY BRIDGES BRIDGE DECKS THERMAL PROPERTIES TRAFFIC DENSITY COMPUTERS
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40 214581

THE PROFILING RADIOACTIVE SNOW GAGE

SMITH JL
HALVERSON HG
JCNES RA
BYRD LG

DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 36-45, 6 FIG, 16 REF

*MAINTENANCE /GENERAL/ GAGES DENSITY DEPTH SNOWPACK	SNOW SNOW REMOVAL RADIOACTIVITY PROFILES
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40 214582

ICE ADHESION AND ABHESION: A SURVEY

JELLINEK HH
KIVISILD HR
RENAHAN JW
MELLGR M

DISCUSSER
DISCUSSER
DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 46-77, 12 FIG, 13 TAB, 89 REF

*MAINTENANCE /GENERAL/ ADHESION AIRPORT RUNWAYS PHYSICAL CHEMISTRY	ICE AIRCRAFT SHIPS INTERFACES
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AREA 40 MAINTENANCE, GENERAL

40 214583

IONIC DIFFUSION AT THE ICE-SOLID INTERFACE

MURRMANN RP
ANDERSON DM
PEEK JW
JELLINEK HH
KIVISILD HR
BRCHM DR

DISCUSSER
DISCUSSER
DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 78-86, 4 FIG, 1 TAB, 14 REF

*MAINTENANCE /GENERAL/ ICE SODIUM CHLORIDES SOLIDS	IONIC DIFFUSION INTERFACES WATER MODELS
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40 214584

ICE ADHESION STUDIES: PROPERTIES OF DEFECTS IN THE INTERFACIAL REGION

ACKLEY SF
ITAGAKI K
MURRMANN RP
LIMPERT WF
JELLINEK HH

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 87-96, 1 FIG, 1 TAB, 6 PHOT, 29 REF

*MAINTENANCE /GENERAL/ ADHESION DEFECTS STRENGTH	ICE PROPERTIES INTERFACES TOPOGRAPHY
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40 214585

COMPACTION OR REMOVAL OF WET SNOW BY TRAFFIC

SCHAERER PA
ACKLEY SF

DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 97-103, 1 FIG, 1 TAB, 3 REF

*MAINTENANCE /GENERAL/ SNOW REMOVAL DECELEROMETER DEPTH SIZE MELTING SNOW	COMPACTION TRAFFIC SKID RESISTANCE SHAPE WET PAVEMENTS FREE-WATER CONTENT
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40 214589

CONTROL OF ROAD SNOW AND ICE BY SALT AND ELECTRICAL ROAD HEATING

WATKINS LH
BALMER GG
PENDLETON J
WILMOT JP

DISCUSSER
DISCUSSER
DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 146-155, 1 FIG, 3 TAB, 2 PHOT, 10 REF

*MAINTENANCE /GENERAL/ SALT /SODIUM CHLORIDE/ WARNING SYSTEMS STEELS	SNOW & ICE CONTROL ELECTRIC HEATING CORROSION AUTOMOBILE BODIES
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AREA 40 MAINTENANCE, GENERAL

40 214590

LIQUID TREATMENTS OF COMMERCIAL CALCIUM CHLORIDE IN WINTER ROAD MAINTENANCE

SCOTTO GE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 156-171, 4 FIG, 5 TAB, 9 PHOT, 1 REF

*MAINTENANCE /GENERAL/ COMMERCE	LIQUIDS
HIGHWAY MAINTENANCE	CALCIUM CHLORIDES
COLD WEATHER OPERATIONS	METEOROLOGY
TREATMENTS	SNOW

40 214591

CHEMICAL MELTING OF ICE AND SNOW ON PAVED SURFACES

DUNNERY OA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 172-176, 2 TAB

*MAINTENANCE /GENERAL/ MELTING	CHEMICALS
SNOW	ICE
PAVEMENTS	CHLORIDES
LIQUIDS	UREA
	TEST RESULTS

40 214593

A BRIEF REVIEW OF SNOWDRIFTING RESEARCH

MELLOR M

JUHKIS AR	DISCUSSE
BYRD LG	DISCUSSE
VOLZ ME	DISCUSSE
WATKINS LH	DISCUSSE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 196-205, 6 FIG, 1 TAB, 45 REF

*MAINTENANCE /GENERAL/ VELOCITY MEASUREMENT	SNOWDRIFTS
STEADY STATE	PARTICLE SIZE DISTRIBUTION
SIMULATIONS	WIND TUNNELS
RESEARCH	MODELS

40 214594

AERODYNAMIC SNOW FENCES TO CONTROL SNOWDRIFTING ON ROADS

JUHKIS AR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 210-219, 6 FIG, 11 REF

*MAINTENANCE /GENERAL/ SNOWDRIFTS	SNOW FENCE
CONTROL DEVICES	AERODYNAMICS
CLIMATIC FACTOR	GEOMORPHOLOGY
SNOW MECHANICS	THEORETICAL ANALYSIS

40 214595

LOCATING SNOW FENCES IN MOUNTAINOUS TERRAIN

SCHMIDT KA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 220-225, 4 FIG, 11 REF

*MAINTENANCE /GENERAL/ MOUNTAINS	SNOW FENCE
SNOWDRIFTS	TERRAIN
CROSS SECTIONS	CONTROL
	LOCATING

AREA 40 MAINTENANCE, GENERAL

40 214596

MODEL TECHNIQUE FOR CONTROLLING SNOW ON ROADS AND RUNWAYS

THEAKSTON FH

BYRD LG	DISCUSSE
MINSK LO	DISCUSSE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 226-230, 6 PHOT

*MAINTENANCE /GENERAL/ SNOW & ICE CONTROL	MODELS
OPEN CHANNELS	SNOW
SIMULATIONS	SANDS
QUALITATIVE ANALYSIS	DENSITY
HIGHWAYS	WIND TUNNELS
WATER FLUME	AIRPORT RUNWAYS

40 214601

CURRENT RESEARCH ON SNOW REMOVAL AND ICE CONTROL ON ROADS IN JAPAN

TSUCHIYA R

INOUE M	
CLARY AG	DISCUSSE
VOLZ ME	DISCUSSE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 263-267, 4 PHOT

*MAINTENANCE /GENERAL/ SNOW REMOVAL	RESEARCH
SNOW	ICE CONTROL
TOPOGRAPHY	DEPTH
AVALANCHES	VEGETATION
ROAD SURFACES	CLASSIFICATION
EQUIPMENT	INFORMATION SYSTEMS
SNOW MOUNDS	SNOW & ICE CONTROL

40 215251

CONCRETE REPAIRS WITH EPOXY AND POLYESTER RESINS

GHOSH RK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 327, PP 12-17, 4 TAB, 2 PHOT, 4 REF

*MAINTENANCE /GENERAL/ CONCRETE PAVEMENTS	CONCRETES
EPOXY RESINS	SYNTHETIC RESINS
CURING AGENTS	POLYESTERS
CLIMATE	TROPICS
RESINS	CONCRETE CRACKING
	POLYESTER RESINS

40 215252

PAVEMENT-SALVAGING EXPERIENCE ON THE PENNSYLVANIA TURNPIKE

KLUCHER RH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 327, PP 18-24

*MAINTENANCE /GENERAL/ CONCRETE PAVEMENT MAINTENANCE	PAVEMENT MAINTENANCE
CONCRETE PAVEMENTS	BITUMINOUS PAVEMENTS
BITUMINOUS OVERLAYS	HIGHWAYS
SURFACE TREATMENTS	RESURFACING
SALVAGE	
HIGHWAY MAINTENANCE	
BITUMINOUS PAVEMENT MAINTENANCE	
PAVEMENTS	INTERSTATE HIGHWAY SYSTEM
BRIDGE DECKS	MAINTENANCE
TOLL ROADS	

AREA 40 MAINTENANCE, GENERAL

40 215253

EVALUATING AND RESURFACING OLD PAVEMENTS IN VIRGINIA
CECCHINI PF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 327, PP 25-36, 1 FIG, 3 TAB, 5 APP

*MAINTENANCE /GENERAL/ DECISION MAKING MAINTENANCE HISTORY FINANCING SPECIFICATIONS PAVEMENT MAINTENANCE DESICKING	PAVEMENT MAINTENANCE RESURFACING MAINTENANCE ADMINISTRATION PRIORITIES ORGANIZING DENSE GRADED AGGREGATE INSPECTION
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40 215254

THE NEW JERSEY TURNPIKE APPROACH TO SALVAGING OLD PAVEMENTS
ROHDE W

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 327, PP 37-44, 5 FIG

*MAINTENANCE /GENERAL/ ASPHALTIC CONCRETE BITUMINOUS PAVEMENT MAINTENANCE MAINTENANCE ADMINISTRATION RESURFACING DESIGN TOLL ROADS	INTERSTATE HIGHWAY SYSTEM PAVEMENT MAINTENANCE INSPECTION SALVAGE BITUMINOUS PAVEMENTS
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40 215255

HEAVY PNEUMATIC ROLLING PRIOR TO OVERLAYING: A 10 YEAR
PROJECT REPORT

LYON JW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 327, PP 45-49, 2 FIG, 2 TAB, 1 REF

*MAINTENANCE /GENERAL/ ROLLERS BREAKING HOT MIX PAVING MIXTURES SALVAGE IMPACT REFLECTION CRACKING SUBGRADE MOISTURE PAVEMENTS	PNEUMATIC TIRE CONCRETE PAVEMENTS SEATING OVERLAY COURSE ASPHALTIC CONCRETE HAMMERS SUBGRADES RESURFACING
--	--

40 215256

THE EFFECT OF PAVEMENT BREAKING-ROLLING ON THE CRACK
REFLECTANCE OF BITUMINOUS OVERLAYS

KCRFHAGE GR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 327, PP 50-63, 8 FIG, 3 TAB, 2 PHOT, 2 REF

*MAINTENANCE /GENERAL/ CONCRETE PAVEMENTS SEATING SALVAGE RESURFACING COSTS	ROLLERS BREAKING PAVEMENTS REFLECTION CRACKING ROUGHNESS
--	--

AREA 40 MAINTENANCE, GENERAL

40 215257

A PAVEMENT OVERLAY DESIGN SYSTEM CONSIDERING WHEEL LOADS,
TEMPERATURE CHANGES, AND PERFORMANCE

MCCULLOUGH BF
MONISMITH CL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 327, PP 64-82, 9 FIG, 13 TABS, 3 PHOT, 10 REF, 1 APP

*MAINTENANCE /GENERAL/ AIRPORTS OVERLAY COURSE VOLUME CHANGES LOADS PAVEMENT DEFLECTION PAVEMENT DISTRESS AIRPORT RUNWAYS	PAVEMENTS CONCRETE PAVEMENTS RESURFACING STRESSES DEFLECTION ENVIRONMENT TAXIWAYS
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40 215491

PROGRESS REPORT OF HRB-AASHO JOINT COMMITTEE ON MAINTENANCE
AND OPERATIONS PERSONNEL

HIGHWAY RES CIRCULAR, HWY RES BOARD DC17C
NO 116, 19 PP, TABS

*MAINTENANCE /GENERAL/ MAINTENANCE PERSONNEL ENVIRONMENT	HIGHWAYS SALARIES JOB ANALYSIS
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40 215748

EFFECTS OF DE-ICING SALTS ON ROADSIDE SOILS AND VEGETATION

ZELAZNY LW
HANES RE
BLASER RE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 335, PP 9-12, 1 TAB

*MAINTENANCE /GENERAL/ DISTRIBUTION DEICING IONS ROADSIDE SPECIFIC CONDUCTANCE TREE DAMAGE TOXICITY CHLORIDES	*ROADSIDE DEVELOPMENT MOVEMENTS SALT /SODIUM CHLORIDE/ SOILS VEGETATION SOIL PROFILES HIGHWAY DRAINAGE SODIUM
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40 215749

SODIUM CHLORIDE UPTAKE IN GRASSES AS INFLUENCED BY
FERTILITY INTERACTION

VERGHESE KG
HANES RE
ZELAZNY LW
BLASER RE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 335, PP 13-15, 4 TAB

*MAINTENANCE /GENERAL/ SALT /SODIUM CHLORIDE/ APPLICATIONS GRASSES FIELD STUDIES SALINITY POTASSIUM ROCK SALT	*ROADSIDE DEVELOPMENT RATE ABSORPTION GROWTH LABORATORY STUDIES FERTILIZATION NITROGEN YIELD
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AREA 40 MAINTENANCE, GENERAL

40 215750

SALT TOLERANCE OF TREES AND SHRUBS TO DE-ICING SALTS

HANES RE
ZELAZNY LW
BLASER REHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 335, PP 16-18, 1 TAB*MAINTENANCE /GENERAL/
DEICERS
CALCIUM CHLORIDES
TOLERANCES
EVERGREENS*ROADSIDE DEVELOPMENT
SALT /SODIUM CHLORIDE/
FIELD STUDIES
DECIDUOUS PLANTS
TREATMENTS

40 215753

PRACTICES FOR EROSION CONTROL ON ROADSIDE AREAS IN GEORGIA

RICHARDSON EC
DISEKER EG
SHERIDAN JMHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 335, PP 35-44, 4 FIG, 5 TAB, 3 REF*MAINTENANCE /GENERAL/
EROSION CONTROL
VEGETATION
YIELD
SOILS
CLAYS
MAINTENANCE
COVER*MECHANICS /EARTH MASS/
EROSION
SEDIMENTATION
ROADSIDE
SANDS
FERTILIZATION
SOIL STABILIZATION

40 215754

WEED CONTROL ON OKLAHOMA HIGHWAYS

HUFFINE WW
REED LW
ROACH GW
SCHNEIDER RJ
BHRDHMALEE N
SINKLER MDHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 335, PP 45-51, 10 TAB, 4 REF*MAINTENANCE /GENERAL/
ROADSIDE
WEEDS
EVALUATION
GRASSES
SELECTING*ROADSIDE DEVELOPMENT
WEED CONTROL
HERBICIDES
HIGHWAYS
ECONOMICS

40 215755

EFFECTS OF INTERSTATE RIGHT-OF-WAY MOWING ON WILDLIFE, SNOW BUILDUP, AND MOTORIST OPINION IN NORTH DAKOTA: A PRELIMINARY REPORT

OETTING RB
CASSELL JFHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 335, PP 52-59, FIG, 5 TAB, 25 REF*MAINTENANCE /GENERAL/
INTERSTATE HIGHWAY SYSTEM
MOWING
SNOW
NESTING
OPINIONS*ROADSIDE DEVELOPMENT
RIGHT-OF-WAY
WILDLIFE
ACCUMULATION
DRIVERS /VEHICLE/

AREA 40 MAINTENANCE, GENERAL

40 216363

A STRUCTURAL RESTORATION SYSTEM FOR CONCRETE SURFACES

SHAFFER HH

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 48-50, 1 REF*MAINTENANCE /GENERAL/
CONCRETE PAVEMENTS
PORTLAND CEMENT CONCRETES
SALTS
SURFACINGCONCRETE BRIDGE DECKS
OVERLAY COURSE
DEICERS
DURABILITY
LATEX

40 216369

A SYSTEM FOR PLANNING ROADWAY IMPROVEMENTS

PETERSON OE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 122-130, 12 FIG, 13 REF*MAINTENANCE /GENERAL/
SYSTEMS ANALYSIS
STRUCTURAL ADEQUACY
SLIPPERINESSHIGHWAY MAINTENANCE
SUFFICIENCY RATING /ROADS/
SERVICEABILITY
PAVEMENTS

40 216377

OVERLAY DESIGN USING DEFLECTIONS

SHERMAN GB
HANNON JBHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 189-198, 7 FIG, 9 REF*MAINTENANCE /GENERAL/
MEASUREMENTS
STRUCTURAL ADEQUACY
BITUMINOUS PAVEMENTS
SUBGRADES
OVERLAY COURSE
BITUMINOUS PAVEMENT MAINTENANCE
DEFLECTOMETERPAVEMENT DEFLECTION
HIGHWAYS
STRENGTH
BENKELMAN BEAM
MODULUS
PORTLAND CEMENT CONCRETES
PREDICTIONS

40 216482

DEFINITIONS FOR TERMS RELATING TO MAINTENANCE MANAGEMENT

HIGHWAY RES CIRCULAR, HWY RES BOARD APR71
NO 124, PP 1-5*MAINTENANCE /GENERAL/
MAINTENANCE ADMINISTRATION
MAINTENANCE COSTS
FACILITIES
MANAGEMENTMAINTENANCE
MAINTENANCE OPERATIONS
MAINTENANCE STANDARDS
RESOURCES
PERFORMANCE

40 218566

SUMMARY REPORT OF THE 1970 MAINTENANCE MANAGEMENT WORKSHOP

MARTIN OR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 1-8*MAINTENANCE /GENERAL/
MANAGEMENTMAINTENANCE
WORKSHOPS /MEETINGS/

AREA 40 MAINTENANCE, GENERAL

40 218567

SUMMARY OF PAPERS ON PROBLEMS ENCOUNTERED IN IMPLEMENTING AND UTILIZING REPORTING SYSTEMS

MURCHIE JA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, P 9

*MAINTENANCE /GENERAL/ DECISION MAKING	REPORTING MANAGEMENT
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40 218568

SUMMARY OF PAPERS ON MAINTENANCE LEVELS

BRIGGS GM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, P 10

*MAINTENANCE /GENERAL/ STANDARDS INFORMATION	MAINTENANCE LEGAL RESPONSIBILITY RESEARCH
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40 218569

SUMMARY OF PAPERS ON IMPLEMENTING AND UTILIZING PERFORMANCE STANDARDS

MANN L

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, P 11

*MAINTENANCE /GENERAL/ STANDARDS HIGHWAY MAINTENANCE DECISIONS	PERFORMANCE PRODUCTION BUDGETING
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40 218570

SUMMARY OF PAPERS ON ORGANIZATIONAL STRUCTURE AND TRAINING

KARRER E

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 12-14

*MAINTENANCE /GENERAL/ COMMUNICATIONS MAINTENANCE PERSONNEL TRANSPORTATION SYSTEMS	ORGANIZATIONS HIGHWAY MAINTENANCE MANAGEMENT POLITICS
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40 218571

GENERAL SUMMARY REMARKS

CLARY AG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 15-17

*MAINTENANCE /GENERAL/ COMPUTERS MAINTENANCE BUDGETING DECISION MAKING PLANNING	MANAGEMENT DATA PROCESSING QUALITY RECORDS SCHEDULING
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AREA 40 MAINTENANCE, GENERAL

40 218572

INTRODUCTORY REMARKS-CHARGE TO PARTICIPANTS

PRAHL CG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 21-25

*MAINTENANCE /GENERAL/ MANAGEMENT PLANNING PERFORMANCE REPORTING	MAINTENANCE ORGANIZATIONS SCHEDULING CONTROL
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40 218573

INTRODUCTORY REMARKS-MANAGEMENT VIEWS MAINTENANCE FROM THE EXECUTIVE SUITE

NUSBAUM RF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 26-29

*MAINTENANCE /GENERAL/ MAINTENANCE PPB SYSTEMS SAFETY	MANAGEMENT COST ACCOUNTING ROADSIDE
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40 218574

INTRODUCTORY REMARKS-EXTERNAL INFLUENCES ON MANAGEMENT

BYRD LG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 30-35, 11 FIG, 11 REF

*MAINTENANCE /GENERAL/ POLLUTION HIGHWAY DESIGN INFORMATION SYSTEMS FUELS EQUIPMENT	MANAGEMENT INFLATION COMMUNICATIONS RESEARCH MATERIALS WEATHER FORECASTING
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40 218575

STATE OF KNOWLEDGE-A SITUATION REPORT ON MAINTENANCE MANAGEMENT

KILPATRICK MJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 36-41, 10 FIG

*MAINTENANCE /GENERAL/ MANAGEMENT REPORTING SCHEDULING	MAINTENANCE STATE OF THE ART STUDIES PLANNING FUND ALLOCATIONS
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40 218576

IMPLEMENTING A PERFORMANCE BUDGETING SYSTEM FOR MAINTENANCE MANAGEMENT

HELLAND HC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 42-49, 11 FIG

*MAINTENANCE /GENERAL/ MANAGEMENT STANDARDS SCHEDULING	MAINTENANCE PPB SYSTEMS REPORTING PERSONNEL
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AREA 40 MAINTENANCE, GENERAL

40 218577

MANAGEMENT UTILIZATION OF DATA PROCESSING SYSTEMS FOR
FIELD CONTROL

BIELFUSS CW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 53-61

*MAINTENANCE /GENERAL/ DATA PROCESSING FIELD OPERATIONS DATA CONVERTERS INFORMATION	MANAGEMENT FIELD CONTROL DECISION MAKING DATA TRANSMISSION
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40 218578

STATE OF WASHINGTON REPORTING SYSTEM

CORSEY VL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 62-70, 6 FIG

*MAINTENANCE /GENERAL/ TIME STANDARDS /WORK/ QUALITY CONTROL JOB ANALYSIS COMPUTERS PRINTOUT	REPORTING INVENTORIES SCHEDULING MAINTENANCE BUDGETING
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40 218579

PROBLEMS ENCOUNTERED IN IMPLEMENTING AND UTILIZING THE
STATE OF ILLINOIS REPORTING SYSTEM

BLOOD NR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 71-73

*MAINTENANCE /GENERAL/ MAINTENANCE BUDGETING COMPUTERS HARDWARE	REPORTING MANAGEMENT COST ACCOUNTING PERSONNEL
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40 218580

REPORT ON A FIVE-YEAR-CLO REPORTING SYSTEM

LEIGH CO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 74-79, 6 FIG

*MAINTENANCE /GENERAL/ REPORTING EQUIPMENT MANAGEMENT	MAINTENANCE COST ACCOUNTING MATERIALS DOCUMENTS
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40 218581

HIGHWAY MAINTENANCE MANAGEMENT IN ONTARIO: A PROGRESS
REPORTMENDOLIC F
HICKEY TAHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 80-99, 17 FIG, 2 TAB

*MAINTENANCE /GENERAL/ MANAGEMENT PLANNING COSTS ORGANIZING COLD WEATHER OPERATIONS	HIGHWAY MAINTENANCE SYSTEMS ANALYSIS OUTPUT MAINTENANCE OPERATIONS COMPUTERS FLOW CHARTING
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AREA 40 MAINTENANCE, GENERAL

40 218582

ECONOMICS OF MAINTENANCE LEVELS

FORBES CE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 103-107, 6 FIG, 1 TAB

*MAINTENANCE /GENERAL/ MAINTENANCE CLIMATIC CONDITIONS TERRAIN GEOGRAPHY LEVEL OF SERVICE	ECONOMICS CRITERIA TRAFFIC DENSITY PAVEMENTS QUALITY
--	--

40 218583

ORGANIZING AND DIRECTING A STANDARDS PANEL

PLETAN RA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 108-112

*MAINTENANCE /GENERAL/ MAINTENANCE COMMUNICATIONS	MAINTENANCE STANDARDS MANAGEMENT COMMITTEES
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40 218584

STATISTICAL APPROACH TO ESTABLISHMENT OF MAINTENANCE
LEVELSRUSS MA
MILLER ELHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 115-123, 5 FIG

*MAINTENANCE /GENERAL/ STATISTICAL METHODS LEVEL OF SERVICE MAINTENANCE COSTS SAFETY AESTHETICS	STATISTICAL SAMPLING MAINTENANCE LINEAR REGRESSION QUALITY RIDING QUALITY PHYSICAL FACTORS
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40 218585

THE LEGAL RESPONSIBILITIES OF MAINTENANCE OPERATIVES IN THE
LIABILITY SECTOR

OLIVER DC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 124-134

*MAINTENANCE /GENERAL/ LEGAL RESPONSIBILITY LIABILITIES OBSTRUCTION STATUTE CASES WARNING SIGNS SAFETY MEASURES TRAFFIC MARKINGS	*LEGAL STUDIES MAINTENANCE OPERATIONS HIGHWAY MAINTENANCE STOP SIGNS LAWS TRAFFIC SIGNALS LIGHTING
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AREA 40 MAINTENANCE, GENERAL

40 218586

ASSESSMENT OF PRODUCTIVITY IN HIGHWAY MAINTENANCE

WINGATE PJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 137-143, 1 TAB, 2 REF

*MAINTENANCE /GENERAL/ ASSESSMENTS PERSONNEL FINANCIAL SOURCES STANDARDS	PRODUCTION HIGHWAY MAINTENANCE CONTROL SYSTEMS PERFORMANCE
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40 218587

PERFORMANCE STANDARDS AS A TOOL IN PREPARING THE MAINTENANCE PROGRAM BUDGET

KATZ JS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 144-148, 1 TAB

*MAINTENANCE /GENERAL/ STANDARDS BUDGETING PROJECTIONS QUANTITY	PERFORMANCE MAINTENANCE COSTS QUALITY PRODUCTION
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40 218588

KEY ELEMENTS AND DECISIONS IN PERFORMANCE BUDGETING FOR HIGHWAY MAINTENANCE

JORGENSEN RE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 149-155, 6 FIG

*MAINTENANCE /GENERAL/ DECISION MAKING HIGHWAY MAINTENANCE PLANNING MANAGEMENT	DECISIONS BUDGETING PERFORMANCE SCHEDULING
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40 218589

STAFFING OPTIONS FOR MAINTENANCE

SMALLEY SP

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 156-163, 6 FIG, 5 TAB

*MAINTENANCE /GENERAL/ MAINTENANCE WORK MEASUREMENT HIGHWAY CLASSIFICATION LEVEL OF SERVICE	PERSONNEL WORK STANDARDS CHARACTERISTICS
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AREA 40 MAINTENANCE, GENERAL

40 218590

INCENTIVES FOR MAINTENANCE LABOR: EXPERIENCE WITH WORK-STUDY-BASED INCENTIVE BONUS SCHEMES INSTALLED BY HIGHWAY DEPARTMENTS IN THE UNITED KINGDOM

COX BE
KYSER JO
MANN LDISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 164-179, 8 FIG

*MAINTENANCE /GENERAL/ HIGHWAY DEPARTMENTS WORK COMPUTATIONS PAYMENT BENEFIT COST ANALYSIS	INCENTIVES MAINTENANCE BONUSES PERFORMANCE CRITERIA
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40 218591

IMPACT OF COMMUNICATIONS OF HIERARCHICAL ORGANIZATIONAL STRUCTURES

OIEHL CE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 183-185,

*MAINTENANCE /GENERAL/ HIGHWAY DEPARTMENTS MANAGEMENT IMPACT PROGRAMS	COMMUNICATIONS ORGANIZATIONS INFORMATION SYSTEMS COORDINATION FUND ALLOCATIONS
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40 218592

STATUS REPORT ON THE LOUISIANA MAINTENANCE MANAGEMENT SYSTEM

CRAWFORD FE
RAY GHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 186-199, 5 FIG, 2 TAB, APP

*MAINTENANCE /GENERAL/ MANAGEMENT BUDGETING COMPUTER APPLICATIONS EFFICIENCY MAINTENANCE OPERATIONS	MAINTENANCE PERFORMANCE PERSONNEL MAINTENANCE COSTS MAINTENANCE EQUIPMENT
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40 218593

MAINTENANCE AND WISCONSIN'S NEW DEPARTMENT OF TRANSPORTATION

BUGLASS WJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 200-204, 2 FIG

*MAINTENANCE /GENERAL/ DEPARTMENT OF TRANSPORTATION ORGANIZATIONS	HIGHWAY DEPARTMENTS
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AREA 40 MAINTENANCE, GENERAL

40 218594

REORGANIZATION FROM PATROL TO GANG - TYPE MAINTENANCE

KEHL EJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 205-208, 2 FIG

*MAINTENANCE /GENERAL/ MAINTENANCE MATHEMATICAL MODELS EQUIPMENT PLANNING	ORGANIZATIONS TEAM PERSONNEL FLEXIBILITY SCHEDULING
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40 218595

REORGANIZATION TO CREW SPECIALIZATION IN PENNSYLVANIA

O'BRIEN LG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 209-216, 12 FIG, 1 TAB

*MAINTENANCE /GENERAL/ PERSONNEL PRODUCTION MAINTENANCE PLANNING	ORGANIZATIONS EQUIPMENT QUALITY CREW SPECIALIZATION SCHEDULING
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40 218596

A PLANNED TRAINING PROGRAM FOR MAINTENANCE AND EQUIPMENT PERSONNEL

EDSON CT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 217-227, 4 FIG, 1 TAB

*MAINTENANCE /GENERAL/ MAINTENANCE PERSONNEL ADMINISTRATION PERSONNEL	PERSONNEL TRAINING EQUIPMENT MANAGEMENT MATERIALS
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40 218597

A LOOK TO THE FUTURE

SCHEER HO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 347, PP 228-229

*MAINTENANCE /GENERAL/ FORECASTS	MAINTENANCE
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40 221140

MINNESOTA HIGHWAY MAINTENANCE COSTS: A STUDY OF FINANCIAL REQUIREMENTS THROUGH 1986

TESSMAN GF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 359, PP 1-8, 8 FIG, 2 TAB

*MAINTENANCE /GENERAL/ MAINTENANCE COSTS REVIEWS COST DATA	HIGHWAY MAINTENANCE FINANCIAL REQUIREMENTS HIGHWAY PLANNING
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AREA 40 MAINTENANCE, GENERAL

40 221141

PLANNING AIRPORT SNOW AND ICE REMOVAL USING OPERATIONS RESEARCH TECHNIQUES

TIGHE D
WEBBER GBHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 359, PP 9-15, 7 FIG, 1 TAB

*MAINTENANCE /GENERAL/ SNOW REMOVAL QUANTITATIVE ANALYSIS SYSTEMS ENGINEERING	AIRPORTS COSTS OPERATIONS RESEARCH
--	--

40 221142

SOME USES OF THE STUDENT T AND CHI-SQUARE TESTS IN MAINTENANCE COST CALCULATIONS

BETZ MJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 359, PP 16-25, 2 FIG, 2 TAB, 11 REF

*MAINTENANCE /GENERAL/ MAINTENANCE COSTS T TEST	HIGHWAY MAINTENANCE CHI SQUARE TEST STATISTICAL SAMPLING
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40 221143

REGRESSION AND CORRELATION METHODS IN HIGHWAY MAINTENANCE OPERATIONS

BUTLER BC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 359, PP 26-36, 12 FIG, 3 TAB, 8 REF

*MAINTENANCE /GENERAL/ REGRESSION ANALYSIS	HIGHWAY MAINTENANCE CORRELATIONS
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40 221144

A SIMULTANEOUS EQUATION ECONOMETRIC MODEL OF WINTER MAINTENANCE COST CATEGORIES

DUNLAY WJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 359, PP 37-48, 3 FIG, 6 TAB, 14 REF

*MAINTENANCE /GENERAL/ ECONOMETRIC MODEL SNOW & ICE CONTROL	SIMULTANEOUS EQUATIONS MODELS MAINTENANCE COSTS
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40 221145

HIGHWAY SHADE TREE MAINTENANCE

BARTLETT RA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 359, P 49

*MAINTENANCE /GENERAL/ TREES /PLANTS/ MAINTENANCE	ROADSIDE DEVELOPMENT ECOLOGY
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AREA 40 MAINTENANCE, GENERAL

40 221393

SNOW REMOVAL AND ICE CONTROL TECHNIQUES AT INTERCHANGES

HIGHWAY RESEARCH BOARD NCHRP REPORTS 71
REPT NO 127, 61 PP, FIGS, TABS, PHOTS, REFS, 10 APP

*MAINTENANCE /GENERAL/ INTERCHANGE AREA MAINTENANCE OPERATIONS GEOMETRIC DESIGN	SNOW & ICE CONTROL SNOW REMOVAL SNOWMELT DRAINAGE
--	--

40 222638

HISTORY OF ANTI-SKID PROGRAM MANAGEMENT IN THE UNITED STATES

MOYER RA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 1-4, 4 REF

*MAINTENANCE /GENERAL/ STUDDER TIRES SAFETY MEASURES STANDARDS PAVEMENT SKIDDING CHARACTERISTICS COEFFICIENT OF FRICTION	SKID RESISTANCE MAINTENANCE ADMINISTRATION PROGRAMS HIGH ACCIDENT LOCATIONS
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40 222639

SUMMARY OF WORKSHOP ON ANTI-SKID PROGRAM MANAGEMENT

MARSH BW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 5-6

*MAINTENANCE /GENERAL/ PAVEMENT SKIDDING CHARACTERISTICS PROGRAMS DRIVER CHARACTERISTICS	RECOMMENDATIONS MANAGEMENT STANDARDS
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40 222640

PROBLEMS ASSOCIATED WITH ANTI-SKID PROGRAM MANAGEMENT

WHITEHURST EA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 7-13, 16 REF

*MAINTENANCE /GENERAL/ PROGRAMS MANAGEMENT PAVEMENT MAINTENANCE PAVEMENT SKIDDING CHARACTERISTICS COEFFICIENT OF FRICTION VEHICLE SKIDDING CHARACTERISTICS	SKID RESISTANCE SKID RESISTANCE TESTING STUDDER TIRES HIGHWAY SAFETY
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40 222651

SPRAY GRIP ANTI-SKID SURFACING MATERIALS

MACKENZIE AJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 61-62

*MAINTENANCE /GENERAL/ SURFACING SAFETY MEASURES DESICKING	BAUXITE SKID RESISTANCE BITUMINOUS MATERIALS HIGHWAY IMPROVEMENTS
---	--

AREA 40 MAINTENANCE, GENERAL

40 222653

STATUS OF SKID MANAGEMENT PROGRAM IN TEXAS

NIXON JF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, P 65

*MAINTENANCE /GENERAL/ SKID RESISTANCE HIGHWAY IMPROVEMENTS	MAINTENANCE ADMINISTRATION PROGRAMS SKIDDING
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40 223775

PROBLEM OF BLOWING SNOW IN WYOMING UNDER ATTACK BY HIGHWAY DEPARTMENT

HIGHWAY RESEARCH NEWS, HWY RES BOARD 72
NO 47 PP 52-6
4 PHOT

*MAINTENANCE /GENERAL/ SNOW SNOWDRIFTS FORECASTING	SNOW FENCE SNOW & ICE CONTROL BLOWING DESIGN
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40 223901

MAINTENANCE MANAGEMENT IN OREGON

EDWARDS T

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
SPECIAL REPORT 128 PP 100-2

*MAINTENANCE /GENERAL/ BUDGETING ACCOUNTING	MAINTENANCE ADMINISTRATION RESOURCE ALLOCATION
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40 224618

PREDICTING MAINTENANCE COST FOR USE IN TRADE-OFF ANALYSES

ALEXANDER JA
MOAVENZADEH FHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
51ST ANNUAL MEETING
NO 391 PP 1-9
4 FIG 2 TAB 7 REF

*MAINTENANCE /GENERAL/ LIFE CYCLE PLANNING HIGHWAY MAINTENANCE PREDICTIONS COMPUTER SIMULATION MODELS	SYSTEMS ANALYSIS HIGHWAY PLANNING MAINTENANCE COSTS PROJECTIONS
---	--

AREA 40 MAINTENANCE, GENERAL

40 224619

ANALYSIS OF SOLID-WASTE SYSTEMS IN A RURAL SETTING, WITH
DISCUSSION AND CLOSUREKIRBY MM
HIRSCH E
CRAKE WB
RIEBE CFDISCUSSE
DISCUSSEHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
51ST ANNUAL MEETING

NO 391 PP 10-6 7 REF

*MAINTENANCE /GENERAL/
SOLID WASTE
LAND FILL
LINEAR PROGRAMMING
FORESTS
MAINTENANCE OPERATIONS
CAMPING
MATHEMATICAL MODELSSOLID WASTE DISPCAL
WASTE DISPOSAL
COMPACTION
SCHEDULING
NATIONAL FORESTS
SEASONAL VARIATIONS
MAINTENANCE COSTS

40 224620

MAINTENANCE STATION LOCATION THROUGH OPERATIONS RESEARCH AT
THE WYOMING STATE HIGHWAY DEPARTMENTHAYMAN RM
HOWARD CAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
51ST ANNUAL MEETINGNO 391 PP 17-30
1 FIG 3 TAB 4 REF*MAINTENANCE /GENERAL/
SANDING
HIGHWAY MAINTENANCE
MATHEMATICAL MODELS
LINEAR PROGRAMMING
COMPUTER PROGRAMSSNOW REMOVAL
MAINTENANCE OPERATIONS
STATIONS
LOCATING
OPERATIONS RESEARCH

40 224621

THE USE OF SYSTEMS LOGIC IN PLANNING MAINTENANCE PROGRAMS
(ABRIDGEMENT)

PATTERSON OE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
51ST ANNUAL MEETING

NO 391 P 31

*MAINTENANCE /GENERAL/
HIGHWAY MAINTENANCE

SYSTEMS ANALYSIS

40 224623

EQUIPMENT MANAGEMENT IN NEW YORK STATE

MORRIS AI

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
51ST ANNUAL MEETINGNO 391 PP 34-47
10 FIG*MAINTENANCE /GENERAL/
MANAGEMENT
SYSTEMS
MAINTENANCE ADMINISTRATIONMAINTENANCE EQUIPMENT
EQUIPMENT MAINTENANCE
REPORTING

AREA 40 MAINTENANCE, GENERAL

40 224624

REPAIR SHOPS WORK REPORTING PROCEDURE

OELP L

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
51ST ANNUAL MEETING

NO 391 PP 48-50

APP

*MAINTENANCE /GENERAL/
MOTOR VEHICLES
COMPUTER APPLICATIONS
MAINTENANCE ADMINISTRATIONMAINTENANCE
REPAIR SHOPS
MANAGEMENT

40 226114

REPAIR OF SPALLING BRIDGE DECKS

KLIETHERMES JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 83-92
5 FIG 5 REF*MAINTENANCE /GENERAL/
CONCRETE BRIDGE DECKS
REPAIRS
REINFORCING STEEL
DETECTORS
CLASSIFICATION
MAINTENANCEBRIDGE DECKS
SPALLING
PATCHING
CORROSION
NONDESTRUCTIVE TESTING
SCHEDULING
RECONSTRUCTION

40 226115

CONCRETE OVERLAYS FOR BRIDGE DECK REPAIR

FURR H
INGRAM LHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 400 PP 93-104
4 FIG 6 TAB 12 REF*MAINTENANCE /GENERAL/
BRIDGE DECKS
REPAIRS
RESINOUS CONCRETES
CONCRETES
BOND
LOADING TESTSOVERLAY COURSE
CONCRETE BRIDGE DECKS
PORTLAND CEMENT CONCRETES
RESIN CEMENTS
SHEAR STRENGTH
FREEZE THAW TESTS

40 226900

PERFORMANCE BUDGETING SYSTEM FOR HIGHWAY MAINTENANCE
MANAGEMENTHIGHWAY RESEARCH BOARD NCHRP REPORTS 72
NO 131 213 PP
FIGS TABS 154 REF*MAINTENANCE /GENERAL/
MAINTENANCE COSTS
BUDGETING
EVALUATIONHIGHWAY MAINTENANCE
MAINTENANCE ADMINISTRATION
MODELS

AREA 40 MAINTENANCE, GENERAL

40 228026

PAVEMENT REHABILITATION - MATERIALS AND TECHNIQUES

HRB NCHRP SYNTHESIS OF HWY PRACTICE 72
 NO 9 41 PP
 APP 35 FIG 7 TAB 68 REF

*MAINTENANCE /GENERAL/ REHABILITATION OVERLAY COURSE CONCRETES ASPHALT PAVEMENTS REFLECTION CRACKING COSTS	PAVEMENTS PAVEMENT DISTRESS CONCRETE PAVEMENTS ASPHALTIC CONCRETE COMPOSITE PAVEMENTS MAINTENANCE
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40 228205

SOLVING A ROCKFALL PROBLEM IN NEVADA COUNTY, CALIFORNIA

MEARNS R

HIGHWAY RESEARCH NEWS, HWY RES BOARD 72
 NO 49 PP 14-7
 9 FIG 1 TAB

*MAINTENANCE /GENERAL/ SLOPES - ROCKFALLS	CUT SLOPES TRENCHES
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40 228583

PROGRESS REPORT OF HRB-AASHO JOINT COMMITTEE ON MAINTENANCE AND OPERATIONS PERSONNEL

HIGHWAY RES CIRCULAR, HWY RES BOARD DEC72
 NO 140 27 PP
 TABS

*MAINTENANCE /GENERAL/ MAINTENANCE PERSONNEL SALARIES SALARY WAGE PRACTICES COMPARISONS	*PERSONNEL MANAGEMENT PERSONNEL MANAGEMENT POLICY HISTORY
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AREA 41 CONSTRUCTION AND MAINTENANCE EQUIPMENT

41 205350

THE ROLE OF EQUIPMENT IN MAINTENANCE OPERATIONS

CLARY AG

HIGHWAY RESEARCH NEWS, HWY RES BOARD 69
 NO 35, PP 44-58, 7 FIG, 23 REF

*CONSTRUCTION AND MAINTENANCE EQUIPMENT MAINTENANCE EQUIPMENT RESEARCH COSTS MOWERS TRAFFIC MARKING EQUIPMENT SNOWPLOW BLADES PAVEMENT MAINTENANCE TESTING EQUIPMENT LITTER	HIGHWAY MAINTENANCE MOWING TIME AND MOTION STUDIES RADIO CONTRL REFLECTIVE BEADS RUBBER SNOW & ICE CONTROL SURFACE TREATMENTS PREVENTIVE MAINTENANCE
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AREA 41 CONSTRUCTION AND MAINTENANCE EQUIPMENT

41 206362

HIGHWAY CONSTRUCTION EQUIPMENT NOISE HAZARDS

BOTSFORD JH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 278, PP 1-5, 2 FIG, 1 TAB

*CONSTRUCTION AND MAINTENANCE EQUIPMENT *ROAD USER CHARACTERISTICS CONSTRUCTION EQUIPMENT DIESEL ENGINES HEARING LOSS ENGINE NOISE	HIGHWAY CONSTRUCTION NOISE /SOUND/ PERSONNEL OCCUPATIONAL DISEASES
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41 206363

SOUND REDUCTION OF EARTH-MOVING MACHINERY

GROENING JA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 278, PP 6-11, 12 FIG

*CONSTRUCTION AND MAINTENANCE EQUIPMENT EARTH HANDLING EQUIPMENT NOISE /SOUND/ ENGINE NOISE FANS TURBOCHARGING CONSTRUCTION EQUIPMENT	EXHAUST COOLERS COMBUSTION DIESEL ENGINES MUFFLERS NOISE CONTROL
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41 206364

BIBLIOGRAPHY ON AIR POLLUTION

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 278, PP 12-14, 59 REF

*CONSTRUCTION AND MAINTENANCE EQUIPMENT *CONSTRUCTION AIR POLLUTION HOT PLANT LAWS	BIBLIOGRAPHIES CONSTRUCTION OPERATIONS CRUSHERS AIR POLLUTION CONTROL
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41 206365

PURCHASING EQUIPMENT FOR PUBLIC WORKS ON TOTAL COST BID AND DISCUSSION

HUGHART WM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 278, PP 15-21, 1 FIG, 5 TAB

*CONSTRUCTION AND MAINTENANCE EQUIPMENT *TRANSPORTATION ECONOMICS EQUIPMENT COST COMPETITIVE BIDDING TOTAL COST BIDDING REPAIRS BUDGETING	MAINTENANCE EQUIPMENT PURCHASING EQUIPMENT MAINTENANCE GUARANTY DEPRECIATION PLANNING
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AREA 41 CONSTRUCTION AND MAINTENANCE EQUIPMENT

41 206367

INFORMATION NEEDS FOR CONTROLLING EQUIPMENT COSTS

COX EA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 278, PP 35-48, 13 FIG, 2 TAB

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	EQUIPMENT COST
*CONSTRUCTION MANAGEMENT.	CONSTRUCTION EQUIPMENT
EQUIPMENT MAINTENANCE	EQUIPMENT REPLACEMENT
FINANCING	SCHEDULING
PURCHASING	INFORMATION SYSTEMS
ELECTRONIC DATA PROCESSING	

41 206368

AVERAGE PRODUCTION RATES FOR MAJOR EQUIPMENT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 278, PP 49-50, 2 TAB

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	CONSTRUCTION EQUIPMENT
*CONSTRUCTION HIGHWAY CONSTRUCTION	PRODUCTION WORK
RATE	DELAY TIME
TIME	
WEATHER	

41 213972

AUTOMATIC CONTROLS ON CONSTRUCTION EQUIPMENT: STATE OF THE ART

BOWER LC
GERHARDT BBHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 1-14, 12 FIG, 2 TAB, 7 REF, 1 APP

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	CONSTRUCTION EQUIPMENT
AUTOMATIC CONTROL	STATE HIGHWAYS
ELECTRONIC DEVICES	PERSONNEL TRAINING
PAVING EQUIPMENT	

41 213974

SOME RECENT DEVELOPMENTS IN EQUIPMENT APPLIED TO PUBLIC WORKS PROJECTS

LEE OA
DOUGLAS J

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 33-46, 4 FIG, 13 TAB, 6 REF

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	PUBLIC WORKS
EARTHMOVING	COMPACTION EQUIPMENT
FRONT END LOADERS	
BLASTING	

41 213976

SCREENLESS PLANT OPERATION WITH COLD FEED CONTROL

FARRELL JL
WRIGHT WHHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 63-69, 5 FIG, 5 TAB, 1 REF

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	PROPORTIONING
COLD PLANT	AUTOMATION
BITUMINOUS MIXTURES	SCREENING
BATCHING	
AGGREGATE BLENDING	

AREA 41 CONSTRUCTION AND MAINTENANCE EQUIPMENT

41 213978

THE EFFECT OF PAVEMENT SPEED ON ROLLER REQUIREMENTS

FOSTER CR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 316, PP 76-81, 5 FIG, 6 REF

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	SPEED
ROLLERS	DENSITY
THICKNESS	PAVING EQUIPMENT
BREAKDOWN	

41 214577

A SHORT HISTORY OF MAN'S ATTEMPTS TO MOVE THROUGH SNOW

MINSK LD

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 1-7, 5 PHOT, 14 REF

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	RAILROADS
SNOW REMOVAL	FEDERAL AID
CITIES	SALT /SODIUM CHLORIDE/
SNOWPLOWS	
SANDS	

41 214597

PRINCIPALS OF SNOW REMOVAL AND SNOW-REMOVAL MACHINES

GROCE K
CLARY AG
MINSK LDDISCUSSER
DISCUSSERHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 231-240, 7 FIG, 1 TAB, 3 PHOT

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	MACHINES
SNOW REMOVAL	AIRPORTS
HIGHWAYS	

41 214598

SNOW-REMOVING PERFORMANCE OF THE SNOWPLOW TRUCK

TANAKA Y

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 241-250, 7 FIG, 3 TAB

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	PERFORMANCE
SNOW REMOVAL	TRUCKS
SNOWPLOWS	RESISTANCE
SPEED	
SNOW	

41 214599

PLOW CLEAN WITHOUT SCRAPING

POSEY CJ
VOLZ ME
MINSK O
CLARY AGDISCUSSER
DISCUSSER
DISCUSSERHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 251-256, 1 FIG, 1 TAB, 3 PHOT

*CONSTRUCTION AND MAINTENANCE EQUIPMENT	TRUCKS
SNOWPLOWS	SCRAPING
SNOW REMOVAL	PAVEMENTS
TURBOCOMPRESSORS	

AREA 41 CONSTRUCTION AND MAINTENANCE EQUIPMENT

41 214600

ENGINEERING STUDIES FOR SNOW REMOVAL

BAIN EC
 RICHARDSON DL DISCUSSE
 SCHAEERER PA DISCUSSE
 MINSK D DISCUSSE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 NO 115, PP 257-262, 2 FIG

*CONSTRUCTION AND MAINTENANCE EQUIPMENT
 ENGINEERING SNOW REMOVAL
 EQUIPMENT SNOWPLOWS
 SNOWTHROWING VEHICULAR PHASE
 DESIGN SNOW
 SAFETY FEATURES

41 215695

KANSAS EQUIPMENT DEVELOPMENT PROGRAM

DELP L

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 331, PP 16-22, 3 FIG

*CONSTRUCTION AND MAINTENANCE EQUIPMENT
 HIGHWAY MAINTENANCE MECHANIZATION
 EQUIPMENT EQUIPMENT MAINTENANCE
 SAFETY FEATURES

41 215696

TOTAL COST PURCHASING APPLIED TO STATE HEAVY EQUIPMENT PROCUREMENT

DOOM IF
 EDWARDS R E DISCUSSE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 331, PP 23-40, 1 FIG, 13 TAB

*CONSTRUCTION AND MAINTENANCE EQUIPMENT
 BULLDOZERS LOADERS
 GRADERS EQUIPMENT
 PURCHASING METHODS
 PROGRAMS IMPROVEMENT
 LEAST OVERALL COST SUPPLIERS
 EQUIPMENT COST BIDS

41 215756

ROADSIDE COVER EQUIPMENT

BUTLER BJ
 NAVE WR
 YOERGER RR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
 NO 335, PP 60-71, 5 FIG, 18 PHOT, 16 REF

*CONSTRUCTION AND MAINTENANCE EQUIPMENT
 *MAINTENANCE /GENERAL/ DESIGN INFORMATION
 EQUIPMENT MAINTENANCE EQUIPMENT COST
 INTERSTATE HIGHWAY SYSTEM RIGHT-OF-WAY
 ROADSIDE DEVELOPMENT ROADSIDE IMPROVEMENT
 ROADSIDE COVER
 HIGHWAYS SLOPES
 METHODS PRODUCTION
 EQUIPMENT

AREA 41 CONSTRUCTION AND MAINTENANCE EQUIPMENT

41 221146

THE USE OF ARTICULATED WHEEL LOADERS IN SNOW REMOVAL

YOUNG TK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
 NO 359, PP 50-53, 4 FIG

*CONSTRUCTION AND MAINTENANCE EQUIPMENT
 WHEEL LOADER SNOW REMOVAL
 SNOWPLOWS

41 221147

RUBBER SNOWPLOW BLADES AND LIGHTWEIGHT SNOWPLOWS USED FOR THE PROTECTION OF RAISED LANE MARKERS

ANDERSON OR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
 NO 359, PP 54-63, 8 FIG, 7 TAB, 3 REF

*CONSTRUCTION AND MAINTENANCE EQUIPMENT
 SNOWPLOWS RUBBER
 BLADES TRAFFIC MARKINGS

AREA 51 HIGHWAY SAFETY

51 205274

CONCEPTS AND DESIGN RECOMMENDATIONS FOR SAFER LUMINAIRE SUPPORTS

EDWARDS TC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 259, PP 1-2, 1 TAB

*HIGHWAY SAFETY SURVEYS /DATA COLLECTION/
 LUMINAIRES *HIGHWAY DESIGN
 SHEAR CONNECTORS BREAKAWAY SUPPORTS
 FLANGES ALUMINUM
 BASES CAST ALUMINUM ALLOYS
 IMPACT TESTS FULL SCALE SPECIMENS
 COLLISION TESTS MATHEMATICAL MODELS
 STATIC LOADS WIND LOADS
 HIGHWAY LIGHTING FRACTURES

51 205275

PARAMETER STUDY OF THE DYNAMIC RESPONSE OF LUMINAIRE SUPPORT STRUCTURES

MARTINEZ JE
 MORGAN BE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 259, PP 3-5, 3 REF

*HIGHWAY SAFETY FULL SCALE SPECIMENS
 MODEL TESTS MATHEMATICAL MODELS
 SUPPORTS COLLISION TESTS
 VELOCITY LUMINAIRES
 POSTS IMPACT
 DYNAMIC RESPONSE SLIPS
 HIGHWAY LIGHTING APPROACH ANGLE
 VEHICLES

AREA 51 HIGHWAY SAFETY

51 205276

DYNAMIC TESTS OF FIVE BREAKAWAY LIGHTING STANDARD BASE DESIGNS

NORDLIN EF
AMES WH
FIELO RN

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 259, PP 6-23, 10 FIG, 6 REF

*HIGHWAY SAFETY HEAD ON COLLISIONS LUMINAIRES ALUMINUM SLIPS IMPACT VEHICLES	COLLISION TESTS BREAKAWAY SUPPORTS DYNAMIC TESTS STEELS BASES IMPACT STRENGTH HIGHWAY LIGHTING
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51 206106

THE DIAGNOSTIC TEAM APPROACH TO RAIL-HIGHWAY GRADE CROSSING SAFETY EVALUATION

RICHARDS HA
ROWAN NJ
KANAK EW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 272, PP 1-13, 3 FIG, 2 TAB, 2 REF

*HIGHWAY SAFETY RAILROAD GRADE CROSSINGS EVALUATION GUIDELINES PROTECTION	GRADE CROSSINGS /HIGHWAYS/ SAFETY SAFETY PRACTICES DIAGNOSIS
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51 206107

EVALUATION OF RAIL-HIGHWAY GRADE CROSSINGS PROTECTION IN RURAL AREAS

SCHULTZ TG
BERG WD
GPPENLANDER JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 272, PP 14-23, 1 FIG, 2 TAB, 12 REF

*HIGHWAY SAFETY GRADE CROSSINGS /HIGHWAYS/ PROTECTION ACCIDENT PREVENTION REGRESSION ANALYSIS TRAFFIC FLOW PATTERN PAVEMENT WIDTH	RURAL AREAS RAILROAD GRADE CROSSINGS EVALUATION BEFORE AND AFTER STUDIES MATHEMATICAL MODELS AVERAGE DAILY TRAFFIC HAZARDS
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51 206108

TIRE DISABLEMENTS AND ACCIDENTS ON HIGH-SPEED ROADS

BAKER JS
MCILRAITH GD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 272, PP 24-38, 13 FIG, 3 TAB, 4 REF

*HIGHWAY SAFETY TRAFFIC ACCIDENT ANALYSES AUTOMOBILE TIRES SPEED AUTOMOBILES TRAVEL TIME LOADS TREADS DRIVERS /VEHICLE/ SEX	TOLL ROADS TRAFFIC ACCIDENT REPORTING DISABLED VEHICLES VEHICLE MILES TEMPERATURE CONDITION SURVEY PRESSURE GROOVES AGE
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AREA 51 HIGHWAY SAFETY

51 206109

THE NODAL METHOD OF COLLISION LOCATION

SEGAL MD
MALLAR RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 272, PP 39-49, 2 FIG, 4 TAB

*HIGHWAY SAFETY HIGH ACCIDENT LOCATIONS HIGHWAY PLANNING FEDERAL AID HIGHWAYS SYSTEMS HIGHWAY SAFETY	TRAFFIC ACCIDENTS LOCATIONS ROADNET STATE HIGHWAYS ECONOMICS
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51 206110

PENNSYLVANIA'S HELICOPTER AMBULANCE STUDY

COLEMAN RR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 272, PP 50-64, 11 FIG, 4 REF

*HIGHWAY SAFETY EMERGENCY VEHICLES TRAFFIC ACCIDENTS FIRST AID TRAFFIC SURVEILLANCE INJURIES	HELICOPTERS MEDICAL SERVICES TRAFFIC CONGESTION POLICE TRAVEL TIME
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51 206190

DEVELOPMENT OF IMPROVED METHODS FOR REDUCTION OF TRAFFIC ACCIDENTS

HIGHWAY RESEARCH BOARD NCHRP DIGEST JUN69
NO. 7, PROV. 17-1, 2 PP.

*HIGHWAY SAFETY TRAFFIC ACCIDENTS TRAFFIC ACCIDENT ANALYSES DATA SAMPLING DATA STORAGE HIGHWAY SAFETY HIGHWAY COSTS TRAFFIC LAW ENFORCEMENT DRIVER TRAINING	ACCIDENT PREVENTION TRAFFIC ACCIDENT REPORTING LOCATIONS DATA ACQUISITION ACCIDENT INVESTIGATION HIGHWAY PROGRAMMING TRAFFIC ENGINEERING VEHICLE INSPECTION
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51 206271

DYNAMIC EVALUATION OF AUTOMOBILE REAR LIGHTING CONFIGURATIONS

MORTIMER RG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 275, PP 12-22, 5 FIG, 2 TAB, 8 REF

*HIGHWAY SAFETY TAILLIGHTS COLOR NUMBERS NIGHT REACTION TIME STOPPING DRIVER REACTION	AUTOMOBILES CODING FUNCTIONS TESTING CAR FOLLOWING TURNING MOVEMENTS DRIVER PERFORMANCE TURN
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AREA 51 HIGHWAY SAFETY

51 206272

DAYTIME RUNNING LIGHTS

KING LE
FINCH DMHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 275, PP 23-31, 6 FIG, 4 TAB, 3 REF

*HIGHWAY SAFETY ACCIDENT RATES RUNNING LIGHTS VISIBILITY LUMINOUS INTENSITY	MOTOR VEHICLES DAYLIGHT VEHICLE LIGHTING BRIGHTNESS
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51 206273

BRIGHTNESS AND BRIGHTNESS RATIO AS FACTORS IN THE ATTENTION
VALUE OF HIGHWAY SIGNS

PAIN R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 275, PP 32-40, 6 FIG, 13 REF

*HIGHWAY SAFETY BRIGHTNESS MODELS	HIGHWAY SIGNS ATTENTION VALUE
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51 209404

DEVELOPMENT OF IMPROVED METHODS FOR REDUCTION OF TRAFFIC
ACCIDENTSGARRETT JW
THARP KJHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 79, 161 PP, 42 FIG, 64 TAB, 4 APP

*HIGHWAY SAFETY TRAFFIC ACCIDENTS ACCIDENT PREVENTION FORMS VEHICLE INSPECTION SEX POLICE	STATE OF THE ART STUDIES ACCIDENT INVESTIGATION TRAFFIC ACCIDENT REPORTING AUTOMOBILE TIRES FATAL ACCIDENTS STATISTICAL ANALYSIS SPEED
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51 210706

A STATEWIDE HIGHWAY SAFETY PROGRAM

O'CONNELL RC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 107, PP 3-5

*HIGHWAY SAFETY STATE HIGHWAYS COUNTY ROADS GUIDELINES VEHICULAR SAFETY DRIVERS /VEHICLE/ SAFETY BELTS DRIVER TRAINING MOTOR VEHICLE ACCIDENTS	HIGHWAY SAFETY CITY STREETS SAFETY FEATURES STANDARDS PEDESTRIANS CONSTRAINTS WINDSHIELDS DRIVER IMPROVEMENT
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AREA 51 HIGHWAY SAFETY

51 210707

PUBLIC SAFETY RESPONSIVENESS TO, AND ON-SITE MANAGEMENT OF
HIGHWAY INCIDENTS

PAVLINSKI LA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP6-11, IREF

*HIGHWAY SAFETY STANDARDS HAZARDS REMOVAL PLANNING TRAFFIC CONGESTION	HIGHWAY SAFETY DEBRIS EMERGENCY SERVICES COMMUNICATIONS TRAFFIC DELAY
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51 210708

THE WRITTEN DRIVER-LICENSING EXAMINATION AS A TECHNIQUE IN
DRIVER SELECTIONCONLEY JA
HUFFMAN WJHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 15-33, 11 FIG, 7 TAB, 5 REF

*HIGHWAY SAFETY DRIVER LICENSING WRITING TRAFFIC LAWS QUESTIONNAIRES HIGHWAY SAFETY	DRIVER LICENSE EXAMINATION DRIVER SELECTION DRIVER VISION STANDARDS REGRESSION ANALYSIS
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51 210709

CURRENT RESEARCH IN DRIVER EDUCATION

TARRANTS WE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 34-40, 2 FIG, 9 REF

*HIGHWAY SAFETY ACCIDENT PREVENTION DRIVER PERFORMANCE BENEFIT COST ANALYSIS DRIVER TRAINING WITH SIMULATORS HIGHWAY SAFETY	DRIVER TRAINING ANALYSIS OF VARIANCE SYSTEMS ANALYSIS
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51 210724

ACCIDENT ANALYSIS BEFORE AND AFTER INSTALLATION OF EXPANDED
METAL GLARE SCREEN - ABRIDGEMENT

MUSICK JV

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, P 179

*HIGHWAY SAFETY METALS SCREENS HORIZONTAL CURVES HEADLIGHT GLARE ACCIDENT RATES NIGHT	TRAFFIC ACCIDENT ANALYSES GLARE BEFORE AND AFTER STUDIES INTERSTATE HIGHWAY SYSTEM ACCIDENT PREVENTION DAY
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AREA 51 HIGHWAY SAFETY

51 210726

A STUDY OF LATERAL SIGN PLACEMENT

OUGAN CE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, P 181

*HIGHWAY SAFETY	LATERAL PLACEMENT
HIGHWAY SIGNS	EXPRESSWAYS
TRAFFIC SIGN LEGIBILITY	TRAFFIC SIGN VISIBILITY
TRAFFIC SIGN DESIGN	

51 212148

SPACE TECHNOLOGY FOR AUTO-HIGHWAY SAFETY

KAPLAN MA
HENSEN RJ
FAY RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 306, PP 25-38, 6 FIG, 2 PHOT, 9 REF, 1 APP

*HIGHWAY SAFETY	ENERGY ABSORBERS
ENFRGY ABSORPTION	ATTENUATORS
GORE	HIGHWAYS
MODEL TESTS	

51 212149

DRAGNET VEHICLE ARRESTING SYSTEM

HAYES GG
HIRSCH TJ
IVEY DLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 306, PP 39-49, 3 FIG, 3 TAB, 7 PHOT, 2 REF, 1 APP

*HIGHWAY SAFETY	COLLISION TESTS
ARRESTING /PROCESS/	DRAG
STEELS	CABLES
DECELERATION	MOTOR VEHICLES
STOPPING DISTANCES	ENERGY ABSORBERS

51 213618

RELATIONSHIP OF RURAL HIGHWAY GEOMETRY TO ACCIDENT RATES IN LOUISIANA

DART OK
MANN LHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 1-16, 5 FIG, 3 TAB, 37 REF, 1 APP

*HIGHWAY SAFETY	RURAL HIGHWAYS
GEOMETRIC DESIGN	ACCIDENT RATES
TRAFFIC VOLUME	SHOULDERS
TRAFFIC LANES	WIDTHS
HORIZONTAL CURVATURE	VERTICAL CURVES
REGRESSION ANALYSIS	MATHEMATICAL MODELS
INJURIES	FATAL ACCIDENTS
DRY CONDITIONS	WET CONDITIONS
NIGHT	DAY

AREA 51 HIGHWAY SAFETY

51 213619

THE RELATIONSHIP OF ACCIDENTS TO LENGTH OF SPEED-CHANGE LANES AND WEAVING AREAS ON INTERSTATE HIGHWAYS

CIRILLO JA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 17-32, 8 FIG, 5 TAB, 4 REF

*HIGHWAY SAFETY	INTERSTATE HIGHWAY SYSTEM
DATA ACQUISITION	GEOMETRIC DESIGN
SPEED CHANGE LANES	WEAVING SECTIONS
ACCELERATION LANE	DECELERATION LANE
LENGTH	ACCIDENT RATES
TRAFFIC VOLUME	

51 213620

A SAFETY EVALUATION OF CURRENT DESIGN CRITERIA FOR STOPPING SIGHT DISTANCE

GLENNON JC
LCUTZENHEISER DW

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 33-54, 14 FIG, 10 TAB, 19 REF

*HIGHWAY SAFETY	AASHO ROAD TEST
DESIGN CRITERIA	STOPPING SIGHT DISTANCE
DRIVER REACTION	REACTION TIME
EYES	HEIGHT
VISUAL PERCEPTION	HIGHWAY SAFETY
REGRESSION ANALYSIS	MATHEMATICAL MODELS
INJURIES	FATAL ACCIDENTS
DRY CONDITIONS	WET CONDITIONS
NIGHT	DAY

51 213621

ACCIDENTS AT MEDIAN CROSSOVERS

GARNER GR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 55-63, 9 FIG, 3 TAB, 5 REF

*HIGHWAY SAFETY	MEDIAN OPENINGS
MEDIANS	CROSSINGS
CONTROLLED ACCESS HIGHWAYS	URBAN AREAS
INTERCHANGES	ACCIDENT RATES
TRAFFIC CONTROL	

51 213622

RELATIONSHIP BETWEEN CURVATURE AND ACCIDENT EXPERIENCE ON LOOP AND OUTER CONNECTION RAMPS

YATES JG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 64-75, 11 FIG, 6 TAB, 3 REF

*HIGHWAY SAFETY	INTERSTATE HIGHWAY SYSTEM
ACCIDENT RATES	FREWAY RAMPS
CURVATURE	AVERAGE DAILY TRAFFIC
TRAFFIC VOLUME	URBAN AREAS
FREWAY ENTRANCES AND EXITS	

AREA 51 HIGHWAY SAFETY

51 213623

VISIBILITY PROBLEMS IN CREST VERTICAL CURVES

LIVNEH M
PRASHKER J
UZAN JHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 76-84, 12 FIG, 2 TAB, 2 REF

*HIGHWAY SAFETY	VERTICAL CURVES
CREST	LENGTH
VISIBILITY	STOPPING SIGHT DISTANCE
PASSING SIGHT DISTANCE	UVEKTAKING
DESIGN SPEED	THEORETICAL ANALYSIS

51 213624

RELATIONSHIP BETWEEN LIGHTING AND ACCIDENT EXPERIENCE BETWEEN INTERCHANGES

YATES JG
BEATTY RLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 85-92, 12 FIG, 2 REF

*HIGHWAY SAFETY	INTERSTATE HIGHWAY SYSTEM
INTERCHANGES	HIGHWAY LIGHTING
AVERAGE DAILY TRAFFIC	ACCIDENT RATES
TRAFFIC VOLUME	VEHICLE MILES
INTENSITY	

51 213625

AN EVALUATION OF DESIGN CRITERIA FOR OPERATING TRUCKS SAFELY ON GRADES

GLENNON JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 93-112, 12 FIG, 7 TAB, 14 REF, 2 APP

*HIGHWAY SAFETY	TRUCKS
OPERATIONS	CLIMBING LANES
GRADES	WEIGHT
HORSEPOWER	SPEED
DESIGN CRITERIA	

51 214417

VISUAL REQUIREMENTS IN NIGHT DRIVING

ROCKWELL TH
ERNST RL
RULDN MJHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NCHRP REPORT 99, 38 PP, 36 FIG, 13 TAB, 20 REF, 1 APP

*HIGHWAY SAFETY	HIGHWAY LIGHTING
HIGHWAY DESIGN	DRIVER BEHAVIOR
DRIVER PERFORMANCE	DRIVER VISION
NIGHT VISION	NIGHT VISIBILITY
VISIBILITY	SPEED

AREA 51 HIGHWAY SAFETY

51 214928

ONTARIO FORBIDS USE OF STUDDED TIRES ON GROUNDS OF DANGER, PAVEMENT DAMAGE

HIGHWAY RESEARCH NEWS, HWY RES BOARD 70
NO 41, PP 45-46

*HIGHWAY SAFETY	STUDED TIRES
ICING	HIGHWAY COSTS
MAINTENANCE COSTS	HIGHWAY MAINTENANCE
COSTS	TRAFFIC MARKINGS
PAVEMENT DISTRESS	

51 214929

TRAFFIC SIGNALS AND OVERHEAD FLASHERS AT RURAL INTERSECTIONS: THEIR EFFECTIVENESS IN REDUCING ACCIDENTS

CRIBBINS PD
WALTON CMHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 325, PP 1-14, 11 FIG, 1 TAB, 2 REF

*HIGHWAY SAFETY	TRAFFIC SIGNALS
OVERHEAD TRAFFIC SIGNALS	FLASHING BEACON
INTERSECTIONS	RURAL HIGHWAYS
ACCIDENT PREVENTION	BEFORE AND AFTER STUDIES
PROPERTY DAMAGE	

51 215699

ACCIDENT EXPERIENCE WITH PARKING LIGHTS AS RUNNING LIGHTS

CANTILLI EJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 332, PP 1-13, 26 FIG, 2 TAB, 3 REF

*HIGHWAY SAFETY	RUNNING LIGHTS
PARKING LIGHTS	TAILLIGHTS
MOTOR VEHICLES	CONTROL GROUPS
ACCIDENT RATES	SEVERITY
REAR END COLLISIONS	TYPFS
COLOR	TESTING

51 215701

THE SAFETY INDEX: A METHOD OF EVALUATING AND RATING SAFETY BENEFITS

TAMBURRI TN
SMITH RN
MILLS JP
PERINI VJDISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 332, PP 28-43, 2 FIG, 6 TAB, 16 REF, 1 APP

*HIGHWAY SAFETY	SAFETY
INDEXES /RATIOS/	FUND ALLOCATIONS
BENEFIT COST ANALYSIS	CONSTRUCTION
RIGHT-OF-WAY ACQUISITION	ESTIMATES
ACCIDENT PREVENTION	SAVINGS
COSTS	

AREA 51 HIGHWAY SAFETY

51 215702

CROSS-MEDIAN CRASHES

WRIGHT PH
HASSELL JS
ARRILLAGA B

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 332, PP 44-53, 11 FIG, 2 TAB, 2 REF

*HIGHWAY SAFETY COLLISIONS RANDOM PROCESSES LANE DISTRIBUTION WIDTHS PERCEPTION TIME SKID RESISTANCE SIMULATIONS MODELS	MEDIANS FIELD TESTS PROBABILITY DISTRIBUTIONS SPEED VEHICLES REACTION TIME IMPACT TESTS COMPUTER APPLICATIONS
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51 215859

SUMMARY OF CURRENT STATUS OF KNOWLEDGE ON RURAL INTERSECTION ILLUMINATION

LIPINSKI ME
MEADOR GC
GILBRONSON AL
TRAYLOR ML
BERG WD
ANDERSON CL
WORTHMAN RH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 336, PP 33-62, 6 FIG, 5 TAB, 73 REF

*HIGHWAY SAFETY INTERSECTIONS LIGHTING	RURAL HIGHWAYS HIGHWAY LIGHTING
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51 215860

VISION AT LEVELS OF NIGHT ROAD ILLUMINATION: LITERATURE 1967-1969

RICHARDS DW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 336, PP 63-75, 196 REF

*HIGHWAY SAFETY HIGHWAY LIGHTING REVIEWS	DRIVER VISION BIBLIOGRAPHIES
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51 215863

AN EVALUATION OF THE PRIORITIES ASSOCIATED WITH THE PROVISION OF TRAFFIC INFORMATION IN REAL TIME

HEATHINGTON KW
WORRALL RU
HOFF GD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 336, PP 107-114, 10 TAB, 3 REF

*HIGHWAY SAFETY REAL TIME SYSTEMS INFORMATION HIGHWAY IMPROVEMENTS	DRIVER INFORMATION DRIVERS /VEHICLE/ QUESTIONNAIRES HIGHWAY PLANNING
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AREA 51 HIGHWAY SAFETY

51 216745

COLLISION OF VEHICLES WITH DEER STUDIED ON PENNSYLVANIA INTERSTATE ROAD SECTION

BELLIS ED
GRAVES HB

HIGHWAY RESEARCH NEWS, HWY RES BOARD 71
NO 43, PP 13-17, 8 REF

*HIGHWAY SAFETY DEER	COLLISIONS WILDLIFE
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51 218147

BREAKAWAY OVERHEAD SIGN BRIDGES, CRASH TESTING

IVEY DL
CLSON RM
BUTH CE
HIRSCH TJ
HAWKINS DL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 346, PP 35-46, 1 TAB, 26 PHOT, 2 REF

*HIGHWAY SAFETY OVERHEAD TRAFFIC SIGNS COLLISION TESTS SUPPORTS IMPACTS BEHAVIOR	BREAKAWAY BASES BRIDGES VEHICLES LOADS SPEED
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51 218149

IMPACT-YIELDING SIGN SUPPORTS

COCK JP
BOCCOSSI A

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 346, PP 58-66, 10 FIG, 1 TAB, 6 REF

*HIGHWAY SAFETY SUPPORTS YIELD VEHICLES LABORATORY STUDIES FIELD TESTS	HIGHWAY SIGNS STEELS IMPACT DECCELERATION COLLISION TESTS SIMULATIONS
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51 219999

EFFECTIVENESS OF STUDED TIRES

SMITH RW
EWENS WE
CLDUGH DJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 352, PP 39-49, 8 FIG, 2 TAB, 5 REF

*HIGHWAY SAFETY TIRES STOPPING DISTANCES CONCRETE PAVEMENTS WET CONDITIONS GLARE FREEZING	STUDED TIRES SNOW TIRES ICE ASPHALT PAVEMENTS DRY CONDITIONS ASPHALTIC CONCRETE
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AREA 51 HIGHWAY SAFETY

51 220000

INFLUENCE OF STUODED TIRES ON WINTER DRIVING SAFETY IN QUEBEC

NGRMAN J
CANNER RM

DISCUSSEUR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 352, PP 50-61, 7 FIG, 6 TAB, 11 REF*HIGHWAY SAFETY
DRIVING CONDITIONS
SAFETYSTUODED TIRES
ACCIDENTS
TIRES

51 221157

SIMULATOR STUDIES OF THE DRIVER'S DYNAMIC RESPONSE IN STEERING CONTROL TASKS - WITH DISCUSSION AND CLCSURE

WEIR DH
WJCJIK CK
DUGOFF H
HUNTINGTON PE
PAZERA EDISCUSSEUR
DISCUSSEUR
DISCUSSEURHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 364, PP 1-15, 9 FIG, 4 TAB, 9 REF, APP*HIGHWAY SAFETY
DRIVER REACTION
DYNAMIC RESPONSE
DRIVER CONTROL RESPONSE FUNCTION
DRIVING SIMULATORSDRIVING SIMULATION
STEERING
PERCEPTION
GUSTS

51 221158

PREVIEW-PREDICTOR MODEL OF DRIVER BEHAVIOR IN EMERGENCY SITUATIONS

KRCLL CV

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 364, PP 16-26, 11 FIG, 6 REF*HIGHWAY SAFETY
DRIVING SIMULATORS
COMPUTER PROGRAMMING
DYNAMIC CHARACTERISTICSNONLINEAR SYSTEMS
MODELS
EMERGENCY
DRIVER BEHAVIOR

51 221159

USE OF SIMULATION IN A STUDY INVESTIGATING ALERTNESS DURING LONG-DISTANCE, LOW-EVENT DRIVING

SUSSMAN ED
SUGARMAN RC
KNIGHT JRHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 364, PP 27-32, 1 REF*HIGHWAY SAFETY
ALERTNESS
COUNTERMEASURES
DRIVER IMPROVEMENTDRIVING SIMULATORS
DRIVING CONDITIONS
DRIVER FATIGUE

51 221215

COMMITTEE ON EFFECTIVENESS OF OPERATIONAL MEASURES

HIGHWAY RES CIRCULAR, HWY RES BOARD DEC71
NO 129, PP 1-10*HIGHWAY SAFETY
HIGHWAY SAFETY

HIGHWAY RESEARCH

AREA 51 HIGHWAY SAFETY

51 221331

SOME INTERNATIONAL ASPECTS OF ROAD SAFETY INVOLVING THE NATO COMMUNITY

BRENNER R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 365, PP 1-8, 2 REF*HIGHWAY SAFETY
EXPERIMENTAL SAFETY VEHICLES
TECHNOLOGY
INFORMATION DISSEMINATION
SAFETY
MOTOR VEHICLES
DESIGNCOUNTERMEASURES
ACCIDENT PREVENTION
PROGRAMS
SAFETY MEASURES

51 221332

RESEARCH CHALLENGES IN DRIVER EDUCATION AND DRIVER LICENSING

HARTMAN CH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 365, PP 9-16*HIGHWAY SAFETY
DRIVER RESTRICTION
DRIVER IMPROVEMENT
ACCIDENT PREVENTIONDRIVER TRAINING
RESEARCH
DRIVER LICENSING
ACCIDENT PRONE DRIVERS

51 221333

PERCEPTION MODEL FOR DESCRIBING AND DEALING WITH DRIVER INVOLVEMENT IN HIGHWAY ACCIDENTS

VANSTRUM RC
CAPLES GBHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 365, PP 17-24, 5 FIG, 7 REF*HIGHWAY SAFETY
PERCEPTION
DRIVER REACTION
DRIVERS /VEHICLE/OPERATOR PERFORMANCE
SAFETY FACTORS
DRIVER TRAINING
MODELS

51 222341

RESEARCH PROBLEM STATEMENTS ABOUT HIGHWAY SAFETY

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB72
NO 131, 5 PP*HIGHWAY SAFETY
ACCIDENT INVESTIGATION
ACCIDENT SEVERITY
ACCIDENTSTRAFFIC SAFETY
TRAFFIC RESEARCH
RESEARCH

51 222641

ASSEMBLY AND USE OF ACCIDENT DATA

BALDWIN DM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 14-17, 2 FIG, 6 REF*HIGHWAY SAFETY
PROGRAMS
ACCIDENT INVESTIGATION
STATISTICS
PAVEMENT SURFACE TEXTURE
DATA ACQUISITION
HIGH ACCIDENT LOCATIONSSAFETY MEASURES
STATISTICAL ANALYSIS
LOCATING
ACCIDENTS
MANAGEMENT
WET CONDITIONS

AREA 51 HIGHWAY SAFETY

51 222642

USE OF ACCIDENT DATA TO IDENTIFY WET-PAVEMENT LOCATIONS IN PENNSYLVANIA

RICKER ER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 18-20

*HIGHWAY SAFETY	DATA ANALYSIS
DATA SYSTEMS	LOCATING
ACCIDENT RATES	ACCIDENT INVESTIGATION
SKIDDING	WET CONDITIONS
DATA ACQUISITION	STATISTICAL ANALYSIS
SKID RESISTANCE TESTING	HIGH ACCIDENT LOCATIONS

51 222643

SAFETY INSPECTION OF THE HIGHWAY AND THE VEHICLE

GOODWIN WA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 21-28, 4 TAB, 13 REF

*HIGHWAY SAFETY	VEHICLE INSPECTION
VEHICLE SKIDDING CHARACTERISTICS	SKID RESISTANCE TESTING
SKIDDING	
PREVENTION	
PAVEMENT SKIDDING CHARACTERISTICS	
INSPECTION PROCEDURE	SKID TRAILER

51 222645

INVESTIGATION OF INJURY-PRODUCING AUTOMOBILE ACCIDENTS AT THE HIGHWAY RESEARCH INSTITUTE

SHERMAN HW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, P 37

*HIGHWAY SAFETY	ACCIDENT INVESTIGATION
INJURIES	PASSENGERS
DATA SYSTEMS	MOTOR VEHICLE ACCIDENTS
SAFETY FEATURES	CASE STUDIES
DATA ACQUISITION	HIGH ACCIDENT LOCATIONS

51 222646

HIGH-SPEED SKID TESTING AT UNIVERSITY OF TENNESSEE

MUMPHREYS JB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, P 38

*HIGHWAY SAFETY	PAVEMENT SKIDDING CHARACTERISTICS	SKID RESISTANCE TESTING
HIGH SPEED		WET CONDITIONS
COEFFICIENT OF FRICTION		CORRELATIONS
SLIPPERINESS		
SKID TRAILER		

51 222647

CALIBRATION OF BRAKE FORCE TRAILERS AND SKID-RESISTANCE PHOTO-INTERPRETATION

SCHONFELD R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, P 39, 2 REF

*HIGHWAY SAFETY	SKID RESISTANCE TESTING
SKID TRAILER	SKID NUMBER
PAVEMENT SURFACE TEXTURE	PHOTOINTERPRETATION
SKID RESISTANCE	

AREA 51 HIGHWAY SAFETY

51 222648

INTERACTION OF VEHICLE AND ROAD SURFACE

IVEY DL
KEESE CJ
NEILL AH
BRENNER CHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 40-53, 20 FIG, 26 REF

*HIGHWAY SAFETY	VEHICLE CHARACTERISTICS
DRIVER CHARACTERISTICS	
PAVEMENT SKIDDING CHARACTERISTICS	
FRICTION	
VEHICLE SKIDDING CHARACTERISTICS	
PAVEMENT SURFACE TEXTURE	SIMULATIONS
MANEUVERABILITY	DESIGN STANDARDS
SKIDDING	

51 222654

INFLUENCE OF VEHICLE AND PAVEMENT FACTORS ON WET-PAVEMENT ACCIDENTS

HANKINS KD
MORGAN RB
ASHKAR B
TUTT PKHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 66-84, 12 FIG, 11 TAB, 7 REF

*HIGHWAY SAFETY	WET CONDITIONS
VEHICLE SKIDDING CHARACTERISTICS	
PAVEMENT SKIDDING CHARACTERISTICS	
ACCIDENT CAUSES	CORNERING /VEHICLE/
ACCIDENT TYPE	MOTOR VEHICLE ACCIDENTS
STATISTICAL ANALYSIS	

51 222655

SPOTTING SKID-PRONE SITES ON WEST VIRGINIA HIGHWAYS

CAMPBELL ME
TITUS REHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 85-96, 3 FIG, 3 TAB

*HIGHWAY SAFETY	SKID RESISTANCE
GEOMETRIC DESIGN	HIGHWAY IMPROVEMENTS
SKID NUMBER	BENEFIT COST ANALYSIS
PROGRAMS	INTERSECTIONS
SKIDDING	HIGH ACCIDENT LOCATIONS

51 222961

IMPROVEMENT OF VISIBILITY FOR NIGHT DRIVING, WITH DISCUSSION AND CLOSURE

SCHWAB RN
HEMION RH
ALLEN MJ
CYLER RWHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 1-23
13 FIG 2 TAB 24 REF

*HIGHWAY SAFETY	VISIBILITY
HEADLIGHTS	NIGHT VISIBILITY
POLARIZED LIGHT	VEHICULAR SAFETY
DRIVER PERFORMANCE	GLARE

AREA 51 HIGHWAY SAFETY

51 222962

A STATIC SCALE-MODEL SIMULATOR FOR THE STUDY OF VISIBILITY AND HIGHWAY LIGHTING

BLACKWELL HR
BLACKWELL QMHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 24-31
8 FIG 1 REF*HIGHWAY SAFETY VISIBILITY
HIGHWAY LIGHTING LUMINAIRES
MODEL TESTS

51 222963

CONTROLLING HEAD-LAMP AIM

FINCH DM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 32-9
6 FIG 2 TAB 10 REF*HIGHWAY SAFETY VISIBILITY
HEADLIGHTS VEHICULAR SAFETY
VEHICLE INSPECTION

51 222964

EFFECT OF DAYTIME USE OF MOTORCYCLE HEADLIGHTS AND
TAILLIGHTS ON MOTORCYCLE NOTICEABILITYCASSEL A
JANOFF MSHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 40-52
6 FIG 5 TAB 27 REF*HIGHWAY SAFETY VISIBILITY
MOTORCYCLES HEADLIGHTS
DAYLIGHT TAILLIGHTS

51 222965

EFFECT OF DAYTIME MOTORCYCLE HEADLIGHT LAWS ON MOTORCYCLE
ACCIDENTSJANOFF MS
CASSEL AHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 53-63
16 TAB 15 REF*HIGHWAY SAFETY VISIBILITY
HEADLIGHTS MOTORCYCLES
DAYLIGHT LAWS
ACCIDENT RATES COLLISIONS

51 222966

EFFECT OF DISTANCE AND MOTORCYCLE HEADLIGHT CONDITION ON
MOTORCYCLE NOTICEABILITYJANOFF MS
CASSEL AHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 64-8
5 FIG 2 TAB 8 REF*HIGHWAY SAFETY VISIBILITY
HEADLIGHTS MOTORCYCLES
DAYLIGHT PERCEPTION DISTANCE

AREA 51 HIGHWAY SAFETY

51 222967

A BRIGHTNESS INVENTORY OF CONTEMPORARY SIGNING MATERIALS FOR
GUIDE SIGNS, WITH DISCUSSION AND CLOSUREYOUNGBLOOD WP
WELTMAN HL
STRAUB AL
ALLEN TMHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 69-91
16 FIG 14 TAB 25 REF*HIGHWAY SAFETY VISIBILITY
SIGNS TRAFFIC SIGN MATERIALS
RETRODIRECTIVE REFLECTION PHOTOMETERS
TRAFFIC SIGN VISIBILITY TRAFFIC SIGN LEGIBILITY
FIELD STUDIES

51 222968

ECONOMIC AND ACCIDENT POTENTIAL ANALYSIS OF ROADWAY
LIGHTING ALTERNATIVESMCFARLAND WF
WALTON NEHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 92-102
21 TAB 5 REF*HIGHWAY SAFETY VISIBILITY
BREAKAWAY BASES BENEFIT COST ANALYSIS
HIGHWAY LIGHTING ROADSIDE STRUCTURES
HIGHWAY DESIGN LUMINAIRES

51 222969

A MEASURE OF THE DELINEATION POTENTIAL OF COLORED
PAVEMENTTAYLOR W
OATTA THIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 103-17
8 FIG 5 TAB 7 REF*HIGHWAY SAFETY VISIBILITY
HIGHWAY DELINEATION RETRODIRECTIVE REFLECTION
COLOR COLOR PERCEPTION
TRAFFIC MARKINGS

51 222970

EFFECT OF VEHICULAR ROLL ON A POLARIZED HEADLIGHTING SYSTEM

ADAMS WS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 118-30
9 FIG 5 TAB 8 REF*HIGHWAY SAFETY VISIBILITY
HEADLIGHTS PERCEPTION DISTANCE
VEHICLE CHARACTERISTICS POLARIZED LIGHT
EDGE MARKINGS HIGHWAY DELINEATION

AREA 51 HIGHWAY SAFETY

51 222971

THE VISUAL ENVIRONMENT: ITS EFFECTS ON TRAFFIC FLOW

SMITH WL
FAULCONER JEHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 377 PP 131-48
17 FIG 5 TAB 8 REF*HIGHWAY SAFETY VISIBILITY
VISUAL PERCEPTION ARTERIAL STREETS /URBAN/
DISTRACTION
TRAFFIC FLOW CHARACTERISTICS
TRAFFIC INTERFERENCE

51 223134

"DEER CROSSING" SIGNS MAY PROVE VALUABLE IN REDUCING ACCIDENTS AND ANIMAL DEATHS

PCJAR TM
RESEIGH TC
REED CFHIGHWAY RESEARCH NEWS, HWY RES BOARD JAN72
NO 46 PP 20-3
2 PHOT 1 FIG 1 REF*HIGHWAY SAFETY ANIMALS
WARNING SIGNS ILLUMINATED TRAFFIC SIGNS
ANIMATION DEER
WILDLIFE ACCIDENT PREVENTION

51 223913

AN EVALUATION OF THE TRAFFIC CONFLICTS TECHNIQUE

BAKER WT

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 384 PP 1-8
3 FIG 3 TAB 2 REF*HIGHWAY SAFETY INTERSECTIONS
TRAFFIC CONFLICT
ACCIDENT INVESTIGATION ACCIDENTS

51 223915

SPEED PROFILES APPROACHING A TRAFFIC SIGNAL

BLEYL RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 384 PP 17-23
5 FIG 1 TAB 1 REF*HIGHWAY SAFETY SPEED STUDIES
APPROACH SPEED TRAFFIC SIGNALS
INTERSECTIONS

51 223916

NEAR-MISS DETERMINATION THROUGH USE OF A SCALE OF DANGER

HAYWARD JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD JUN72
NO 384 PP 24-34
5 FIG 1 TAB 10 REF*HIGHWAY SAFETY DETERMINATION
SCALE ACCIDENT INVESTIGATION
ACCIDENT RATES TRAFFIC SAFETY

AREA 51 HIGHWAY SAFETY

51 224315

COMPARISON STUDY BY COMPUTER SIMULATION OF THE DRIVER'S VISUAL PART-TASK DURING LEFT AND RIGHT FREEWAY MERGING MANEUVERS

DECABOOTER PH
SINHA KCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 388 PP 1-12
6 FIG 9 TAB 8 REF*HIGHWAY SAFETY COMPUTER SIMULATIONS
MERGING TRAFFIC DRIVER VISION
RAMPS

51 224316

SIMULATION OF CROSS-MEDIAN CRASHES

WRIGHT PH
ARRILLAGA BHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 388 PP 13-21
10 FIG 3 TAB 3 REF*HIGHWAY SAFETY COMPUTER SIMULATION MODELS
MEDIANS VEHICLES
SPEED OPPOSING TRAFFIC
COLLISIONS CROSSINGS

51 224428

TRANSITIONAL ADAPTATION IN TUNNEL LIGHTING

RINALDUCCI EJ

HIGHWAY RES CIRCULAR, HWY RES BOARD AUG72
NO 137 PP 1-8
9 FIG REFS*HIGHWAY SAFETY TUNNEL LIGHTING
TUNNELS EYES
ADAPTATION LUMINOUS INTENSITY
LIGHTING
ENTRANCES /OTHER THAN DOORS/
EXITS NIGHT VISION
DRIVER VISION EXPERIMENTS

51 224432

TUNNEL LIGHTING IN EUROPE

SCHREUDER DA

HIGHWAY RES CIRCULAR, HWY RES BOARD AUG72
NO 137 PP 28-32
2 FIG REFS*HIGHWAY SAFETY FOREIGN COUNTRIES
TUNNEL LIGHTING TUNNELS
ENTRANCES /OTHER THAN DOORS/
LUMINOUS INTENSITY SCREENS

AREA 51 HIGHWAY SAFETY

51 224433

ILLUMINATION DESIGN FOR VEHICULAR TUNNELS

KETVIRTIS A

HIGHWAY RES CIRCULAR, HWY RES BOARD AUG72
 NO 137 PP 33-43
 PHOTS FIGS

*HIGHWAY SAFETY	FOREIGN COUNTRIES
TUNNEL LIGHTING	TUNNELS
ENTRANCES /OTHER THAN DOORS/	EYES
EXITS	SCREENS
ADAPTATION	
LUMINOUS INTENSITY	

51 224658

THE FRICTIONAL REQUIREMENTS OF PASSING VEHICLES

GLENNON JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 396 PP 21-32
 10 FIG 3 TAB 2 REF

*HIGHWAY SAFETY	FRICTIONAL RESISTANCE
PAVEMENT SKIDDING CHARACTERISTICS	
TIRES	PASSING
PHOTOGRAPHY	SKIDDING
ACCIDENT PREVENTION	WET CONDITIONS
SKID RESISTANCE	SPEED LIMITS

51 224659

A STUDY OF VARIABLES ASSOCIATED WITH WHEEL SPIN-DOWN AND HYDROPLANING

MARTINEZ JE
 LEWIS JM
 STOCKER AJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 396 PP 33-44
 19 FIG 1 TAB 8 REF

*HIGHWAY SAFETY	PAVEMENT PERFORMANCE
WET CONDITIONS	STEERING
BRAKING	SPEED
HYDROPLANING	PORTLAND CEMENT CONCRETES
BITUMINOUS PAVEMENTS	WHEEL LOAD
TREADS	

51 224755

TUNNEL AND UNDERPASS LIGHTING PRACTICE IN USA

THOMPSON JA
 FANSLER BI
 RAGLAND JS

HIGHWAY RES CIRCULAR, HWY RES BOARD AUG72
 NO 137 PP 44-7

*HIGHWAY SAFETY	TUNNEL LIGHTING
UNDERPASSES	LIGHTING EQUIPMENT
FLUORESCENT LAMPS	MERCURY LAMPS
LIGHT	SAFETY
LUMINOUS INTENSITY	

AREA 51 HIGHWAY SAFETY

51 226854

PEDESTRIAN CROSSWALK STUDY: ACCIDENTS IN PAINTED AND UNPAINTED CROSSWALKS

HERMS BF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 406 PP 1-13
 12 FIGS 3 TABS 15 REFS

*HIGHWAY SAFETY	CROSSWALK
TRAFFIC MARKINGS	PEDESTRIAN ACCIDENTS
ACCIDENT RATES	INTERSECTIONS
CITY STREETS	

51 228532

ATTENTIONAL DEMAND AS A MEASURE OF THE INFLUENCE OF VISIBILITY CONDITIONS ON DRIVING TASK DIFFICULTY WITH DISCUSSION

FARBER E
 GALLAGHER V
 LEHMAN F

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 414 PP 1-5
 2 FIG 1 TAB 3 REF

*HIGHWAY SAFETY	DRIVER PERFORMANCE
CONTROL	GOGGLES
STEERING	VISIBILITY

51 228533

IN-VEHICLE DRIVER AID AT TRAFFIC SIGNALS

BLEYL RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 414 PP 6-15
 6 FIG 1 TAB 4 REF

*HIGHWAY SAFETY	DRIVER INFORMATION
COMMUNICATION SYSTEMS	TRAFFIC SIGNALS
DRIVER REACTION	WARNING SYSTEMS
SPEED CHANGE LANES	

51 228534

RECOGNITION OF TRAFFIC-CONTROL SIGNS

DEWAR RE
 SWANSON MA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 414 PP 16-23
 1 FIG 4 TAB 9 REF

*HIGHWAY SAFETY	TRAFFIC CONTROL SYSTEMS
TRAFFIC SIGNS	TRAFFIC SIGN DESIGN
TRAFFIC SIGN LEGIBILITY	SYMBOLIC CODES
WORD MARKINGS	RECOGNITION

AREA 51 HIGHWAY SAFETY

51 228539

DRIVER INFORMATION SYSTEMS FOR HIGHWAY-RAILWAY GRADE CROSSINGS

HEATHINGTON KW
URBANIK THIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 414 PP 59-77
13 FIG 2 TAB 23 REF*HIGHWAY SAFETY
WARNING SYSTEMS
CHANGEABLE MESSAGE SIGN
ATTITUDES /MENTAL/DRIVER INFORMATION
RAILROAD GRADE CROSSINGS
DRIVERS /VEHICLE/
COSTS

51 228546

COMPARISON OF ACCIDENTS AND ILLUMINATION

BOX PC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 416 PP 1-9
5 FIG 6 TAB 2 REF*HIGHWAY SAFETY
TRAFFIC ACCIDENTS
LIGHTNING
COSTSNIGHT VISIBILITY
LAND USE
HIGHWAY LIGHTING
LIGHT

51 228547

FREEMWAY ACCIDENTS AND ILLUMINATION

BOX PC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 416 PP 10-20
3 FIG 7 TAB 1 REF*HIGHWAY SAFETY
LIGHT
TRAFFIC ACCIDENTSILLUMINATION ENGINEERING
NIGHT VISIBILITY
HIGHWAY LIGHTING

51 228548

ANALYSIS AND DESIGN PROCEDURES FOR THE PENNSYLVANIA HIGHWAY LIGHTING NEEDS STUDY

HERENDEEN JH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 416 PP 21-30
8 FIG 1 TAB 6 REF*HIGHWAY SAFETY
COSTS
INSTALLING
ANALYSISHIGHWAY LIGHTING
ILLUMINATION ENGINEERING
MAINTENANCE COSTS
DESIGN

AREA 51 HIGHWAY SAFETY

51 228558

RESTRAIN-SYSTEM EFFECTIVENESS WITH DISCUSSION

GRUSH ES
HENSON SE
RITTERLING OR
WARNER CY

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 420 PP 16-29
5 FIG 2 TAB 22 REF*HIGHWAY SAFETY
SAFETY BELTS
COMPARISONS
HEAD
CHEST
SURVIVALAIR BAGS
SHOULDER HARNESS
HEAD ON COLLISIONS
FATALITIES
MAXIMUM DECELERATION

51 228559

SHOCK INDEX CLASSIFICATION FOR HIGHWAY VEHICLES

KENNEDY R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 420 PP 30-5 1 REF*HIGHWAY SAFETY
SHOCK /MECHANICS/
FREIGHT TRANSPORTATION
CUSHIONINGSHOCK ABSORBERS
CARGO
COSTS

AREA 52 ROAD USER CHARACTERISTICS

52 205535

DRIVER INFORMATION REQUIREMENTS AND ACCEPTANCE CRITERIA

EBERHARD JW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 265, PP 19-30, 5 FIG, 4 TAB, 6 REF*ROAD USER CHARACTERISTICS
GUIDANCE
INFORMATION DISSEMINATION
HUMAN FACTORS
HIGHWAY SIGNS
TRAFFIC SIGNS
ELECTRONIC DEVICESDRIVERS /VEHICLE/
ROUTING
DISPLAYS
INTERSECTION APPROACH
DIRECTIONAL SIGN
INTERSECTIONS

52 206270

A SYSTEM FOR AUTOMATIC VEHICLE LATERAL GUIDANCE

CLSON KW
SAPP ER
FLAIG TLHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 275, PP 1-11, 12 FIG, 5 REF, 1 APP*ROAD USER CHARACTERISTICS
AUTOMATIC CONTROL
LATERAL MOVEMENT
REINFORCED CONCRETE PAVEMENTSVEHICLES
GUIDANCE
AUTOMATION

AREA 52 ROAD USER CHARACTERISTICS

52 208180

BIOGRAPHICAL AND MEDICAL DATA ABOUT THE AUTOMOBILE DRIVER -
A REVIEW OF LITERATURE

ANTIA KH

HIGHWAY RESEARCH NEWS, HWY RES BOARD 69
NO 37, PP 51-61, 51 REF

*ROAD USER CHARACTERISTICS	REVIEWS
TRAFFIC SAFETY	HUMAN FACTORS
DRIVER LICENSING	DRIVERS /VEHICLE/
ATTITUDES /MENTAL/	ACCIDENT PRONE DRIVERS
DRIVER PSYCHOLOGY	DRIVER VISION
ALCOHOLS	AGE
SEX	MEDICAL EXAMINATION
DRIVER PERFORMANCE	

52 208603

DRIVERS' EYE MOVEMENTS AND VISUAL WORKLOAD

MOURANT RR
ROCKWELL TH
RACKOFF NJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 292, PP 1-10, 10 FIG, 4 TAB, 5 REF

*ROAD USER CHARACTERISTICS	DRIVER VISION
EYES	MOVEMENTS
RECORDING	CAR FOLLOWING
VISUAL AIDS	HIGHWAY SIGNS

52 208604

PASSING BEHAVIOR ON PUBLIC HIGHWAYS UNDER DAYTIME AND
NIGHTTIME CONDITIONS

FARBER E

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 292, PP 11-23, 15 FIG

*ROAD USER CHARACTERISTICS	NIGHT VISIBILITY
DAYLIGHT	DRIVER BEHAVIOR
PASSING	VISIBILITY

52 208605

WRONG-WAY DRIVING ACCIDENTS ARE REDUCED

TAMBURRI TN
WILSON JE
MALO AFDISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 292, PP 24-50, 9 FIG, 15 TAB, 12 REF, 1 APP

*ROAD USER CHARACTERISTICS	WRONG WAY
FREWAYS	EXPRESSWAYS
DRIVER BEHAVIOR	DRIVER CHARACTERISTICS
PREVENTION	TRAFFIC CONTROL DEVICES
BEFORE AND AFTER STUDIES	

AREA 52 ROAD USER CHARACTERISTICS

52 208606

AN EVALUATION OF THE EFFECTIVENESS OF TELEVISED, LOCALLY
ORIENTED DRIVER REEDUCATIONHUTCHINSON JW
COX CS
MAFFET BRHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 292, PP 51-63, 8 FIG, 8 TAB, 11 REF

*ROAD USER CHARACTERISTICS	DRIVER TRAINING
TELEVISION	ERRORS
DRIVERS /VEHICLE/	ACCIDENT RATES
TRAFFIC ACCIDENT ANALYSES	PEAK HOUR TRAFFIC

52 208607

THE EFFECTS OF SIGHT DISTANCE AND CONTROLLED IMPEDANCE ON
PASSING BEHAVIORHUSTETTER RS
SEGUIN ELHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 292, PP 64-78, 11 FIG, 2 TAB, 4 REF

*ROAD USER CHARACTERISTICS	PASSING SIGHT DISTANCE
IMPEDANCE	DISTANCE
SPEED	TRAFFIC VOLUME
RURAL HIGHWAYS	TWO LANE HIGHWAYS
ROAD TESTS	DRIVER BEHAVIOR

52 208608

VELOCITY SENSING---COMPARISON OF FIELD AND LABORATORY
METHODS

SALVATORE S

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 292, PP 79-91, 10 FIG, 6 TAB, 25 REF, 1 APP

*ROAD USER CHARACTERISTICS	VISUAL PERCEPTION
DETECTION	VELOCITY
MOTION PICTURES	DRIVER REACTION

52 209403

HIGHWAY NOISE MEASUREMENT, SIMULATION, AND MIXED REACTIONS

GALLDWAY WJ
CLARK WE
KERRICK JSHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 78, 78 PP, 49 FIG, 29 TAB, 29 REF, 7 APP

*ROAD USER CHARACTERISTICS	TRAFFIC NOISES
SIMULATIONS	MEASUREMENTS
MOTOR VEHICLES	ACOUSTIC MEASUREMENT
MODELS	MODEL TESTS
INTERVIEWS	FREWAYS
RESIDENTS	VEHICLE EXHAUST
AUTOMOBILE TIRES	DIESEL ENGINES
ACCELERATION	HIGHWAY PLANNING
NOISE CONTROL	GUIDES

AREA 52 ROAD USER CHARACTERISTICS

52 210720

THE MODULAR CRASH-CUSHION-RESEARCH FINDINGS AND FIELD EXPERIENCE

HIRSCH TJ
IVEY DL
WHITE MCHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, PP 140-148, 10 FIG, 2 TAB

*ROAD USER CHARACTERISTICS	BARRELS /CONTAINERS/
COLLISION TESTS	FIXED OBJECT
DECELERATION	MOTOR VEHICLES
IMPACT TESTS	ENERGY ABSORPTION
HEAD ON COLLISIONS	ACCIDENT PREVENTION
ACCIDENT SEVERITY	

52 210725

DRIVER PERFORMANCE RELATED TO MEDIAN VISIBILITY - ABRIDGEMENT

YU JC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT NO 107, P 180

*ROAD USER CHARACTERISTICS	DRIVER PERFORMANCE
MEDIANS	VISIBILITY
DIVIDED HIGHWAY	BEFORE AND AFTER STUDIES
NIGHT	FIELD STUDIES
SPEED	PLACEMENT
MOTOR VEHICLES	STATISTICAL ANALYSIS
HIGHWAY SAFETY	

52 212117

AN ANALYSIS OF DRIVER PREFERENCES FOR ALTERNATIVE VISUAL INFORMATION DISPLAYS

HEATHINGTON KW
WORRALL RD
HOFF GC
CLEVELAND DE
FCWLER P
WATTLEWORTH JADISCUSSER
DISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 303, PP 1-16, 9 FIG, 7 TAB, 1 PHOT, 9 REF

*ROAD USER CHARACTERISTICS	DRIVERS /VEHICLE/
ELECTRONIC TRAFFIC DEVICES	FREEMWAY SIGNS
CHANGEABLE MESSAGE SIGN	TRAFFIC CONGESTION
TRAFFIC DELAY	TRAVEL TIME
TRAFFIC ACCIDENTS	SPEED
DISPLAYS	INFORMATION DISSEMINATION

52 212988

ACCELERATION NOISE, POWER SPECTRA, AND OTHER STATISTICS DERIVED FROM INSTRUMENTED VEHICLE MEASUREMENTS UNDER FREEWAY DRIVING CONDITIONS

TORRES JF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 308, PP 13-33, 19 FIG, 1 TAB, 6 REF

*ROAD USER CHARACTERISTICS	AUTOMOBILES
ACCELERATION	TRAFFIC NOISES
DIGITAL COMPUTERS	ELECTRONIC DATA PROCESSING
URBAN HIGHWAYS	FREEMWAYS
TRAVEL TIME	VELOCITY
DISTANCE	TRAFFIC DENSITY
TRAFFIC SPEED	TRAFFIC VOLUME

AREA 52 ROAD USER CHARACTERISTICS

52 212992

PEDESTRIAN GAP-ACCEPTANCE

DIPIETRO CM
KING LEHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 308, PP 80-91, 16 FIG, 1 TAB, 10 REF

*ROAD USER CHARACTERISTICS	GAP ACCEPTANCE
PEDESTRIANS	TIME LAPSE PHOTOGRAPHY
STATISTICAL METHODS	DATA ACQUISITION
DATA ANALYSIS	ANALYSIS OF VARIANCE
CHI SQUARE TEST	TRAFFIC SPEED
TRAFFIC VOLUME	SEX
SPEED	GROUPS

52 213154

A THEORETICAL ANALYSIS OF HYDROPLANING PHENOMENA

DAUGHADAY H
BALMER GGHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 311, PP 1-10, 8 FIG, 6 REF

*ROAD USER CHARACTERISTICS	HYDROPLANING
THEORETICAL ANALYSIS	AUTOMOBILE TIRES
WATER FILM	SKIDS
MATHEMATICAL MODELS	THREE DIMENSIONAL
FILM THICKNESS	HIGHWAY DRAINAGE

52 213626

PASSING PERFORMANCE WITH IN-CAR DISPLAYS

RIZY EF
SONN M
HAMPTON DB
CARR RMHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 312, PP 113-124, 6 FIG, 2 TAB, 9 REF

*ROAD USER CHARACTERISTICS	PASSING
DRIVERS /VEHICLE/	DRIVER PERFORMANCE
DISPLAYS	PASSING SIGHT DISTANCE
DRIVING SIMULATORS	AUDIO VISUAL AIDS
FLASHERS	

52 214908

DYNAMIC PAVEMENT LOADS OF HEAVY HIGHWAY VEHICLES

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NCHRP RPT 105, 94 PP, FIGS, TABS, PHOTS, 10 REF, 22 APP

*ROAD USER CHARACTERISTICS	DYNAMIC LOADS
PAVEMENT LIFE	BRIDGE DECKS
PAVEMENT SMOOTHNESS	VEHICLE CHARACTERISTICS
SPEED	MEASURING INSTRUMENTS
WHEELS	ANALOG COMPUTERS
COMPUTER APPLICATIONS	SIMULATIONS
PREDICTIONS	TIRES
UNSPRUNG MASS	DYNAMIC PAVEMENT LOADS
LOADS	BRIDGES
PAVEMENTS	ROUGHNESS
ROTATION	

AREA 52 ROAD USER CHARACTERISTICS

52 215703

THE INTERDISCIPLINARY DEVELOPMENT OF AMBULANCE DESIGN CRITERIA

BAERWALD JE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 332, PP 54-62, 1 FIG, 7 REF, 1 APP

*ROAD USER CHARACTERISTICS	*HIGHWAY SAFETY
EMERGENCY VEHICLES	DESIGN CRITERIA
MULTIDISCIPLINARY TEAM	

52 215738

RUNNING COSTS OF MOTOR VEHICLES AS AFFECTED BY ROAD DESIGN AND TRAFFIC

HIGHWAY RESEARCH BOARD NCHRP DIGEST DEC70
NO 23, NCHRP PROJ 2-5A, PROJ 2-7, 5 PP, 2 FIG

*ROAD USER CHARACTERISTICS	HIGHWAY DESIGN
TRAFFIC	TRAFFIC FLOW PATTERN
OPERATING COSTS	MOTOR VEHICLES
FUEL CONSUMPTION	TIRES
WEAR	
TRAFFIC ACCIDENT ECONOMIC EFFECTS	

52 215739

ESTABLISHMENT OF STANDARDS FOR HIGHWAY NOISE

HIGHWAY RESEARCH BOARD NCHRP DIGEST DEC70
NO 24, NCHRP PROJECT 3-7, 6 PP, 2 FIG, 1 TAB

*ROAD USER CHARACTERISTICS	*URBAN COMMUNITY VALUES
NOISE /SOUND/	HIGHWAYS
STANDARDS	ACOUSTICS
TRAFFIC NOISES	TRUCKS
AUTOMOBILES	TRUCK NOISE

52 215857

DRIVER JUDGMENTS AS INFLUENCED BY VEHICULAR LIGHTING AT INTERSECTIONS

TSONGOS NG
SCHWAB RNHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 336, PP 21-32, 11 FIG, 4 TAB, 6 REF

*ROAD USER CHARACTERISTICS	INTERSECTIONS
DRIVER BEHAVIOR	HEADLIGHT GLARE
POLARIZED LIGHT	GAP ACCEPTANCE
POLARIZED HEADLIGHTS	RIGHT ANGLE INTERSECTION

52 215858

THE EFFECTS OF AUTOMOTIVE REAR-SIGNAL SYSTEM CHARACTERISTICS ON DRIVING PERFORMANCE

SAFFORD RR
ROCKWELL TH
BANASIK RCHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 336, PP 1-20, 13 FIG, 3 TAB, 14 REF

*ROAD USER CHARACTERISTICS	REAR END COLLISIONS
SIGNAL LIGHTS	SIGNALING
INFORMATION	COLOR
SIZE	PLACEMENT
INFORMATION CONTENT	TAILLIGHTS

AREA 52 ROAD USER CHARACTERISTICS

52 215861

DRIVER INTERACTIONS AND DELAYS IN FREEWAY TRAFFIC

GORDON DA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 336, PP 76-91, 27 FIG, 2 TAB, 5 REF

*ROAD USER CHARACTERISTICS	DRIVER BEHAVIOR
FREEWAYS	OUERTAKING
SPEED DIFFERENTIAL	HEADWAY

52 215862

DRIVER EYE-MOVEMENT PATTERNS UNDER CONDITIONS OF PROLONGED DRIVING, AND SLEEP DEPRIVATION

KALUGER NA
SMITH GLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 336, PP 92-106, 16 FIG, 2 TAB, 18 REF

*ROAD USER CHARACTERISTICS	DRIVER FATIGUE
DRIVER PERFORMANCE	SLEEP
STRESSES	TIME

52 216741

ADVANCES TOWARD THE AUTOMATIC HIGHWAY

FENTON RE
GLSDN KW
BENDER JGHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 344, PP 1-20, 17 FIG, 28 REF

*ROAD USER CHARACTERISTICS	AUTOMATIC
HIGHWAYS	MANUAL CONTROL
EXPERIMENTATION	DESIGN
VEHICLES	STEERING
AUTOMATIC CONTROL	

52 216742

COMPOSITION AND REMOVAL OF AUTOMOBILE WINDSHIELD FILMS

PLASTER RW
OZOL MAHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 344, PP 21-32, 3 FIG, 6 TAB, 13 REF

*ROAD USER CHARACTERISTICS	COMPOSITIONS /INGREDIENTS/
REMOVAL	WINDSHIELDS
FILMS	VISIBILITY
DIRT	RESIDUES
CLEANING COMPOUNDS	LABORATORY TESTS
DETERGENTS	ALCOHOLS

52 216743

A THREE-DIMENSIONAL MATHEMATICAL MODEL TO PREDICT THE DYNAMIC RESPONSE OF AN AUTOMOBILE OCCUPANT

YOUNG RD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 344, PP 33-44, 9 FIG, 13 REF

*ROAD USER CHARACTERISTICS	MATHEMATICAL MODELS
DYNAMIC RESPONSE	POSITION /LOCATION/
ACCELERATION	AUTOMOBILES
OCCUPANTS	FORCES
SAFETY BELTS	

AREA 52 ROAD USER CHARACTERISTICS

52 218966

THE DRIVER IN SINGLE LANE TRAFFIC

GORDON DA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 349, PP 31-40, 7 FIG, 2 TAB, 11 REF

*ROAD USER CHARACTERISTICS SINGLE LANE TRAFFIC SLOW MOVING VEHICLES EQUATIONS OBSERVATION	TRAFFIC FLW DRIVER REACTION EXPERIMENTATION CAR FOLLOWING
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52 220372

DESIGNING FOR PEDESTRIANS: A LEVEL-OF-SERVICE CONCEPT

FRUIN JJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 355, PP 1-15, 12 FIG, 9 REF

*ROAD USER CHARACTERISTICS DENSITY LEVEL OF SERVICE STAIRS FLOW SPACING	PEDESTRIANS MOVEMENTS TIME LAPSE PHOTOGGRAPHY WALKWAYS FLUID FLOW SIDEWALKS
--	--

52 220373

INVESTIGATION OF THE CAPACITY OF THE WHITE HOUSE SIDEWALK
FOR ORDERLY DEMONSTRATIONSSURTI VH
BURKE TJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 355, PP 16-25, 1 FIG, 11 TAB, 13 REF

*ROAD USER CHARACTERISTICS PEDESTRIANS	SIDEWALKS CAPACITY
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52 220374

PEDESTRIAN EFFECT ON AT-GRADE INTERSECTION VEHICULAR FLOW

NESSELRODT JR
YU JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 355, PP 26-36, 2 FIG, 19 REF, 1 APP

*ROAD USER CHARACTERISTICS PEDESTRIAN VEHICLE CONFLICTS TRAFFIC FLOW INTERSECTIONS REGRESSION ANALYSIS	GRADE CROSSINGS /HIGHWAYS/ PEDESTRIANS
--	---

52 220375

PEDESTRIAN TRAVEL DEMAND

ZUPAN JM
PUSHKAREV BHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 355, PP 37-53, 8 FIG, 10 TAB, 4 REF

*ROAD USER CHARACTERISTICS MOVEMENTS MULTIPLE CORRELATION OFFICE BUILDINGS RESIDENTIAL BUILDINGS CENTRAL BUSINESS DISTRICT CYCLES	PEDESTRIANS WALKWAYS TRIP GENERATION RETAIL STORES DISTANCE CONGESTION DISTRIBUTION
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AREA 52 ROAD USER CHARACTERISTICS

52 220376

PEDESTRIAN CIRCULATION SYSTEMS IN CANADA

PENDAKUR VS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 355, PP 54-68, 3 FIG, 33 REF

*ROAD USER CHARACTERISTICS MOVEMENTS PUBLIC TRANSIT VEHICLES ELEVATION CENTRAL BUSINESS DISTRICT ACCIDENT RATES	PEDESTRIANS UNDERGROUND WALKWAYS SEGREGATION TRIP GENERATION THEORIES
---	--

52 220377

PEDESTRIAN WAY CONCEPTS AND CASE STUDIES

LEVINSON HS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 355, PP 69-89, 15 FIG, 3 REF

*ROAD USER CHARACTERISTICS FACILITIES	PEDESTRIANS PLANNING
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52 222656

FRICTION AND THE MECHANICS OF SKIDDING AUTOMOBILES

BRACH RM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 376, PP 99-106, 5 FIG, 1 TAB, 12 REF

*ROAD USER CHARACTERISTICS COEFFICIENT OF FRICTION VEHICLE SKIDDING CHARACTERISTICS SKIDDING SKIDDING DISTANCE	FRICTION FACTOR STOPPING DISTANCES
--	---------------------------------------

52 224333

INSTABILITY ANALYSIS OF A VEHICLE NEGOTIATING A CURVE WITH
DOWNGRADE SUPERELEVATION

ZUK M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 390 PP 40-4
1 TAB 3 REF

*ROAD USER CHARACTERISTICS HIGHWAY DESIGN SKIDDING LATERAL FORCES	VEHICLE PERFORMANCE SUPERELEVATION DOWNGRADE HORIZONTAL CURVES
--	---

52 224334

AUTOMOTIVE NOISE: ENVIRONMENTAL IMPACT AND CONTROL

KUGLER BA
ANDERSON GSHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 390 PP 45-55
9 FIG 3 TAB 7 REF

*ROAD USER CHARACTERISTICS HIGHWAY DESIGN	NOISE CONTROL RATING
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AREA 52 ROAD USER CHARACTERISTICS

52 226855

PEDESTRIAN TRAVEL CHARACTERISTICS

MARING GE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 406 PP 14-20
 4 FIGS 12 TABS 2 REFS

*ROAD USER CHARACTERISTICS PEDESTRIANS
 WALKS DISTANCE
 TRIP PURPOSE AGE
 SEX

52 226856

TRAFFIC ENGINEERING FOR PEDESTRIAN SAFETY: SOME NEW DATA AND SOLUTIONS

SNYDER MB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 406 PP 21-7
 3 FIGS 3 REFS

*ROAD USER CHARACTERISTICS PEDESTRIAN ACCIDENTS
 PEDESTRIAN VEHICLE CONFLICTS
 ACCIDENT CAUSES PARKING
 TURNING MOVEMENTS TRAFFIC ENGINEERING
 ANGLE PARKING ACCIDENT TYPE

52 226857

PEDWAYS VERSUS HIGHWAYS: THE PEDESTRIAN'S RIGHT TO URBAN SPACE

FRUIN JJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 406 PP 28-36
 11 FIGS 19 REFS

*ROAD USER CHARACTERISTICS GRADE SEPARATIONS
 PEDESTRIAN CROSSINGS PEDESTRIAN MALLS
 PEDESTRIANS HANDICAPPED INDIVIDUALS
 TRAFFIC FREE ZONES RETAIL TRADE
 LAND VALUES

52 226858

CAR-FREE ZONES AND TRAFFIC RESTRAINTS: TOOLS OF ENVIRONMENTAL MANAGEMENT

ORSKI CK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 406 PP 37-46
 3 TAB 40 REF

APPS

*ROAD USER CHARACTERISTICS TRAFFIC FREE ZONES
 AIR POLLUTION NOISE /SOUND/
 AUTOMOBILES

52 228207

ARIZONA PROVING GROUNDS MOST MEMBERS OF HR8'S VEHICLE CHARACTERISTICS COMMITTEE

HIGHWAY RESEARCH NEWS, HWY RES BOARD 72
 NO 49 PP 19-21
 3 PHOT

*ROAD USER CHARACTERISTICS

AREA 52 ROAD USER CHARACTERISTICS

52 228549

EFFECTIVENESS OF TIRES UNDER WINTER DRIVING CONDITIONS WITH DISCUSSION

SMITH RW
CLOUGH OJ
SOUTHERN E

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 418 PP 1-10
 8 FIG 2 TAB 3 RFF

*ROAD USER CHARACTERISTICS DRIVING CONDITIONS
 BIAS TIRES
 TRACTION PAVEMENT SURFACE TEXTURE
 STUDDED TIRES CHAINS
 ICE STOPPING DISTANCES
 ELASTOMERS TEMPERATURE

52 228557

TRENDS OF VEHICLE DIMENSIONS AND PERFORMANCE CHARACTERISTICS FROM 1960 THROUGH 1970

SEGER EE
BRINK RS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 420 PP 1-15
 29 FIG 2 TAB 6 REF

*ROAD USER CHARACTERISTICS VEHICLE CHARACTERISTICS
 VEHICLE DESIGN AUTOMOBILE BODIES
 AUTOMOTIVE ENGINEERING WEIGHT
 WHEEL BASE AUTOMOBILE ENGINES
 HORSEPOWER FUEL CONSUMPTION
 DESIGN DIMENSIONAL MEASUREMENTS

52 228560

SAMPLING OF DRIVER OPINIONS TOWARD PERIODIC MOTOR VEHICLE INSPECTION

SHERMAN HW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 420 PP 36-43
 5 FIG 7 TAB 6 REF

*ROAD USER CHARACTERISTICS VEHICLE INSPECTION
 SURVEYS /DATA COLLECTION/ DRIVERS /VEHICLE/
 ATTITUDES /MENTAL/

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 204080

MOTORISTS' NEEDS AND SERVICES ON INTERSTATE HIGHWAYS

HIGHWAY RESEARCH BOARD NCHRP DIGEST JAN69
 NO 2, 3 PP - A DIGEST OF FINAL REPT NCHRP PROJECT 7-7

*TRAFFIC CONTROL AND OPERATIONS
 INTERSTATE HIGHWAY SYSTEM HIGHWAY USER SERVICES
 EMERGENCY SERVICES GASOLINE
 FOOD MOTELS
 REST AREAS HIGHWAY SIGNS
 MAPS STOL AIRCRAFT
 VTOL AIRCRAFT RURAL HIGHWAYS
 PATROL EMERGENCY VEHICLES
 AVERAGE DAILY TRAFFIC

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 204329

CLEVELAND TRANSIT AND PARKING OPERATIONS

IH NAT G

HIGHWAY RES CIRCULAR, HWY RES BOARD JAN 69
NO 91, 27 PP, 10 FIG, 12 TAB

*TRAFFIC CONTROL AND OPERATIONS	
*URBAN TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION	RAIL TRANSPORTATION
RAPID TRANSIT	
HUS TRANSPORTATION /INTRACITY/	
TERMINALS /TRANSPORTATION/	PARKING
MASS TRANSIT	TRAVEL TIME

53 204736

FREEWAY OPERATIONS BIBLIOGRAPHY 1964-1968

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB 69
NO 94, 71 PP, 458 REF

*TRAFFIC CONTROL AND OPERATIONS	
BIBLIOGRAPHIES	FREEWAY OPERATIONS
TRAFFIC FLOW CHARACTERISTICS	
HIGHWAY USER SERVICES	HIGHWAY SAFETY
TRAFFIC CONTRDL DEVICES	TRAFFIC STUDIES

53 205534

THIRD GENERATION DESTINATION SIGNING: AN ELECTRONIC ROUTE GUIDANCE SYSTEM

STEPHENS BW
ROSEN DA
HAMMAM FJ
GIBBS WLHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 265, PP 1-18, 3 FIG, 1 TAB, 34 REF

*TRAFFIC CONTROL AND OPERATIONS	
AUTOMOBILES	DRIVERS /VEHICLE/
ROUTING	SYSTEMS ANALYSIS
COMMUNICATIONS	COMMUNICATION SYSTEMS
GUIDANCE	ELECTRONIC DEVICES

53 205536

HIGHWAY CODING FOR ROUTE DESIGNATION AND POSITION DESCRIPTION

SALAS G

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 265, PP 31-49, 9 FIG, 5 TAB, 8 REF

*TRAFFIC CONTROL AND OPERATIONS	
CODING	GUIDANCE
ROUTING	INTERSECTIONS
COMPUTER PROGRAMMING	COMMUNICATION SYSTEMS
ROADNET	BENEFIT COST ANALYSIS
FORTRAN	ELECTRONIC COMPUTERS
DRIVERS /VEHICLE/	ELECTRONIC DEVICES

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 205537

A DESIGN FOR AN EXPERIMENTAL ROUTE GUIDANCE SYSTEM

TRABOLD WG
PREWITT TAHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 265, PP 50-61, 12 FIG, 2 REF

*TRAFFIC CONTROL AND OPERATIONS	
ROUTING	GUIDANCE
DRIVERS /VEHICLE/	ELECTRONIC DEVICES
DIGITAL TECHNIQUES	COMMUNICATION SYSTEMS
DISPLAYS	DISTANCE

53 205538

EXPERIMENTAL ROUTE GUIDANCE HEAD-UP DISPLAY RESEARCH

BENZINGER RW
BELL EHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 265, PP 62-70, 7 FIG, 1 TAB, 7 REF

*TRAFFIC CONTROL AND OPERATIONS	
DISPLAYS	HEAD-UP DISPLAY
ELECTRONIC DEVICES	OPTICAL INSTRUMENTS
AIRCRAFT	FEASIBILITY STUDIES
ROAD TESTS	GUIDANCE
ROUTING	ROADNET

53 205786

TRAFFIC DELAY ON URBAN ARTERIAL STREETS AS A RESULT OF CURB PARKING MANEUVERS

WEBSTER LA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 267, PP 1-14, 3 FIG, 6 TAB, 21 REF

*TRAFFIC CONTROL AND OPERATIONS	
TRAFFIC DELAY	URBAN HIGHWAYS
ARTERIAL STREETS /URBAN/	ON STREET PARKING
DIGITAL COMPUTERS	TRAFFIC FLOW SIMULATION
FDRTRAN	MODELS
LEVEL OF SERVICE	REVIEWS
DATA ACQUISITION	STATISTICAL ANALYSIS
TURNOVER	

53 206299

MOTORISTS' NEEDS AND SERVICES ON INTERSTATE HIGHWAYS

KUPRIJANOW A
ROSENZWEIG S
WARSKOW MAHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 64, 89 PP, 16 FIG, 19 TAB, 58 REF, 6 APP

*TRAFFIC CONTROL AND OPERATIONS	
*HIGHWAY SAFETY	*ROADSIDE DEVELOPMENT
*ROAD USER CHARACTERISTICS	INTERSTATE HIGHWAY SYSTEM
HIGHWAY USER SERVICES	EMERGENCY SERVICES
REST AREAS	AVERAGE DAILY TRAFFIC
HOUSE TRAILERS	INFORMATION DISSEMINATION

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 206597

TRAFFIC CONTROL FOR FREEWAY MAINTENANCE

HRB NCHRP SYNTHESIS OF HWY PRACTICE 69
 NC 1, 47 PP, FIGS, 6 TAB, REFS, 4 APP
 TRAFFIC CONTROL DEVICES
 *TRAFFIC CONTROL AND OPERATIONS
 FREEWAYS
 TRAFFIC CONTROL
 MAINTENANCE OPERATIONS
 UNIFORMITY
 TRAFFIC CONGESTION
 REFLECTORIZATION
 WARNING SIGNS

FREWAY OPERATIONS
 HIGHWAY MAINTENANCE
 TRAFFIC CONTROL DEVICES
 TRAFFIC VOLUME
 NIGHT
 LIGHTING
 BARRICADES

53 206618

DEER MOVEMENTS AND BEHAVIOR ALONG AN INTERSTATE HIGHWAY

PEEK FW
 BELLIS EO

HIGHWAY RESEARCH NEWS, HWY RES BOARD 69
 NO 36, PP 36-42, 5 FIG, 2 REF

*TRAFFIC CONTROL AND OPERATIONS
 INTERSTATE HIGHWAY SYSTEM DEER
 TRAFFIC ACCIDENT CAUSES ACCIDENT RATES
 DAY NIGHT

53 206759

SERVICE SIGNING AND MOTORIST'S CHOICE

FOOY TJ
 TAYLOR WC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 279, PP 13-23, 9 FIG, 3 TAB, 4 REF, 1 APP

*TRAFFIC CONTROL AND OPERATIONS
 INFORMATION DISSEMINATION SIGNING
 RURAL HIGHWAYS INTERSTATE HIGHWAY SYSTEM
 HIGHWAY USER SERVICES SERVICES
 AVAILABILITY QUESTIONNAIRES
 HIGHWAY USERS BEFORE AND AFTER STUDIES
 INTERCHANGES DATA ANALYSIS
 GASOLINE SALES

53 206760

RESPONSE TO A CB RADIO DRIVER AID NETWORK

BAUER HJ
 QUINN CE
 MALO AF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 279, PP 24-39, 14 FIG, 5 REF

*TRAFFIC CONTROL AND OPERATIONS
 HIGHWAYS SURVEILLANCE
 RADIO DRIVERS /VEHICLE/
 EMERGENCY SERVICES DISABLED VEHICLES
 TRAFFIC ACCIDENT REPORTING TRAFFIC FLOW
 HIGHWAY SAFETY

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 206763

MULTILEVEL APPROACH TO THE DESIGN OF A FREEWAY CONTROL SYSTEM

DREW DR
 BREWER KA
 BUHR JH
 WHITSON RH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 279, PP 40-55, 9 FIG, 12 REF

*TRAFFIC CONTROL AND OPERATIONS
 FREEWAY OPERATIONS TRAFFIC CONTROL SYSTEMS
 FREEWAY RAMPS MERGING TRAFFIC
 GAP ACCEPTANCE
 FREEWAY ENTRANCES AND EXITS
 REAR END COLLISIONS ACCIDENT PREVENTION
 FREEWAY CAPACITY TRAFFIC CONGESTION
 MULTIPLE PATHS

53 206764

TRAFFIC CONTROL ON A TWO-LANE, HIGH-SPEED, HIGH VOLUME FREEWAY ENTRANCE

HAACK H
 MADSEN L
 NEWMAN L
 SCHAEFER WE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 279, PP 56-69, 9 FIG

*TRAFFIC CONTROL AND OPERATIONS
 TRAFFIC CONTROL TWO LANE HIGHWAYS
 ON RAMPS
 FREEWAY ENTRANCES AND EXITS
 HIGH SPEED TRAFFIC VOLUME
 FREEWAY OPERATIONS EXPRESSWAYS

53 206765

RAMP CAPACITY AND SERVICE VOLUME AS RELATED TO FREEWAY CONTROL

BREWER KA
 BUHR JH
 DREW DR
 MESSER CJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 279, PP 70-86, 10 FIG, 8 TAB, 25 REF

*TRAFFIC CONTROL AND OPERATIONS
 FREEWAY OPERATIONS TRAFFIC CONTROL
 FREEWAY CAPACITY FREEWAY RAMPS
 GAP ACCEPTANCE MERGING TRAFFIC
 FREEWAY ENTRANCES AND EXITS

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 206766

TRAFFIC CHARACTERISTICS FOR IMPLEMENTATION AND CALIBRATION OF FREEWAY MERGING CONTROL SYSTEMS

BUHR JH
WHITSON KJ
BREWER KA
DREW DR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, PP 87-106, 24 FIG, 5 TAB, 11 REF

*TRAFFIC CONTROL AND OPERATIONS	
DATA ACQUISITION	ELECTRONIC DATA PROCESSING
GAP ACCEPTANCE	FREEWAY OPERATIONS
TRAFFIC CONTROL	CLOSED CIRCUIT TELEVISION
DIGITAL COMPUTERS	FREEWAY RAMPS
VEHICLE PERFORMANCE	SPEED
TRAVEL TIME	ACCELERATION
FREEWAY ENTRANCES AND EXITS	
TRAFFIC FLOW CHARACTERISTICS	

53 206770

A MOVING VEHICLE MERGING CONTROL SYSTEM

BUHR JH
RADKE ML
KIRK DM
DREW DR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, PP 121-136, 9 FIG, 8 TAB, 8 REF

*TRAFFIC CONTROL AND OPERATIONS	
MOVING VEHICLES	MERGING TRAFFIC
TRAFFIC CONTROL	FREEWAY OPERATIONS
FREEWAY ENTRANCES AND EXITS	
GAP ACCEPTANCE	FREEWAY RAMPS
DRIVER REACTION	LEVEL OF SERVICE

53 206771

DESIGN OF FREEWAY ENTRANCE RAMP MERGING CONTROL SYSTEMS

BUHR JH
MCCASLANDO WR
CARVELL JD
DREW DR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, PP 137-149, 11 FIG, 6 REF

*TRAFFIC CONTROL AND OPERATIONS	
FREEWAY OPERATIONS	
FREEWAY ENTRANCES AND EXITS	
FREEWAY RAMPS	GAP ACCEPTANCE
MERGING TRAFFIC	TRAFFIC CONTROL
TRAFFIC CONTROL DEVICES	

53 206772

SOME DESIGN CONSIDERATIONS OF DIGITAL COMPUTER CONTROL SYSTEMS APPLIED TO FREEWAY TRAFFIC OPERATIONS

BUHR JH
DREW DR
GAY JN
WHITSON RH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, PP 150-152

*TRAFFIC CONTROL AND OPERATIONS	
DIGITAL COMPUTERS	ELECTRONIC CONTROL
FREEWAYS	FREEWAY OPERATIONS
TRAFFIC SURVEILLANCE	TRAFFIC CONTROL
TRAFFIC CONTROL SYSTEMS	ELECTRONIC DATA PROCESSING
DATA ACQUISITION	DETECTORS /TRAFFIC/
AUTOMATIC CONTROL	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 206773

RAMP CONTROL ON FREEWAYS IN CALIFORNIA

RUSSELL GL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, PP 153-154

*TRAFFIC CONTROL AND OPERATIONS	
FREEWAY RAMPS	TRAFFIC CONTROL
AUTOMATIC TRAFFIC SIGNAL CONTROL	
QUEUES	STORAGE
FREEWAY OPERATIONS	TRAFFIC SPEED
TRAVEL TIME	TRAFFIC VOLUME

53 206774

AIRPORT DEMAND CHARACTERISTICS AFFECTING FREEWAY OPERATIONS

BAY PN

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, P 155

*TRAFFIC CONTROL AND OPERATIONS	
AIRPORTS	FREEWAY OPERATIONS
EMPLOYMENT	BUSINESS
TERMINALS /TRANSPORTATION/	RECREATION
SALES	SERVICES
TRAFFIC GENERATION	AIR TRANSPORTATION
FREEWAY PLANNING	

53 206775

ANALYSIS OF WRONG-WAY INCIDENTS ON MICHIGAN FREEWAYS

RICHARD CL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, P 156

*TRAFFIC CONTROL AND OPERATIONS	
WRONG WAY	RURAL HIGHWAYS
FREEWAYS	DATA ACQUISITION
ACCIDENT INVESTIGATION	TRAFFIC ACCIDENTS
DRINKING DRIVER	WEEKEND
NIGHT	DAY
DIAMOND INTERCHANGES	AGE
DRIVERS /VEHICLE/	DRIVER PERFORMANCE
VIOLATIONS	

53 206776

AN ANALYSIS OF SHORT-TERM IMPLEMENTATION OF RAMP CONTROL ON THE DAN RYAN EXPRESSWAY

FONDA RD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, P 157

*TRAFFIC CONTROL AND OPERATIONS	
FREEWAY RAMPS	EXPRESSWAYS
METERING	GEOMETRIC DESIGN
TRAFFIC CONTROL	
FREEWAY ENTRANCES AND EXITS	
TRAFFIC CONGESTION	TRAVEL TIME
TRAFFIC ACTUATED SIGNAL CONTROLLERS	
FREEWAY OPERATIONS	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 206777

AUTOMATIC FREEWAY SURVEILLANCE AND EVALUATION TECHNIQUES

MCDERMOTT JM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, P 158

*TRAFFIC CONTROL AND OPERATIONS	FREEWAY OPERATIONS
EXPRESSWAYS	TRAFFIC CONTROL
TRAFFIC SURVEILLANCE	DIGITAL COMPUTERS
DETECTORS /TRAFFIC/	FREEWAY RAMP
AUTOMATIC CONTROL	
FREEWAY ENTRANCES AND EXITS	TRAFFIC DENSITY
ELECTRONIC CONTROL	TRAVEL TIME
PEAK HOUR TRAFFIC	

53 206778

DEVELOPMENT AND EVALUATION OF EXPERIMENTAL INFORMATION SIGNS

HOGG GC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, P 159

*TRAFFIC CONTROL AND OPERATIONS	FREEWAY RAMP
TRAFFIC SURVEILLANCE	QUEUES
FREEWAY ENTRANCES AND EXITS	COLOR
METERING	SIGNING
TRAFFIC CONTROL	TRAFFIC CONGESTION
INFORMATION DISSEMINATION	DRIVERS /VEHICLE/
TRAFFIC DELAY	TRAFFIC FLOW PATTERN
DIGITAL COMPUTERS	
DECISION MAKING	
QUESTIONNAIRES	

53 206779

LANE-CHANGING IN MULTILANE FREEWAY TRAFFIC

MORRALL RD
BULLEN AG
GUR YHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, P 160

*TRAFFIC CONTROL AND OPERATIONS	FREEWAYS
MULTILANE HIGHWAY	CHANGES
TRAFFIC LANES	TIME
RANDOM PROCESSES	TRAFFIC SPEED
POISSONS RATIO	SIMULATIONS
TRAFFIC VOLUME	
MATHEMATICAL MODELS	WEAVING TRAFFIC
FREEWAY ENTRANCES AND EXITS	
FINITE ELEMENTS	

53 206780

A SIMULATION MODEL OF LANE-CHANGING ON A MULTILANE HIGHWAY

BULLEN AG
MORRALL RD
ROBERTSON SHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, P 161

*TRAFFIC CONTROL AND OPERATIONS	FREEWAYS
MULTILANE HIGHWAY	DIGITAL TECHNIQUES
SIMULATIONS	TRAFFIC LANES
MATHEMATICAL MODELS	CAR FOLLOWING
CHANGES	TRAFFIC DELAY
GAP ACCEPTANCE	DECELERATION
ACCELERATION	
HEADWAY	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 207645

APPLICATION OF VEHICLE OPERATING CHARACTERISTICS TO GEOMETRIC DESIGN AND TRAFFIC CONDITIONS

WEINBERG MI
THARP KJHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
RPT 68, 38 P, 14 FIG, 1 TAB, 28 REF, 2 APP

*TRAFFIC CONTROL AND OPERATIONS	*HIGHWAY DESIGN
*ROAD USER CHARACTERISTICS	HIGHWAY DESIGN
*HIGHWAY SAFETY	VEHICLE CHARACTERISTICS
TRAFFIC OPERATIONS	STATISTICAL ANALYSIS
VEHICLE PERFORMANCE	VISIBILITY
SKIDDING	GEOMETRIC DESIGN
TRAFFIC SIGNAL TIMING	DESIGN STANDARDS
STABILIZATION	
MOTOR VEHICLES	

53 207676

DEVELOPMENT OF AN ADVISORY SPEED SIGNAL SYSTEM FOR HIGH-SPEED INTERSECTIONS UNDER TRAFFIC-ACTUATED CONTROL

DARE CE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 286, PP 1-17, FIG 13, TAB 13, 10 REF

*TRAFFIC CONTROL AND OPERATIONS	TRAFFIC ACTUATED SIGNALS
HIGH SPEED	REAR END COLLISIONS
INTERSECTIONS	TRAFFIC CONTROL SYSTEMS
ACCIDENT PREVENTION	TRAFFIC DELAY STUDIES
SPEED	
SEMI-ACTUATED TRAFFIC SIGNALS	COMPUTER APPLICATIONS
TRAFFIC FLOW SIMULATION	REGRESSION ANALYSIS
MATHEMATICAL MODELS	
SPEED CONTROL SIGNAL	

53 207677

A TRAFFIC SIGNAL DATA MANAGEMENT SYSTEM FOR URBAN TRANSPORTATION PLANNING

FENTON BW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 286, PP 18-32, 2 FIG, 3 TAB, 1 REF, 3 APP

*TRAFFIC CONTROL AND OPERATIONS	TRAFFIC CONTROL SYSTEMS
TRAFFIC SIGNALS	TRAFFIC OPERATIONS
TRAFFIC OPERATIONS RESEARCH	TRAFFIC SIGNAL TIMING
ELECTRONIC DATA PROCESSING	
URBAN TRANSPORTATION PLANNING	
TRAFFIC ASSIGNMENT	
DIGITAL COMPUTERS	
TRAFFIC FLOW	
AUTOMATIC TRAFFIC SIGNAL CONTROL	PLANNING
MAINTENANCE	

53 207678

EVALUATION OF MINOR IMPROVEMENTS

HAMMER CG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 286, PP 33-45, 6 FIG, 18 TAB, 2 REF

*TRAFFIC CONTROL AND OPERATIONS	LEFT TURN ONLY
ACCIDENT PREVENTION	CHANNELIZED INTERSECTIONS
CHANNELIZATION	TRAFFIC SIGNS
BEFORE AND AFTER STUDIES	CURVES
FOUR WAY STOP SIGNS	SPEED
WARNING SIGNS	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 207679

COMPUTER DISPLAYS FOR THE TRAFFIC ENGINEER

SANDYS RC
SCHLAEFLI JL
SHUNK GA
TAYLOR WC

DISCUSSE
DISCUSSE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 286, PP 46-61, 13 FIG, 8 REF

*TRAFFIC CONTROL AND OPERATIONS
DISPLAYS DIGITAL COMPUTERS
TRAFFIC ENGINEERING URBAN AREAS
TRAFFIC FLOW SIMULATION HIGHWAY TRANSPORTATION
CATHODE RAY TUBES COMPUTER PROGRAMMING
TRAFFIC VOLUME TRAFFIC SPEED
TRAFFIC DELAY TRAFFIC FLOW
HIGHWAY USER SERVICES

53 207680

A NEW INTERSECTION STUDY TECHNIQUE

NEMETH LA
TREITEKER J
MORRIS RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 286, PP 62-73, 10 FIG, 2 TAB, 2 REF

*TRAFFIC CONTROL AND OPERATIONS
FIELD MEASUREMENTS INTERSECTIONS
TRAFFIC CONTROL DEVICES TIME LAPSE PHOTOGRAPHY
DATA ACQUISITION INTERSECTION APPROACH
DIGITAL COMPUTERS TRAFFIC FLOW SIMULATION
TRAFFIC SIGNAL TIMING TRAFFIC CONTROL
TRAFFIC ACTUATED SIGNALS TRAFFIC DELAY

53 207681

OPTIMAL SELECTION OF A PROGRESSION FOR A TWO-WAY ARTERIAL STREET

KREER JB
PANYAN WD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 286, PP 74-80, 4 FIG, 1 TAB, 8 REF

*TRAFFIC CONTROL AND OPERATIONS
TWO WAY TRAFFIC PROGRESSION ARTERIAL STREETS /URBAN/
TRAVEL TIME SELECTING
CAR FOLLOWING

53 207682

ACCIDENT EXPOSURE AND INTERSECTION SAFETY FOR AT-GRADE, UNSIGNALIZED INTERSECTIONS

SUKTI VH
MCCARTHY CB

DISCUSSE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 286, PP 81-95, 7 FIG, 7 TAB, 6 REF

*TRAFFIC CONTROL AND OPERATIONS
INTERSECTIONS TRAFFIC SAFETY
COMPARISONS ACCIDENT PROBABILITY
ACCIDENT INVESTIGATION EXPOSURE
MERGING TRAFFIC TRAFFIC ACCIDENTS

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 207905

IMPROVED CRITERIA FOR TRAFFIC SIGNAL SYSTEMS ON URBAN ARTERIALS

WAGNER FA
GERLOUGH DL
BARNES FC

HIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 73, 55 PP, 38 FIGS, 17 TAB, 7 APP, 79 REF

*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC FLOW TRAFFIC SIGNALS
TRAFFIC OPERATIONS FIXED TIME TRAFFIC SIGNALS
FIXED TIME CONTROLLER TESTING
URBAN HIGHWAYS ARTERIAL STREETS /URBAN/
TRAFFIC FLOW SIMULATION TRAFFIC CONTROL SYSTEMS
OFFSETS TRAFFIC ACTUATED SIGNALS
TRAFFIC DELAY STUDIES BENEFIT COST ANALYSIS

53 207907

ON THE AUSTRALIAN ROAD CAPACITY GUIDE

MILLER AJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 289, PP 1-13, 8 FIG, 2 TAB, 25 REF

*TRAFFIC CONTROL AND OPERATIONS
GUIDES HIGHWAY CAPACITY
INTERSECTIONS TRAFFIC SIGNALS
NUMBERS LANES
FORMULAS TURNING MOVEMENTS
TRAVEL TIME TRAFFIC DELAY
OVERTAKING INTERSECTION APPROACH
QUEUES FIXED TIME TRAFFIC SIGNALS

53 207908

EXAMINATION OF CONSISTENCY IN SIGNALIZED INTERSECTION CAPACITY CHARTS OF THE HIGHWAY CAPACITY MANUAL

CHANG YB
BERRY DS
MILLER AJ

DISCUSSE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 289, PP 14-24, 10 FIG, 1 TAB, 12 REF

*TRAFFIC CONTROL AND OPERATIONS
INTERSECTION CAPACITY HIGHWAY CAPACITY
MANUALS PARKING
ONE WAY TRAFFIC TWO WAY TRAFFIC
TRAFFIC SIGNALS CHARTS
CONSISTENCY

53 207909

TRUCK EQUIVALENCY

REILLY EF
SEIFERT J

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 289, PP 25-37, 6 FIG, 7 TAB, 4 REF, 1 APP

*TRAFFIC CONTROL AND OPERATIONS
DUAL HIGHWAYS TWO LANE HIGHWAYS
TRUCKS AVERAGE DAILY TRAFFIC
TRAFFIC SPEED TRAFFIC VOLUME
TRAFFIC COMPOSITION

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 207910

REAL-TIME EVALUATION OF FREEWAY QUALITY OF TRAFFIC SERVICE

WHITSON RH
 BUHR JH
 OREW DR
 MCCASLAND WR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 289, PP 38-50, 11 FIG, 1 TAB, 7 REF

*TRAFFIC CONTROL AND OPERATIONS
 FREEWAY OPERATIONS TRAFFIC CONTROL
 TRAFFIC FLOW CHARACTERISTICS
 AUTOMATIC TRAFFIC SIGNAL CONTROL
 ELECTRONIC COMPUTERS TRAFFIC CONTROL SYSTEMS
 TRAFFIC CONGESTION

53 208093

FREEWAY OPERATIONS BIBLIOGRAPHY-REFERENCES PRIOR TO 1964

HIGHWAY RES CIRCULAR, HWY RES BOARD OCT69
 NO 101, 57 PP

*TRAFFIC CONTROL AND OPERATIONS
 BIBLIOGRAPHIES FREEWAY OPERATIONS
 TRAFFIC FLOW CHARACTERISTICS
 TRAFFIC CONTROL DEVICES TRAFFIC SAFETY

53 208350

PARKING - SELECTED REFERENCES 1968

HIGHWAY RESEARCH BOARD BIBLIOGRAPHY 69
 NO 50, 21 PP, 100 REF

*TRAFFIC CONTROL AND OPERATIONS
 BIBLIOGRAPHIES PARKING
 PARKING DEMAND PARKING LCTS
 PARKING STUDIES

53 209418

INTERNATIONAL EFFORT TOWARD UNIFORMITY ON ROAD SIGNS,
SIGNALS AND MARKINGS

ZUNIGA JM
 VANVECHTEN CT DISCUSSEUR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 299, PAPER NO 1, PP 1-17, 26 FIG, 8 REF

*TRAFFIC CONTROL AND OPERATIONS
 CONFERENCES TRAFFIC SIGNS
 WARNING SIGNS REGULATORY SIGNS
 TRAFFIC SIGNALS TRAFFIC MARKINGS
 GUIDE SIGNS HIGHWAY SIGNS
 UNIFORMITY

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 210603

ANALYSIS AND PROJECTION OF RESEARCH ON TRAFFIC SURVEILLANCE,
COMMUNICATION, AND CONTROL

MCSKOWITZ K
 JORGENSEN R

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
 NO 84, 48 PP, 8 FIG, 1 TAB, 9 APP

*TRAFFIC CONTROL AND OPERATIONS
 RESEARCH TRAFFIC SURVEILLANCE
 TRAFFIC CONTROL VEHICULAR COMMUNICATIONS
 REVIEWS TRAFFIC SIGNAL CONTROLLERS
 FREEWAY RAMPS FREEWAY CAPACITY
 AUTOMATIC TRAFFIC SIGNAL CONTROL
 COMPUTER APPLICATIONS INFRARED DETECTORS
 CAR FOLLOWING TAILLIGHTS

53 210712

RURAL INTERSECTION INVESTIGATION FOR THE PURPOSE OF
EVALUATING THE GENERAL MOTORS TRAFFIC-CONFLICTS TECHNIQUE

CAMPBELL RE
 KING LE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 SPECIAL REPT NO 107, PP 60-69, 5 FIG, 2 TAB, 17 REF

*TRAFFIC CONTROL AND OPERATIONS
 RURAL HIGHWAYS INTERSECTIONS
 CONFLICT TRAFFIC FLOW
 ACCIDENT PRONENESS BRAKING
 WEAVING TRAFFIC EVALUATION

53 210713

ESTABLISHING PRIORITIES FOR THE INSTALLATION OF TRAFFIC
CONTROL DEVICES: THE RAIL-HIGHWAY INTERSECTION EXAMPLE

RICHARDS HA
 HOOKS DL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 SPECIAL REPT NO 107, PP 70-80, 3 TAB, 4 REF

*TRAFFIC CONTROL AND OPERATIONS
 TRAFFIC CONTROL DEVICES RAILROAD GRADE CROSSING
 GRADE CROSSINGS /HIGHWAYS/ HIGHWAY SAFETY
 MAINTENANCE COSTS BENEFIT COST ANALYSIS
 ECONOMIC ANALYSIS TRAFFIC ACCIDENTS
 HIGHWAYS INTERSECTIONS

53 210714

A STUDY OF ROADWAY DELINEATION SYSTEMS

TAYLOR JI

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
 SPECIAL REPT NO 107, PP 81-88, 5 FIG

*TRAFFIC CONTROL AND OPERATIONS
 HIGHWAY DELINEATION DRIVERS /VEHICLE/
 DRIVER PERFORMANCE EVALUATION
 TEST METHODS INFORMATION DISSEMINATION
 DECISION MAKING

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 210715

USE OF A RUMBLE STRIPE TO REDUCE MAINTENANCE AND INCREASE DRIVING SAFETY

CAHOEN R

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
SPECIAL REPT 107, PP 89-98, 22 FIG, 1 TAB, 2 REF

*TRAFFIC CONTROL AND OPERATIONS	
RUMBLE STRIPS	SNOW REMOVAL
SNOWPLOW	
ROUGH TEXTURED WARNING PAVEMENT	
GROOVING	ECONOMICS
DURABILITY	

53 210859

HIGHWAY FOG

KCCMONO WC
PERCHONUK KHIGHWAY RESEARCH BOARD NCHRP DIGEST FEB70
DIGEST 15, 2 PP, 1 TAB

*TRAFFIC CONTROL AND OPERATIONS	
HIGHWAYS	STATE OF THE ART STUDIES
FOG	FOG DISPERSION
TRAFFIC ACCIDENT CAUSES	TAILLIGHTS
HYGROSCOPICITY	VISIBILITY
HIGHWAY LIGHTING	DELINEATORS /TRAFFIC/

53 211771

RADIO SYSTEM CALLS "HELP" WITHOUT WIRES OR BATTERIES

HIGHWAY RESEARCH NEWS, HWY RES BOARD 70
NO 39, PP 35-37, 2 FIG

*TRAFFIC CONTROL AND OPERATIONS	
RADIO TRANSMISSION	
RADIO COMMUNICATION SYSTEMS	
SOLID STATE	HIGHWAY USERS
DISTRESS	FREQUENCY MODULATION
EMERGENCY SERVICES	

53 211773

AN INVENTORY OF FREEWAY SURVEILLANCE AND OPERATIONAL CONTROL ACTIVITIES

HIGHWAY RES CIRCULAR, HWY RES BOARD JUN70
NL 108, 38 PP, 3 APP

*TRAFFIC CONTROL AND OPERATIONS	
INVENTORIES	FREEWAY OPERATIONS
TRAFFIC SURVEILLANCE	TELEMETRY
TRAFFIC STUDIES	DATA ACQUISITION

53 212118

FEASIBILITY OF AN EXCLUSIVE LANE FOR BUSES ON THE SAN FRANCISCO-OAKLAND BAY BRIDGE

MARTIN DB
KOPPELMAN FS

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 303, PP 17-29, 2 FIG, 1 TAB, 2 PHOT, 1 APP

*TRAFFIC CONTROL AND OPERATIONS	
BUS LANES	HIGHWAY BRIDGES
PEAK HOUR TRAFFIC	MODAL SPLIT
TRAFFIC CAPACITY	TRAFFIC DELAY COSTS
TRAFFIC CONGESTION	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 212119

AN EMPIRICAL ANALYSIS OF LANE CHANGING ON MULTILANE HIGHWAYS

MORRALL RD
BULLEN AGHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 303, PP 30-43, 23 FIG, 2 TAB, 12 REF

*TRAFFIC CONTROL AND OPERATIONS	
MULTILANE HIGHWAY	GAP ACCEPTANCE
FREEWAYS	SPEED CHANGE LANES
WEAVING SECTIONS	DATA ACQUISITION

53 212120

AN EVALUATION OF RAMP CONTROL ON THE HARBOR FREEWAY IN LOS ANGELES

NEWMAN L
DUNNET AM
MEIS GJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 303, PP 44-55, 5 FIG, 3 PHOT, 1 REF

*TRAFFIC CONTROL AND OPERATIONS	
FREEWAY RAMP	CONTROL
FREEWAY OPERATIONS	TRAVEL TIME
TRAFFIC CONGESTION	METERING
ON RAMP	QUEUES
TRAFFIC SIGNAL TIMING	INTERSECTIONS
HIGHWAY USER BENEFITS	

53 212121

THE ANALYSIS AND DESIGN OF FREEWAY ENTRANCE RAMP CONTROL SYSTEMS

YAGODA HN
PIGNATARO LJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 303, PP 56-73, 21 FIG, 6 REF

*TRAFFIC CONTROL AND OPERATIONS	
FREEWAY ENTRANCES AND EXITS	
ON RAMP	TRAFFIC SURVEILLANCE
CONTROL	MERGING TRAFFIC
TRAFFIC ACTUATED SIGNAL CONTROLLERS	
FIXED TIME CONTROLLER	TRAFFIC DELAY
METERING	TRAFFIC CONTROL SYSTEMS
FREEWAY OPERATIONS	

53 212122

STUDY OF RURAL FREEWAY EMERGENCY COMMUNICATIONS FOR STRANDED MOTORISTS

ROTH WJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 303, PP 74-88, 20 FIG, 9 TAB, 2 PHOT

*TRAFFIC CONTROL AND OPERATIONS	
RURAL HIGHWAYS	FREEWAYS
EMERGENCY SERVICES	DISABLED VEHICLES
COMMUNICATION SYSTEMS	TELEPHONES
TRAFFIC VOLUME	TRUCK DRIVERS
AUTOMOBILE DRIVERS	UTILIZATION
SURVEYS /DATA COLLECTION/	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 212123

DESIGNING THE FIRST FLASH INSTALLATION

WISEPART IS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 303, PP 89-94, 4 FIG, 1 PHOT, 2 REF

*TRAFFIC CONTROL AND OPERATIONS	
PASSING	AUTOMOBILE DRIVERS
DISABLED VEHICLES	FLASHING
HEADLIGHTS	EMERGENCY SERVICES

53 212987

AN ELEMENTARY STOCHASTIC MODEL OF LANE-CHANGING ON A MULTILANE HIGHWAY

WDRRALL RD
BULLEN AG
GUR YHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 308, PP 1-12, 10 FIG, 2 REF

*TRAFFIC CONTROL AND OPERATIONS	
STOCHASTIC PROCESSES	TRAFFIC FLOW SIMULATION
MODELS	MULTILANE HIGHWAY
WEAVING SECTIONS	WEAVING TRAFFIC
TRAFFIC LANES	CHANGES
DATA ACQUISITION	FREEWAYS
CALIBRATIONS	

53 212989

THE DEVELOPMENT AND VALIDATION OF A FREEWAY TRAFFIC SIMULATOR

SINHA KC
DAWSON RFHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 308, PP 34-47, 10 FIG, 8 REF, APP

*TRAFFIC CONTROL AND OPERATIONS	
DIGITAL SYSTEMS	FREEWAYS
TRAFFIC FLOW SIMULATION	TRAFFIC SPEED
TRAFFIC VOLUME	COMMERCIAL VEHICLES
TRAFFIC FLOW CHARACTERISTICS	
COMPUTER APPLICATIONS	

53 212990

ANALYSIS OF A SIGNAL-CONTROLLED RAMP'S CHARACTERISTICS

BREWER KA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 308, PP 48-61, 7 FIG, 7 TAB, 10 REF

*TRAFFIC CONTROL AND OPERATIONS	
TRAFFIC CONTROL	TRAFFIC SIGNALS
FREEWAY RAMP	QUEUES
MATHEMATICAL MODELS	METERING
GAP ACCEPTANCE	POISSONS RATIO
ON RAMP	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 212991

EFFECT OF TRUCKS ON THE URBAN FREEWAY

HUMPHREYS JB
MAYNES JJ
ATHUL PJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 308, PP 62-79, 8 FIG, 2 TAB, 12 REF

*TRAFFIC CONTROL AND OPERATIONS	
LEVEL OF SERVICE	URBAN HIGHWAYS
FREEWAYS	ACCELERATION
TRAFFIC NOISES	
TRUCK EFFECT ON HIGHWAY CAPACITY	
TRUCKS	AERIAL PHOTOCGRAPHS
TIME LAPSE PHOTOGRAPHY	TRAFFIC SPEED
HIGHWAY USERS	

53 213002

HIGHWAY FOG

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 95, NCHRP PROJECT 5-6 48 PP, 4 FIG, 3 TAB, 18 REF, 8 APP

*TRAFFIC CONTROL AND OPERATIONS	
HIGHWAYS	FOG
FOG DISPERSION	REVIEWS
TRAFFIC OPERATIONS	DRIVER PERFORMANCE
VISIBILITY	ACCIDENT SEVERITY RATE
OVERDRIVING	HYGROSCOPIC MATERIALS
GUIDANCE	POLARIZED LIGHT
MOTOR VEHICLES	HIGHWAY LIGHTING
TRAFFIC SPEED	VEHICLE LIGHTING
TAILLIGHTS	

53 213981

STRUCTURING A SYSTEMS ANALYSIS OF PARKING

ELLIS RH
RASSAM PR
PENOKUR VS DISCUSSER
SCHULMAN LL DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 317, PP 1-13, 4 FIG, 6 REF

*TRAFFIC CONTROL AND OPERATIONS	
SYSTEMS ANALYSIS	PARKING
URBAN TRANSPORTATION	SIMULATIONS
ALTERNATE SYSTEMS	

53 213982

A PARKING STUDY THROUGH THE USE OF ORIGIN-DESTINATION DATA

SCHULMAN LL
STOUT RWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 317, PP 14-29, 21 FIG, 1 TAB, 2 REF

*TRAFFIC CONTROL AND OPERATIONS	
PARKING STUDIES	
ORIGIN & DESTINATION STUDIES	
PARKING DEMAND	FORECASTING
TRANSPORTATION MODELS	
URBAN TRANSPORTATION PLANNING	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 213983

A PARAMETRIC ANALYSIS OF FLEET PARKING TERMINAL CAPACITY

YU JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 317, PP 30-39, 8 FIG, 7 REF

*TRAFFIC CONTROL AND OPERATIONS	
FLEETS	PARKING DEMAND
PARKING CAPACITY	PARKING STUDIES

53 213984

TRENDS IN CBD PARKING CHARACTERISTICS, 1956 TO 1968

STOUT RW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 317, PP 40-47, 10 TAB, 4 REF

*TRAFFIC CONTROL AND OPERATIONS	
CENTRAL BUSINESS DISTRICT	PARKING
URBAN AREAS	PARKING STUDIES
POPULATION	TRAFFIC VOLUME
PARKING DEMAND	WALKS

53 214579

ICE DETECTION, PREDICTION, AND WARNING SYSTEM ON HIGHWAYS

INOUE M
BABA K
TAKADA YHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 115, PP 17-26, 3 FIG, 4 TAB, 4 PHOT

*TRAFFIC CONTROL AND OPERATIONS	
ICE	PREDICTIONS
WARNING SYSTEMS	ICING
CHEMICALS	METEOROLOGY
MOISTURE METERS	DATA PROCESSING
DATA TRANSMISSION	WARNING SIGNS
ROAD SURFACES	

53 214624

RELATION OF SIGNALIZED INTERSECTION LEVEL OF SERVICE TO FAILURE RATE AND AVERAGE INDIVIDUAL DELAY

TIDWELL JE
HUMPHREYS JB
SKILES GW
LITTLE JH
SOLOMON DDISCUSSER
DISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 321, PP 16-32, 9 FIG, 4 TAB, 9 REF

*TRAFFIC CONTROL AND OPERATIONS	
*TRAFFIC MEASUREMENT	TRAFFIC DELAY
SERVICE	INTERSECTIONS
TRAFFIC SIGNALS	FAILURE
TRAFFIC SIGNAL TIMING	QUEUEING THEORY
HIGHWAY CAPACITY	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 214625

FREEMWAY TRAVEL TIME EVALUATION TECHNIQUE

MAKIGAMI Y
WOODIE WLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 321, PP 33-45, 8 FIG, 3 TAB, 6 REF

*TRAFFIC CONTROL AND OPERATIONS	
*TRAFFIC MEASUREMENTS	FREEMWAYS
FREEMWAY DESIGN	FREEMWAY RAMPS
TRAVEL TIME	DEMAND
PEAK HOUR TRAFFIC	
ORIGIN & DESTINATION STUDIES	
MATHEMATICAL MODELS	COMPUTER APPLICATIONS
HIGHWAY CAPACITY	

53 214626

MEASURES OF EFFECTIVENESS FOR URBAN TRAFFIC CONTROL SYSTEMS

CGOPER DL
WALINCHUS RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 321, PP 46-59, 5 FIG, 4 TAB, 3 REF

*TRAFFIC CONTROL AND OPERATIONS	
*TRAFFIC MEASUREMENTS	
*URBAN TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION	TRAFFIC SURVEILLANCE
AUTOMATIC CONTROL	VEHICLES
SURVEILLANCE	TRAFFIC CONTROL SYSTEMS
MEASURES OF EFFECTIVENESS	

53 214627

OPERATIONAL EFFICIENCY EVALUATION OF SELECTED AT-GRADE INTERSECTIONS

SURTI VH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 321, PP 60-73, 9 FIG, 5 TAB, 11 REF

*TRAFFIC CONTROL AND OPERATIONS	
*TRAFFIC MEASUREMENTS	INTERSECTIONS
QUEUEING THEORY	PEAK HOUR TRAFFIC
CITY STREETS	TRAFFIC DELAY
MERGING TRAFFIC	PRIORITIES
MINOR TRAFFICWAY	

53 214630

PARKING

HIGHWAY RESEARCH BOARD BIBLIOGRAPHY 69
NO 52, 39 PP, 100 REF

TRAFFIC CONTROL AND OPERATIONS	
PARKING	BIBLIOGRAPHIES
CENTRAL BUSINESS DISTRICT	AIRPORTS
PARKING GARAGES	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 214930

SOME EFFECTS OF LATERAL SIGN DISPLACEMENT

KING GF
GORDON OA DISCUSSER
WILLISTON RM DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 325, PP 15-25, 12 FIG, 5 TAB, 14 REF

*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC SIGN LEGIBILITY HIGHWAYS
GEOMETRY VISION
NIGHT VISION TRAFFIC SIGN DESIGN
TRAFFIC SIGNS NIGHT VISIBILITY
COMPUTER PROGRAMS LATERAL PLACEMENT

53 214931

CALIBRATION AND CORRECTION OF MAGNETIC LOOP DETECTORS

GAZIS DC
FOOTE RS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 325, PP 30-35, 4 FIG, 3 TAB, 3 REF

*TRAFFIC CONTROL AND OPERATIONS
VEHICLE DETECTING EQUIPMENT
MAGNETIC DETECTORS MAGNETIC LOOP DETECTORS
CALIBRATIONS ALIGNING
CORRECTIONS COMPUTER APPLICATIONS
PHOTOELECTRIC CELLS

53 214932

INTERCHANGE RAMP COLOR DELINEATION AND MARKING STUDY

ROTH WJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 325, PP 36-50, 5 FIG, 11 TAB, 3 REF

*TRAFFIC CONTROL AND OPERATIONS
RURAL HIGHWAYS INTERCHANGES
FREEWAYS RAMPS
FREEWAY RAMPS COLOR CODES
BEFORE AND AFTER STUDIES TRAFFIC ACCIDENTS
ACCIDENT PREVENTION TRAFFIC CONTROL
TRAFFIC MARKINGS

53 214933

STREET NAME SIGNS FOR ARTERIAL STREETS

WOODS DL
ROWAN NJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 325, PP 51-61, 20 FIG, 3 TAB, 8 REF

*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC SIGNS STREET NAME SIGNS
COLOR TRAFFIC SIGN LEGIBILITY
LEFT TURN DRIVER REACTION
ARTERIAL STREETS /URBAN/
LETTERS BACKGRUNDS
INTERSECTIONS

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 215735

OPTIMIZING STREET OPERATIONS THROUGH TRAFFIC REGULATIONS AND CONTROL

KELL JH
JOHNSON BC

HIGHWAY RESEARCH BOARD NCHRP REPORTS 7C
NO 110, 100 PP, 65 FIG, 34 TAB, 7 REF, 4 APP

*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC CONTROL TRAFFIC LAWS
TRAFFIC FLOW TRAFFIC SIGNAL TIMING
ONE WAY TRAFFIC LEFT TURN

53 215736

OPTIMIZING FLOW ON EXISTING STREET NETWORKS

HIGHWAY RESEARCH BOARD NCHRP DIGEST NCV7C
NO 21, NCHRP PROJ 3-14, 5 PP

*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC ENGINEERING TRAFFIC FLOW
CENTRAL BUSINESS DISTRICT TRAFFIC CONGESTION
INTERSECTIONS CITY STREETS
LEVEL OF SERVICE ROAD IMPROVEMENTS
MODELS TRAVEL TIME

53 215740

IMPROVED CRITERIA FOR TIMING TRAFFIC SIGNAL SYSTEMS IN URBAN NETWORKS

HIGHWAY RESEARCH BOARD NCHRP DIGEST JAN7I
NO 26, NCHRP PROJECT 3-5, 3 PP, 1 FIG

*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC SIGNAL TIMING TRAFFIC CONTROL SYSTEMS
CITY STREETS TRAFFIC DELAY
COMPUTERS SIMULATIONS
TRAFFIC SIGNALS TRAFFIC FLOW

53 215811

DEVELOPMENT ON INFORMATION REQUIREMENTS AND TRANSMISSION TECHNIQUES FOR HIGHWAY USERS

KING GF
LUNENFELD H

HIGHWAY RESEARCH BOARD NCHRP DIGEST FEB7I
NO 28, 4 PP

*TRAFFIC CONTROL AND OPERATIONS
INFORMATION DRIVERS /VEHICLE/
HIGHWAY USERS DRIVING
DRIVER REACTION TRACKING
SPEED CONTROL TRIP GENERATION
SIGNS DESIGN
LEGIBILITY NIGHT
COMPUTER PROGRAMS MATHEMATICAL MODELS
BLOCKING TRUCKS
LETTERS DIRECTION FINDING

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 216376

REDUCING MOTORIST INCONVENIENCE DUE TO MAINTENANCE
OPERATIONS ON HIGH-VOLUME FREEWAYSFCRBBS CE
SMITH JH
SCHALFER WEHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 116, PP 181-188, 7 FIG, 1 REF

*TRAFFIC CONTROL AND OPERATIONS	
HIGHWAY MAINTENANCE	MUDJACKING
TRAFFIC FLOW	TRAFFIC CONGESTION
FREEWAYS	LANES
SHOULDERS	CONSTRICTIONS

53 218556

OPTIMIZING FLOW ON EXISTING STREET NETWORKS

PONTIER WE
MILLER PW
KRAFT WHHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 113, PROJ 3-14, 414 PP, FIGS, TABS, 103 REF, 7 APP

*TRAFFIC CONTROL AND OPERATIONS	
CITY STREETS	TRAFFIC FLOW
NETWORKS	OPTIMIZATION
TRAFFIC ASSIGNMENT	MATHEMATICAL MODELS
LEVEL OF SERVICE	TRAFFIC CAPACITY
SIGNAL CONTROL	REVERSIBLE TRAFFIC LANES
CURBS	LANES
CHANNELIZATION	WEATHER
BUS TRANSPORTATION	BUS STOPS
ONE WAY TRAFFIC	TRAFFIC SIGNAL TIMING
EXPERIMENTS	URBAN TRANSPORTATION
ARTERIAL STREETS /URBAN/	

53 218968

AN ANALYSIS OF DIAMOND INTERCHANGE SIGNALIZATION

MUNJAL PK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 349, PP 47-64, 13 FIG, 2 TAB, 13 REF

*TRAFFIC CONTROL AND OPERATIONS	
SIGNAL CONTROL	DIAMOND INTERCHANGES
REAL TIME CONTROL	TRAFFIC SIGNAL NETWORKS
TRAFFIC SIGNAL COORDINATION	
PARAMETERS	EVALUATION
CHARACTERISTICS	CORRELATIONS
RAMP LOCATION & SPACING	

53 218972

CALIFORNIA EXPLORES METHODS OF FIGHTING CONTINUING PROBLEM
OF WRONG-WAY DRIVINGHIGHWAY RESEARCH NEWS, HWY RES BOARD 71
NO 44, PP 31-33, 2 PHOT

*TRAFFIC CONTROL AND OPERATIONS	
WRONG WAY	ACCIDENTS
SIGNS	PAVEMENTS
WARNING SYSTEMS	FREEWAY RAMPS
SURVEILLANCE	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 219996

MOTORIST AID SYSTEMS

HRB NCHRP SYNTHESIS OF HWY PRACTICE 71
NO 7, 28 PP, 9 FIG, 3 TAB, KEYS, 2 APP

*TRAFFIC CONTROL AND OPERATIONS	
MOTORIST AID SYSTEMS	TELEPHONES
RADIO COMMUNICATION SYSTEMS	
PATROL	TWO WAY COMMUNICATION
CITIZEN BAND RADIO	
TELEVISION SURVEILLANCE /TRAFFIC/	
COOPERATIVE MOTORIST AID	SURVEILLANCE
COORDINATION	POLICE PATROLLING
EMERGENCY SERVICES	PUBLIC RELATIONS
COOPERATION	

53 220318

HIGHWAY COMMUNICATIONS TRUNK REQUIREMENTS

HIGHWAY RES CIRCULAR, HWY RES BOARD SEP71
NO 128, 19 OP, 14 FIG, 20 REF

*TRAFFIC CONTROL AND OPERATIONS	
HIGHWAYS	COMMUNICATION SYSTEMS
REQUIREMENTS	DATA
DATA SYSTEMS	VOICE COMMUNICATION
INFORMATION SYSTEMS	

53 220703

MOTORIST WARNING SYSTEM FOR DUST STORMS UNDER TEST BY
ARIZONA HIGHWAY DEPARTMENTHIGHWAY RESEARCH NEWS, HWY RES BOARD SEP71
NO 45, PP 36-39, 1 FIG, 1 PHOT

*TRAFFIC CONTROL AND OPERATIONS	
WARNING SIGNS	DUSTS
WIND	STORMS

53 220785

IMPROVED CRITERIA FOR TRAFFIC SIGNAL SYSTEMS IN URBAN
NETWORKSWAGNER FA
BARNES FC
GERLOUGH DLHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 124, 86 PP, FIGS, TABS, 2L REF, 9 APP

*TRAFFIC CONTROL AND OPERATIONS	
COMPUTER APPLICATIONS	STREETS
NETWORKS	TRAFFIC FLOW
PEAK HOUR TRAFFIC	SPEED
SIMULATIONS	COMPUTER SIMULATIONS
TRAFFIC SIGNAL TIMING	
AUTOMATIC TRAFFIC SIGNAL CONTROL	
COMPUTER PROGRAMS	OPTIMIZATION
CITY STREETS	CENTRAL BUSINESS DISTRICT
TRAFFIC FLOW SIMULATION	FIXED TIME TRAFFIC SIGNALS

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 220837

USE OF AN EMERGENCY CALL-BOX SYSTEM ON AN URBAN FREEWAY

GCOLSBY ME
MCCASLAND WRHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 358, PP 1-7, 4 FIG, 11 TAB, 3 REF

*TRAFFIC CONTROL AND OPERATIONS	TRAFFIC ACCIDENT REPORTING
EMERGENCY SERVICES	URBAN HIGHWAYS
CALL BOXES	
COMMUNICATION SYSTEMS	

53 220838

RURAL FREEWAY EMERGENCY COMMUNICATIONS FOR STRANDED MOTORISTS: FINAL PHASE REPORT

ROTH WJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 358, PP 8-16, 4 FIG, 6 TAB, 17 REF

*TRAFFIC CONTROL AND OPERATIONS	TELEPHONES
EMERGENCY SERVICES	RURAL HIGHWAYS
TRAFFIC ACCIDENT REPORTING	
COMMUNICATION SYSTEMS	

53 220839

EVALUATION OF COMMERCIAL RADIO FOR REAL-TIME DRIVER COMMUNICATIONS ON URBAN FREEWAYS

DUDEK CL
FRIEBELE JD
LOUTZENHEISER KCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 358, PP 17-25, 1 FIG, 11 TAB, 4 REF

*TRAFFIC CONTROL AND OPERATIONS	URBAN HIGHWAYS
RADIO	COMMUNICATION SYSTEMS
REAL TIME	DRIVING CONDITIONS
INFORMATION SYSTEMS	

53 220840

EVALUATION OF FREEWAY EMERGENCY SERVICE SYSTEMS USING A SIMULATION MODEL

SAKASHITA M
LU CK
MAY ADHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 358, PP 26-45, 12 FIG, 4 TAB, 13 REF

*TRAFFIC CONTROL AND OPERATIONS	TRAFFIC ACCIDENT REPORTING
EMERGENCY SERVICES	COMMUNICATION SYSTEMS
COMPUTER SIMULATION MODELS	HIGHWAYS
ECONOMIC EVALUATIONS	MODELS
SIMULATIONS	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 220841

TESTING AN EMERGENCY AND REGIONAL MEDICAL HELICOPTER TRANSPORT SYSTEM

JORDAN RF
WEGMANN FJ
CARTER ECHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 358, PP 46-47

*TRAFFIC CONTROL AND OPERATIONS	RURAL AREAS
EMERGENCY SERVICES	MEDICAL SERVICES
HELICOPTERS	SIMULATIONS
MODELS	

53 220842

NORTHWAY EMERGENCY TELEPHONE SYSTEM

GREEN DA
BREGMAN HHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 358, PP 48-49

*TRAFFIC CONTROL AND OPERATIONS	TELEPHONES
EMERGENCY SERVICES	CONTROLLED ACCESS HIGHWAYS
DRIVERS /VEHICLE/	
COMMUNICATION SYSTEMS	

53 221136

STUDY OF DESIGN CONSIDERATION FOR REAL-TIME FREEWAY INFORMATION SYSTEMS AND DISCUSSION

DUDEK CL
MESSER CJ
JONES HBHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 363, PP 1-17, 2 FIG, 8 TAB, 15 REF

*TRAFFIC CONTROL AND OPERATIONS	INFORMATION SYSTEMS
REAL-TIME SYSTEMS	INFORMATION
FREEWAYS	DRIVERS /VEHICLE/
TRAFFIC CONGESTION	RADIO
CHANGEABLE MESSAGE SIGN	TRAFFIC
QUESTIONNAIRES	

53 221137

ATTITUDES AND BEHAVIOR OF DRIVERS REGARDING ROUTE DIVERSION

HEATHINGTON KW
MORRALL RD
HCFE GCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 363, PP 18-26, 11 FIG, 7 REF

*TRAFFIC CONTROL AND OPERATIONS	ROUTE SELECTION
ROUTES	WORK TRIPS
DRIVER BEHAVIOR	DRIVERS /VEHICLE/
METROPOLITAN AREAS	INFORMATION SYSTEMS
QUESTIONNAIRES	TRAFFIC DELAY
TRAVEL TIME	STATISTICAL ANALYSIS
TRAFFIC CONGESTION	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 221138

A MATHEMATICAL MODEL FOR EVALUATING PRIORITY LANE OPERATIONS ON FREEWAYS

SPARKS GA
MAY ADHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 363, PP 27-42, 7 FIG, 4 TAB, 27 REF

*TRAFFIC CONTROL AND OPERATIONS	
MATHEMATICAL MODELS	FREEWAYS
FREEWAY OPERATIONS	TRAVEL TIME
TRAFFIC LANES	RESERVED LANE
AUTOMOBILES	PASSENGERS
CAR POOLS	OCCUPANCY
COMPUTER PROGRAMS	

53 221139

COST-EFFECTIVENESS OF FREEWAY MERGING CONTROL

OUDEK CL
MCCASLAND WRHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 363, PP 43-59, 4 FIG, 4 TAB, 9 REF

*TRAFFIC CONTROL AND OPERATIONS	
COST EFFECTIVENESS	FREEWAYS
MERGING CONTROL SYSTEM	SYSTEMS ENGINEERING
RAMPS	ANALOG SYSTEMS
CONTROL SYSTEMS	DIGITAL SYSTEMS
COMPUTERS	

53 221148

SYSTEMS FOR RESPONDING TO FREEWAY ACCIDENTS - AN ANNOTATED BIBLIOGRAPHY

LU CK
AGARWAL GHIGHWAY RESEARCH BOARD BIBLIOGRAPHY 71
NO 53, 63 PP, 196 REF

*TRAFFIC CONTROL AND OPERATIONS	
*HIGHWAY SAFETY	FREEWAYS
ACCIDENTS	EMERGENCY SERVICES
DETECTION	COMMUNICATIONS

53 221231

INSTRUMENTATION DEVELOPMENT AND CONTRIBUTIONS FROM TRAFFIC FLOW THEORY

FOOTE RS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 368, PP 1-8, 4 FIG

*TRAFFIC CONTROL AND OPERATIONS	
TRAFFIC FLOW THEORY	FREEWAYS
TRAFFIC SURVEILLANCE	POLICE
DIGITAL SYSTEMS	TRAFFIC CONTROL
AUTOMATIC CONTROL	FREEWAY OPERATIONS
TRAFFIC OPERATIONS	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 221232

ACCOMPLISHMENTS IN FREEWAY OPERATIONS OUTSIDE THE UNITED STATES

DUFF JT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 368, PP 9-25, 3 TAB, 20 REF

*TRAFFIC CONTROL AND OPERATIONS		
FOREIGN COUNTRIES		TRAFFIC CONTROL
TRAFFIC OPERATIONS		FREEWAYS
IMPROVEMENT		DRIVERS /VEHICLE/
INFORMATION		CHANGABLE MESSAGE SIGN
DETECTORS /TRAFFIC/		LOOP DETECTORS
REMOTE CONTROL		AUTOMATIC CONTROL
COMPUTER APPLICATIONS		TUNNELS
TRAFFIC CONGESTION		COMPUTER PROGRAMS
AIR POLLUTION		TRAFFIC FLOW
OPTIMIZATION		NETWORKS
FREEWAY OPERATIONS		

53 221233

ACCOMPLISHMENTS IN FREEWAY OPERATIONS IN THE UNITED STATES

WATTLEWORTH JA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 368, PP 26-32

*TRAFFIC CONTROL AND OPERATIONS		
FREEWAY OPERATIONS		FREEWAYS
TRAFFIC OPERATIONS		IMPROVEMENT
HISTORY		FREEWAY DESIGN
TRAFFIC CONTROL		TRAFFIC SURVEILLANCE
ACCESS CONTROL		SAFETY

53 221234

INFORMAL DISCUSSION OF FREEWAY OPERATIONS IN THE UNITED STATES AND OTHER COUNTRIES

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 368, PP 33-36

*TRAFFIC CONTROL AND OPERATIONS	
FREEWAY OPERATIONS	

53 221235

DEVELOPING AN EFFECTIVE FREEWAY TRAFFIC MANAGEMENT SYSTEM

SCHAEFER WE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 368, PP 37-39

*TRAFFIC CONTROL AND OPERATIONS	
FREEWAY OPERATIONS	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 221236

PARKING PRINCIPLES

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 125, 217 PP, FIGS, TABS, PHOTOS, 3 APP

*TRAFFIC CONTROL AND OPERATIONS	
PARKING	OFF STREET PARKING
ON STREET PARKING	PARKING STUDIES
ZONING	PARKING GARAGES
DESIGN	RAPID TRANSIT
LEGAL ASPECT	

53 221279

FREEMWAY LANE DROPS

GAFARIAN AV
GOODWIN BC
LAWRENCE RL

HIGHWAY RESEARCH BOARD NCHRP SUMMARY 71
PP 100-113, 14 FIG

*TRAFFIC CONTROL AND OPERATIONS	
LANE DROP	TRAFFIC OPERATIONS
MEASURING	AERIAL PHOTOGRAPHY
FILMS	TRAFFIC STUDIES

53 221427

CRITERIA FOR NO-PASSING ZONES

VANVALKENBURG GW
MICHEL HL

HIGHWAY RESEARCH RECORD, HWY RES BOARD, 71
NO 366, PP 1-19, 6 FIG, 3 TAB, 21 REF

*TRAFFIC CONTROL AND OPERATIONS	
RURAL HIGHWAYS	NO PASSING ZONE
PASSING	CENTER LINES
CRITERIA	TWO LANE HIGHWAYS
PASSING SIGHT DISTANCE	

53 221428

REAL-TIME NETWORK DECOMPOSITION AND SUBNETWORK INTERFACING

WALINCHUS RJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 20-28, 5 FIG, 3 REF

*TRAFFIC CONTROL AND OPERATIONS	
REAL-TIME SYSTEMS	AUTOMATIC CONTROL
TRAFFIC SIGNAL TIMING	TRAFFIC SIGNALS
OPTIMIZATION	NETWORKS
DIGITAL COMPUTERS	COMPUTER APPLICATIONS
DECOMPOSITION	
AUTOMATIC TRAFFIC SIGNAL CONTROL	

53 221429

PLANNING CONSIDERATIONS FOR TRAFFIC SIGNAL SYSTEMS

DAVIS MG
HIRSCH WB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 29-36, 5 FIG, 3 REF

*TRAFFIC CONTROL AND OPERATIONS	
TRAFFIC SIGNALS	
AUTOMATIC TRAFFIC SIGNAL CONTROL	
AUTOMATIC CONTROL	PLANNING
NETWORKS	SYSTEMS ENGINEERING
SYSTEMS ANALYSIS	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 221430

LEGIBILITY AND BRIGHTNESS IN SIGN DESIGN

ACLER B
STRAUB AL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 37-47, 7 FIG, 14 REF

*TRAFFIC CONTROL AND OPERATIONS	
TRAFFIC SIGNS	LEGIBILITY
VISIBILITY	BRIGHTNESS
DESIGN	LETTERS
NUMBERS	HEIGHT
SIGHT DISTANCE	NIGHT
NIGHT VISIBILITY	ALIGNMENTS
COMPUTER PROGRAMS	

53 221431

DETERMINATION OF SIGN LETTER SIZE REQUIREMENTS FOR NIGHT LEGIBILITY BY COMPUTER SIMULATION

KING GF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 48-63, 10 FIG, 5 TAB, 12 REF, APP

*TRAFFIC CONTROL AND OPERATIONS	
COMPUTER SIMULATIONS	COMPUTER PROGRAMS
SIMULATIONS	DESIGN
TRAFFIC SIGNS	LEGIBILITY
VISIBILITY	HEIGHT
LETTERS	NIGHT
NIGHT VISIBILITY	ALIGNMENTS
BRIGHTNESS	

53 221432

EVALUATION OF REAL-TIME VISUAL INFORMATION DISPLAYS FOR URBAN FREEMWAYS WITH DISCUSSION

DUDEK CL
JONES HB
JACKS M
LEHMAN F

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 64-78, 14 FIG, 6 TAB

*TRAFFIC CONTROL AND OPERATIONS	
DRIVERS /VEHICLE/	INFORMATION
DRIVING CONDITIONS	REAL-TIME SYSTEMS
FREEMWAYS	SIGNING
DIAGRAMMATIC SIGNING	COLOR
SYMBOLS	DIAGRAMS
DISPLAYS	COLOR CODES

53 221433

TRAFFIC DELAY AND WARRANTS FOR CONTROL DEVICES

VODRAZKA WC
LEE CE
HAENEL HE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 79-91, 7 FIG, 2 REF

*TRAFFIC CONTROL AND OPERATIONS	
TRAFFIC CONTROL DEVICES	WARRANTS
TRAFFIC DELAY	CRITERIA
DIGITAL SYSTEMS	DATA RECORDING
STOP SIGNS	FOUR WAY STOP SIGNS
SIGNALIZED INTERSECTIONS	TRAFFIC ACTUATED SIGNALS
TRAFFIC DELAY STUDIES	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 221434

MEDIAN VISIBILITY IMPROVEMENTS: NEEDS, METHODS, AND TRENDS

YU JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 92-101, 3 FIG, 11 REF

*TRAFFIC CONTROL AND OPERATIONS	
MEDIANS	VISIBILITY
NIGHT VISIBILITY	TRAFFIC CONTROL DEVICES
QUESTIONNAIRES	REFLECTORS
GLARE	SCREENING
HEADLIGHTS	TRAFFIC MARKINGS
DELINEATORS /TRAFFIC/	TRAFFIC SIGNS
BENEFIT COST ANALYSIS	

53 221435

DRIVER INFORMATION NEEDS

ALLEN TM
LUMENFELD M
ALEXANDER GJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 102-115, 1 FIG, 2 TAB, 36 REF

*TRAFFIC CONTROL AND OPERATIONS	
DRIVERS /VEHICLE/	INFORMATION
DRIVING	FUNCTIONS
WORK	ANALYSIS
DRIVER PSYCHOLOGY	

53 221436

A COMPARISON OF SELECTED TRAFFIC INFORMATION DEVICES

HOFF GC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 116-129, 8 FIG, 3 TAB, 15 REF

*TRAFFIC CONTROL AND OPERATIONS	
DRIVERS /VEHICLE/	INFORMATION
TRAFFIC CONTROL DEVICES	EVALUATION
SIGNING	RADIO
DRIVING CONDITIONS	DISPLAYS

53 221437

AN EVALUATION OF A REAR-MOUNTED VEHICLE SPEED INDICATOR /ABRIDGMENT/

JOLLIFEE C
GRAF C
ALGEN DHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 366, PP 130-132, 2 FIG

*TRAFFIC CONTROL AND OPERATIONS	
REAR END COLLISIONS	TAILLIGHTS
SPEED	DISTANCE
EVALUATION	PERCEPTION

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 221549

CRITICAL REVIEW OF CLIMBING-LANE DESIGN PRACTICES

STIMPSON WA
GLENNON JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 371, PP 1-11, 8 FIG, 1 TAB, 10 REF, 1 APP

*TRAFFIC CONTROL AND OPERATIONS	
DESIGN STANDARDS	SAFETY
CLIMBING LANES	TRUCKS
GRADES	TRUCK LANES
TRUCK PERFORMANCE	DESIGN CRITERIA
SPEED	HIGHWAY DESIGN

53 221550

OPTIMAL GEOMETRIC DESIGN DECISIONS FOR HIGHWAY SAFETY

MAEFNER LE
MORLUK EKHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 371, PP 12-23, 6 FIG, 3 TAB, 31 REF, 1 APP

*TRAFFIC CONTROL AND OPERATIONS	
SAFETY	GEOMETRIC DESIGN
DESIGN MODELS	ACCIDENT RATES
DECISION THEORY	EXPERIMENTS

53 221551

ACCESS AND PARKING CRITERIA FOR HOSPITALS

PENDAKUS VS
RLER PDHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 371, PP 24-35, 4 FIG, 5 TAB, 13 REF

*TRAFFIC CONTROL AND OPERATIONS	
SAFETY	DESIGN INFORMATION
DESIGN CAPACITY	TRIP GENERATION
HOSPITALS	CRITERIA
PARKING DEMAND	PARKING CAPACITY
PARKING STUDIES	

53 221552

ANALYTICAL AID FOR EVALUATING HIGHWAY AND ROADSIDE GEOMETRICS

MCHENRY RR
DELEYS NJ
EICHER JPHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 371, PP 36-46, 10 FIG, 13 REF

*TRAFFIC CONTROL AND OPERATIONS	
SAFETY	FIXED OBJECT
DESIGN MODELS	DESIGN DATA
ROADSIDE STRUCTURES	APPLICATIONS
SIMULATIONS	ACCIDENT INVESTIGATION
VEHICLE DYNAMICS	COMPUTER GRAPHICS

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 221553

ALIGNMENT COORDINATION IN HIGHWAY DESIGN

SMITH BL
YCTTER EE
MURPHY JSHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 371, PP 47-53, 5 FIG, 6 REF

*TRAFFIC CONTROL AND OPERATIONS	
SAFETY	ALIGNMENTS
VERTICAL CURVES	HORIZONTAL CURVES
COMPUTER PROGRAMS	PLOTTING
GEOMETRIC DESIGN	SPIRALS
TANGENTS	COMPUTER GRAPHICS
CURVES	

53 221554

EVALUATION OF GEOMETRIC IMPROVEMENTS MADE UNDER "TOPICS" -
TRAFFIC OPERATIONS PROGRAM TO INCREASE CAPACITY & SAFETYFEE JA
RCWAN NJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 371, PP 54-63, 3 FIG

*TRAFFIC CONTROL AND OPERATIONS	
SAFETY	CAPACITY
DESIGN	GEOMETRIC DESIGN
PROGRAMS	TOPICS
HIGHWAY SAFETY	

53 221555

GUIDELINES FOR THE INCLUSION OF LEFT-TURN LANES AT RURAL
HIGHWAY INTERSECTIONSRING SL
CARSTENS KLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 371, PP 64-79, 12 FIG, 17 REF, 1 APP

*TRAFFIC CONTROL AND OPERATIONS	
RURAL HIGHWAYS	INTERSECTIONS
LEFT TURN	SAFETY
DESIGN CRITERIA	GEOMETRIC DESIGN
BENEFIT COST ANALYSIS	REGRESSION ANALYSIS
TURNING LANES	

53 221684

DEVELOPMENT OF INFORMATION REQUIREMENTS AND TRANSMISSION
TECHNIQUES FOR HIGHWAY USERSKING GF
LUNENFELD HHIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 123, 239 PP, 119 FIG, 46 TAB, PHOTS, 236 REF, 8 APP

*TRAFFIC CONTROL AND OPERATIONS	
DRIVERS /VEHICLE/	INFORMATION
DRIVING	HIGHWAY SIGNS
DIRECTIONAL SIGN	TRAFFIC SIGN DESIGN
TRAFFIC SIGN LEGIBILITY	NIGHT
HUMAN FACTORS	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 222917

ROADWAY DELINEATION SYSTEMS

TAYLOR JI
HOSTETTER RSHIGHWAY RESEARCH BOARD NCHRP DIGEST MAR72
NO 36 17 PP
15 FIGS

*TRAFFIC CONTROL AND OPERATIONS	
TRAFFIC ENGINEERING	HIGHWAY ENGINEERS
DELINATORS TRAFFIC/	STATE OF THE ART STUDIES
GUIDELINES	GEOMETRICS DATA
FIELD STUDIES	LABORATORY STUDIES
DIAGNOSIS	METHODS
RECOMMENDATIONS	HORIZONTAL CURVES
SPEED ZONES	MERGING TRAFFIC
DIVERGENCE	TURN
TRAFFIC MARKINGS	RUMBLE STRIPS
SHOULDERS	

53 223003

RESEARCH PROBLEM STATEMENTS

HIGHWAY RES CIRCULAR, HWY RES BOARD APR72
NJ 132 31 PP
1 FIG TABS

*TRAFFIC CONTROL AND OPERATIONS	
HIGHWAY RESEARCH	PROJECT PLANNING
PRIORITIES	HIGHWAY IMPROVEMENTS
TRANSPORTATION	FACILITIES
DISABLED VEHICLES	MAINTENANCE OPERATIONS
ACCIDENTS	FREEWAYS
ENERGY ABSORBERS	

53 223322

PARKING - SELECTED REFERENCES - 1970

HIGHWAY RESEARCH BOARD BIBLIOGRAPHY 72
NO 54 18 PP
80 REF

*TRAFFIC CONTROL AND OPERATIONS	
PARKING	PARKING STUDIES

53 223898

AUTOMATION IN TRAFFIC OPERATIONS AND HIGHWAY MAINTENANCE

BETZ MJ

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
SPECIAL REPORT 128 PP 89-92

*TRAFFIC CONTROL AND OPERATION	
AUTOMATION	TRAFFIC OPERATIONS
HIGHWAY MAINTENANCE	AUTOMATIC CONTROL

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 223899

AUTOMATIC TRAFFIC OPERATIONS AND MAINTENANCE IN THE PORT OF
NEW YORK AUTHORITY

GCNSETH AT

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
PP 53-5

SPECIAL REPORT 128

*TRAFFIC CONTROL AND OPERATIONS	
AUTOMATIC CONTROL	TRAFFIC CONTROL
TUNNELS	AUTOMATIC
VEHICLE CLASSIFICATION	TRAFFIC COUNTING
PEDESTRIAN CROSSINGS	TRAFFIC ACTUATED SIGNALS
GRADE SEPARATIONS	

53 223900

THE LOS ANGELES 42-MILE SURVEILLANCE AND CONTROL PROJECT

ESTEP AC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
PP 56-9

1 FIG

SPECIAL REPORT 128

*TRAFFIC CONTROL AND OPERATIONS	
FREEWAYS	TRAFFIC OPERATIONS
TRAFFIC CONTROL	AUTOMATIC CONTROL
SURVEILLANCE	TRAFFIC ACTUATED SIGNALS
RAMP METERING	RAMPS
WARNING SYSTEMS	INFORMATION
DRIVER INFORMATION	REAL TIME SYSTEMS
AIR POLLUTION	MONITORING
EXHAUST GASES	GEOMETRIC DESIGN

53 223914

COMPATIBILITY FILE: AN INFORMATION RETRIEVAL SYSTEM

LELAND SO
BURKE JWHIGHWAY RESEARCH BOARD, HWY RES BOARD JUN72
NO 384 PP 5-16
3 FIG

*TRAFFIC CONTROL AND OPERATIONS	
INFORMATION RETRIEVAL	INFORMATION SYSTEMS
INTERSECTIONS	ROUTES
MILEAGE	

53 224291

INTRODUCTION

NEMETH ZA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
1P

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS	
CHANGEABLE MESSAGE SIGN	COMMUNICATION SYSTEMS
FDG	TRAFFIC CONTROL SYSTEMS
COSTS	DESIGN FEATURES

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 224292

SOME PRINCIPLES FOR COMMUNICATING WITH DRIVERS THROUGH THE
USE OF VARIABLE-MESSAGE DISPLAYS

STEPHENS BW

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
PP 2-6

1 FIG

12 REF

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS	
CHANGEABLE MESSAGE SIGN	DRIVERS /VEHICLE/
COMMUNICATING	DRIVER BEHAVIOR
DRIVER REACTION	INTERPRETATION
RELATIONSHIPS	PLACEMENT

53 224293

CHANGEABLE-MESSAGE SIGNS IN OHIO

BURNS EN

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
PP 7-12

6 FIG

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS	
CHANGEABLE MESSAGE SIGN	FREEWAYS
PEAK HOUR TRAFFIC	TRAFFIC CONGESTION
TRAFFIC CONTROL SYSTEMS	TRAFFIC SURVEILLANCE
CENTRAL BUSINESS DISTRICT	RAMP METERING

53 224294

POTENTIAL USES OF VARIABLE-MESSAGE SIGNS IN NEW YORK CITY

HADDINOTT EV

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
PP 13-16

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS	
CHANGEABLE MESSAGE SIGN	TRAFFIC CONTROL SYSTEMS
INTERSECTIONS	DESIGN FEATURES
PEDESTRIANS	SENSORS
COMPUTERS	

53 224295

USE OF CHANGEABLE-MESSAGE SIGNS BY PORT AUTHORITY

BENDER LE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
PP 17-19

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS	
CHANGEABLE MESSAGE SIGN	STANDARDS
COLOR	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 224296

FOG DETECTORS FOR CONTROLLING CHANGEABLE-MESSAGE SIGNS

SPEAR ED

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
 PP 20-3
 5 FIG 1 TAB 7 REF

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS
 CHANGEABLE MESSAGE SIGN FOG
 DETECTORS VISIBILITY
 AUTOMATIC CONTROL

53 224297

RESEARCH DEVELOPMENT OF THE CHANGEABLE-MESSAGE CONCEPT FOR
FREEWAY TRAFFIC CONTROLMULBERT S
BEERS J

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
 PP 24-5

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS
 CHANGEABLE MESSAGE SIGN RESEARCH
 FREEWAY OPERATIONS DRIVER REACTION
 TRAFFIC LANES TRAFFIC DELAY
 TRAFFIC FLOW

53 224298

CHANGEABLE-MESSAGE SIGNS

HART I

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
 PP 26-8

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS
 CHANGEABLE MESSAGE SIGN MAINTENANCE
 COSTS LIGHTING

53 224299

VARICOM TRAFFIC CONTROL AND COMMUNICATION SYSTEM

POWERS LA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
 PP 29-32

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS
 TRAFFIC CONTROL CHANGEABLE MESSAGE SIGN
 COMMUNICATION SYSTEMS COSTS
 RADIO COMMUNICATION SYSTEMS
 TELEPHONE LINES TELEPHONES

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 224300

DESIGN, OPERATION, AND UTILIZATION OF CHANGEABLE-MESSAGE
SIGNS WITH EMPHASIS ON THE ROTATING-DRUM TYPE

GUNNE SB

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
 PP 33-6
 2 TAB

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS
 CHANGEABLE MESSAGE SIGN REMOTE CONTROL SYSTEMS
 COILS DC MOTORS
 CIRCUITS TABLES /DATA/
 DESIGN

53 224301

THE DISTEC SYSTEM: A SIGN OF OUR TIMES

AIKEN WR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
 PP 37-40

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS
 CHANGEABLE MESSAGE SIGN VISIBILITY
 COSTS REMOTE CONTROL
 ELECTRIC CIRCUITS ELECTRIC WIRE
 ELECTRIC POTENTIAL

53 224302

CHANGEABLE-MESSAGE DISPLAYS: SOME DESIGN CONSIDERATIONS

BROOKS W
NELSON D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
 PP 41-3

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS
 CHANGEABLE MESSAGE SIGN COLOR
 LEGIBILITY DESIGN FEATURES
 LETTERS COMPUTERS
 LAMPS

53 224303

NEWEST COST BREAKTHROUGH FOR CHANGEABLE-MESSAGE MATRIX SIGNS

MAURC JJ

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
 PP 44-5

SPECIAL REPORT 129

*TRAFFIC CONTROL AND OPERATIONS
 CHANGEABLE MESSAGE SIGN COMPUTERS
 TRAFFIC CONTROL REMOTE CONTROL
 SOLID STATE OPERATING COSTS
 MAINTENANCE COSTS COLOR CODES

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 224317

REDUCING IMBALANCE OF INTERSECTING FREEWAYS BY CN-FREEWAY CONTROL

LCUTZENHEISER RC
HENDERSON DMHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 388 PP 22-31
6 FIG 4 TAB 8 REF*TRAFFIC CONTROL AND OPERATIONS
MERGING TRAFFIC RAMP
TRAFFIC FLOW TRAFFIC LANES
QUEUES VEHICLES

53 224318

FEASIBILITY AND EVALUATION STUDY OF RESERVED FREEWAY LANES FOR BUSES AND CAR POOLS

CAPELLE DG
WAGNER FA
HENSING DJ
MGRIN CAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 388 PP 32-44
7 FIG 8 REF*TRAFFIC CONTROL AND OPERATIONS
FEASIBILITY STUDIES TRAFFIC OPERATIONS
RESERVED LANE BUSES /VEHICLES/
MODAL SELECTION FREEWAYS
CAR POOLS

53 224319

INVESTIGATION OF LANE DROPS

GOODWIN BC
LAWRENCE RLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 388 PP 45-61
11 FIG 6 REF*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC VOLUME AERIAL PHOTOGRAPHS
TRAFFIC OPERATIONS LANE DROP
TRAFFIC SAFETY DATA REDUCTION

53 224320

CONTROL OF A FREEWAY SYSTEM BY MEANS OF RAMP METERING AND INFORMATION SIGNS - WITH DISCUSSION

PRETTY RL
WHITSON RM DISCUSSER
YAGODA HN DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 388 PP 62-72
4 FIG*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC CONTROL SIGNS
FREEWAY RAMP TRAVEL TIME

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 224321

ESTIMATION OF SPEED FROM PRESENCE DETECTORS

MIKHALKIN B
PAYNE HJ
ISAKSEN LHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 388 PP 73-83
4 FIG 2 TAB 5 REF

APP

*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC SURVEILLANCE SPEED
ESTIMATES VEHICLES
SIMULATIONS FREEWAYS

53 224322

SAFETY EVALUATION OF FORCED WEAVING AS A TRAFFIC CONTROL MEASURE IN FREEWAY MAINTENANCE OPERATIONS

BREWER KA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 388 PP 84-93
6 FIG 4 TAB 10 REF*TRAFFIC CONTROL AND OPERATIONS
SPEED CONTROL
WEAVING /VEHICULAR MOVEMENT/
SPEED LIMITS MAINTENANCE OPERATIONS

53 224332

DESIGN AND STRIPING FOR SAFE PASSING OPERATIONS

WEAVER GO
GLENNON JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 390 PP 36-9
1 TAB*TRAFFIC CONTROL AND OPERATIONS
VERTICAL CURVES PASSING
PASSING SIGHT DISTANCE TRAFFIC CONTROL
SIGHT DISTANCE HIGHWAY SAFETY

53 224650

A GRAVITY ALLOCATION MODEL FOR PARKING DEMAND

BATES JW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 395 PP 1-4
1 FIG*TRAFFIC CONTROL AND OPERATIONS
PARKING PARKING DEMAND
GRAVITY MODEL DESIGN
LOCATING ALLOCATION MODELS

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 224651

DEVELOPMENT AND IMPLEMENTATION OF A PARKING ALLOCATION MODEL

ELLIS RH
RASSAM PR
BENNETT JCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 395 PP 5-2C
13 FIG 3 TAB

*TRAFFIC CONTROL AND OPERATIONS	
PARKING	PARKING DEMAND
ALLOCATION MODELS	CAPACITY RESTRAINT
WALKS	DISTANCE
COSTS	

53 224652

PARKING SPACE ALLOCATION BY COMPUTER MODEL

GRAY VC
NEALE MAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 395 PP 21-32
12 FIG

*TRAFFIC CONTROL AND OPERATIONS	
PARKING	PARKING DEMAND
ALLOCATION MODELS	COMPUTER APPLICATIONS
COSTS	WALKS
DISTANCE	

53 224653

PROGRAM STOCK

LABLANCHE G
LOULAN F
PICALER E
PRADELLO JP
ROLEN GHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 395 PP 33-6
1 FIG 1 TAB

*TRAFFIC CONTROL AND OPERATIONS	
COMPUTER PROGRAMS	PARKING DEMAND
RUSH HOUR	SIMULATIONS
COMPUTER SIMULATION MODELS	COSTS
PRICES	PARKING
REVENUE	

53 224654

FORECASTING IMPACTS OF TRANSIT IMPROVEMENTS AND FRINGE PARKING DEVELOPMENTS ON DOWNTOWN PARKING NEEDS

WALKER EL
CUMMINGS JJHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 395 PP 37-46
1 FIG 6 TAB 7 REF

*TRAFFIC CONTROL AND OPERATIONS	
PARK AND RIDE	PARKING
RAPID TRANSIT	PARKING DURATION
WORK TRIPS	TRIP
LENGTH	FORECASTING
CENTRAL BUSINESS DISTRICT	PEAK HOUR TRAFFIC
PARKING DEMAND	

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 224655

A LOCATION PRINCIPLE OF URBAN TERMINAL DISTRIBUTION

YU JC
WILHELM WEHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 395 PP 47-60
10 FIG 22 REF

*TRAFFIC CONTROL AND OPERATIONS	
TERMINALS /TRANSPORTATION/	LOCATING
MATHEMATICAL ANALYSIS	TRAVEL PATTERNS
GLOMETRY	WALKS
DISTANCE	

53 226104

EMERGENCY LONG-DISTANCE PHONE SYSTEM FOR IOWA MOTORISTS ON TWO YEAR TRIAL

HIGHWAY RESEARCH NEWS, HWY RES BOARD 72
NO 48 PP 46-7

*TRAFFIC CONTROL AND OPERATIONS	
EMERGENCY SERVICES	TELEPHONES
HIGHWAYS	

53 226282

COMMUNICATION HANDBOOK FOR HIGHWAY DEPARTMENTS

NUTT SZ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 402 PP 1-8
1 FIG 5 TAB

*TRAFFIC CONTROL AND OPERATIONS	
COMMUNICATION SYSTEMS	
STATE HIGHWAY ADMINISTRATION	
HIGHWAYS	HANDBOOKS

53 226283

A HIGHWAY COMMUNICATION SYSTEM FOR THE MOTORIST: THE CASE FOR TWO-WAY RADIO

QUINN CE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 402 PP 9-15
1 TAB 11 REF

*TRAFFIC CONTROL AND OPERATIONS	
DRIVERS /VEHICLE/	COMMUNICATION SYSTEMS
MOTOR VEHICLES	TWO WAY COMMUNICATION
EMERGENCY SERVICES	VOICE COMMUNICATION
FREQUENCY MANAGEMENT	
RADIO COMMUNICATION SYSTEMS	
FREQUENCIES	CITIZEN BAND RADIO

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 226284

MEASURING THE EFFECTIVENESS OF A VOLUNTEER EMERGENCY-MONITORING SYSTEM IN THE CITIZENS RADIO SERVICE

CHIARAMONTE RM
KREER HB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 402 PP 16-27
4 FIG 3 TAB 11 REF

*TRAFFIC CONTROL AND OPERATIONS
CITIZEN BAND RADIO EMERGENCY SERVICES
RADIO COMMUNICATION SYSTEMS COMMUNICATION SYSTEMS
TWO WAY COMMUNICATION VOICE COMMUNICATION
MOTOR VEHICLES

53 226285

EVALUATION OF THE FIRST FLASH INSTALLATION

ADLER B
WISEPART IS
EMERY RH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 402 PP 28-36
4 FIG 3 TAB 4 REF

*TRAFFIC CONTROL AND OPERATIONS
EMERGENCY SERVICES DISABLED VEHICLES
HIGH BEAMED HEADLIGHTS FLASHING

53 226286

A PLAN FOR A CASUALTY CARE AND TRANSPORTATION PROGRAM

WHEELER RJ
DALE M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 402 PP 37-44
1 TAB

*TRAFFIC CONTROL AND OPERATIONS
EMERGENCY SERVICES EMERGENCY VEHICLES
RURAL AREAS RURAL HIGHWAYS
MEDICAL SERVICES HOSPITALS
COMMUNICATION SYSTEMS PERSONNEL
RADIO COMMUNICATION SYSTEMS

53 228028

ROADWAY DELINEATION SYSTEMS

TAYLOR JI
MC GEE HW
SEGUIN EL
HOSTETTER RS

HIGHWAY RESEARCH BOARD NCHRP REPORTS 72
NO 130 349 PP
28 FIG 4 TAB

APP

*TRAFFIC CONTROL AND OPERATIONS
HIGHWAY DELINEATION METHODS
EVALUATION BENEFIT COST ANALYSIS
STATE OF THE ART STUDIES

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 228105

LANE-CHANGE FREQUENCIES IN FREEWAY TRAFFIC FLOW

PAHL J

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 409 PP 17-25
8 FIG 1 TAB 7 REF

*TRAFFIC CONTROL AND OPERATION
FREEWAY ENTRANCES AND EXITS CHANGES
TRAFFIC LANES TRAFFIC FLOW PATTERN
AERIAL PHOTOGRAPHY

53 228109

GAP-ACCEPTANCE CHARACTERISTICS IN FREEWAY TRAFFIC FLOW

PAHL J

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 409 PP 57-63
9 FIG 2 TAB 5 REF

*TRAFFIC CONTROL AND OPERATIONS
GAP ACCEPTANCE FREEWAY OPERATIONS
FREEWAY ENTRANCES AND EXITS
TRAFFIC LANES CHANGES
TRAFFIC ACCIDENTS

53 228110

COMPARATIVE STUDY OF TRAFFIC CONTROL CONCEPTS AND ALGORITHMS

MUNJAL PK
HSU YS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 409 PP 64-80
1 FIG 1 TAB 50 REF

*TRAFFIC CONTROL AND OPERATIONS
TRAFFIC CONTROL SYSTEMS MATHEMATICAL MODELS
ALGORITHMS

53 228535

CRITERIA FOR DESIGN AND DEPLOYMENT OF ADVANCED GRAPHIC GUIDE SIGNS

EBERHARD JW
BERGER WG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 414 PP 24-9
4 FIG 4 TAB 5 REF

*TRAFFIC CONTROL AND OPERATIONS
DRIVER INFORMATION GRAPHIC METHODS
LABORATORY TESTS TRAFFIC SIGN LEGIBILITY
TRAFFIC SIGNS GUIDE SIGNS

53 228536

EVALUATION OF DIAGRAMMATIC GUIDE SIGNS

GORDON DA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 414 PP 30-41
8 FIG 6 TAB 5 REF

*TRAFFIC CONTROL AND OPERATIONS
DIAGRAMS GUIDE SIGNS
TRAFFIC SIGN LEGIBILITY DIAGRAMMATIC SIGNS
DECISIONS DRIVER REACTION
EVALUATION LABORATORY TESTS

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 228537

DIAGRAMMATIC SIGN STUDY

ROBERTS AW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 414 PP 42-9
 9 FIG 1 TAB 5 REF

*TRAFFIC CONTROL AND OPERATIONS
 DIAGRAMS GUIDE SIGNS
 TRAFFIC SIGN LEGIBILITY DIAGRAMMETRIC SIGNS
 DECISIONS DRIVER REACTION
 EVALUATION

53 228538

EVALUATION OF DIAGRAMMATIC SIGNING AT CAPITAL BELTWAY EXIT 1

HANSCOM FR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 414 PP 50-8
 8 FIG 3 TAB 2 REF

*TRAFFIC CONTROL AND OPERATIONS
 DRIVER BEHAVIOR WEAVING TRAFFIC
 TRAFFIC ACCIDENTS DIAGRAMS
 GUIDE SIGNS TRAFFIC SIGN LEGIBILITY
 DIAGRAMMETRIC SIGNS EVALUATION

53 228563

TELECOMMUNICATIONS SYSTEMS FOR HIGHWAY ADMINISTRATION AND OPERATIONS

HRB NCHRP SYNTHESIS OF HWY PRACTICE 72
 NO 12 32 PP
 16 FIG 13 REF

4 APP

*TRAFFIC CONTROL AND OPERATIONS
 ELECTRIC COMMUNICATION SYSTEMS
 STATE PLANNING HIGHWAYS
 TECHNOLOGY TRAFFIC OPERATIONS
 COMMUNICATION SYSTEMS

53 228576

LONGITUDINAL TRAFFIC CONTROL BY INFRARED SENSING

TREITERER J

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 421 PP 78-84
 5 FIG 5 REF

*TRAFFIC CONTROL AND OPERATIONS
 REMOTE SENSING INFRARED
 TRAFFIC CONTROL SYSTEMS LONGITUDINAL MOVEMENT

AREA 53 TRAFFIC CONTROL AND OPERATIONS

53 228884

PROCEDURES FOR ESTIMATING HIGHWAY USER COSTS, AIR POLLUTION, AND NOISE EFFECTS

CURRY DA
ANDERSON DG

HIGHWAY RESEARCH BOARD NCHRP REPORTS 72
 NO 133 127 PP
 APP 32 FIG 15 TAB 51 REF

*TRAFFIC CONTROL AND OPERATIONS
 LEVEL OF SERVICE HIGHWAY USERS
 COSTS TRAFFIC CONGESTION
 TRAFFIC VOLUME AIR POLLUTION
 TRAFFIC NOISES VEHICLE EXHAUST
 PEAK HOUR TRAFFIC
 TRAFFIC ACCIDENT ECONOMIC EFFECTS
 TRAVEL TIME VALUES

AREA 54 TRAFFIC FLOW

54 215851

STOCHASTIC MODELS IN TRAFFIC FLOW THEORY: INTERSECTION CONTROL

LEHOCZKY JP

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 334, PP 1-7, 3 REF

*TRAFFIC FLOW
 *TRAFFIC CONTROL AND OPERATIONS
 TRAFFIC ACTUATED SIGNALS MATHEMATICAL MODELS
 ONE WAY TRAFFIC
 TRAFFIC SIGNAL COORDINATION
 TRAFFIC DELAY INTERSECTIONS
 LEFT TURN FOUR WAY INTERSECTIONS
 TWO WAY TRAFFIC STOCHASTIC PROCESSES

54 215852

CONTROL CONSIDERATIONS AND SMOOTH FLOW IN VEHICULAR TRAFFIC NETS

MCSHANE WR
YAGODA HN
PIGNATARO LJ
CROWLEY KW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
 NO 334, PP 8-22, 14 FIG, 4 TAB, 22 REF

*TRAFFIC FLOW
 *TRAFFIC CONTROL AND OPERATIONS
 SYSTEMS ANALYSIS TRAFFIC SIGNALS
 STREETS ARTERIAL STREETS /URBAN/
 NETWORKS TRAFFIC FLOW
 TRAFFIC SIGNAL CONTROLLERS TRAFFIC ASSIGNMENT
 TRAFFIC SIGNAL COORDINATION
 NETWORK FLOWS TRAFFIC

AREA 54 TRAFFIC FLOW

54 215853

INVESTIGATION OF THE DYNAMICS OF PLATOON DISPERSION

NEMETH ZA
VECELLIO RLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 334, PP 23-33, 9 FIG, 6 REF

*TRAFFIC FLOW	
*TRAFFIC CONTROL AND OPERATIONS	
SIGNALIZED INTERSECTIONS	TRAFFIC PLATOONING
DISPERSION	ARTERIAL STREETS /URBAN/
HEADWAY	URBAN HIGHWAYS
TRAFFIC SIGNAL COORDINATION	
TRAFFIC SIGNALS	

54 215854

FORMULATING A MODEL OF MULTILANE TRAFFIC FLOW

BULLEN AG
WORRALL RDHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 334, PP 34-38, 6 REF

*TRAFFIC FLOW	TRAFFIC FLOW
MATHEMATICAL MODELS	MARKOV CHAINS
ONE WAY TRAFFIC	MULTILANE HIGHWAY
TRAFFIC PLATOONING	

54 215855

AN APPLICATION OF GAME THEORY TO ROUTE SELECTION

CCLONY DC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 334, PP 39-47, 3 FIG, 2 TAB, 12 REF

*TRAFFIC FLOW	ROUTE SELECTION
GAME THEORY	DRIVERS /VEHICLE/
TENSION	DRIVER PERFORMANCE
DRIVER PSYCHOLOGY	TRAFFIC VOLUME
FREEWAYS	STRESSES
GALVANIC SKIN RESPONSE	

54 215856

A SIMPLE OFF-RAMP TRAFFIC MODEL

MUNJAL PK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 334, PP 48-61, 2 FIG, 3 REF, 1 APP

*TRAFFIC FLOW	OFF RAMPS
ONE WAY TRAFFIC	MERGING TRAFFIC
WEAVING TRAFFIC	TRAFFIC
DYNAMICS	MATHEMATICAL MODELS
FREEWAYS	TWO LANE HIGHWAYS

AREA 54 TRAFFIC FLOW

54 228104

EXPERIMENTAL VALIDATION OF MODIFIED BOLTZMANN TYPE OF MODEL AND SHIFT MODEL FOR MULTILANE TRAFFIC FLOW

MUNJAL PK
HSU YS
CARPENTER RHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 409 PP 1-16
APP 9 FIG 1 TAB 7 REF

*TRAFFIC FLOW	MODELS
TRAFFIC FLOW	MULTILANE HIGHWAY
BOLTZMANN DISTRIBUTION	

54 228106

COMPARISON OF TRAFFIC CIRCULATION ALTERNATIVES THROUGH SIGOP

FLYNN TE
SIU CMHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 409 PP 26-33
6 FIG 3 TAB 2 REF

*TRAFFIC FLOW	TRAFFIC FLOW PATTERN
TRAFFIC SIGNAL COORDINATION	COMPUTER APPLICATIONS
COMPARISONS	
TRAFFIC SIGNAL TIMING	

54 228107

SIMULATION OF CORRIDOR TRAFFIC: THE SCOT MODEL

LIEBERMAN EB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 409 PP 34-45
10 FIG 1 TAB 12 REF

*TRAFFIC FLOW	
FREEWAY ENTRANCES AND EXITS	
TRAFFIC CONTROL	TRAFFIC CORRIDORS
TRAFFIC FLOW SIMULATION	

54 228108

LOGICAL DESIGN AND DEMONSTRATION OF UTCS-1 NETWORK SIMULATION MODEL

LIEBERMAN EB
WORRALL RD
BRUGGEMAN JHHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 409 PP 46-56
7 FIG 1 REF

*TRAFFIC FLOW	TRAFFIC CONTROL
SIMULATIONS	URBAN AREAS
COMPUTERS	

AREA 55 TRAFFIC MEASUREMENTS

55 205787

AERIAL PHOTOGRAPHIC PARKING STUDY TECHNIQUES

SYRAKIS TA
PLATT JRHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 207, PP 15-20, 8 FIG, 6 TAB, 2 REF

*TRAFFIC MEASUREMENTS	DATA ACQUISITION
COLOR AERIAL PHOTOGRAPHY	PARKING STUDIES
PARKING DURATION	CENTRAL BUSINESS DISTRICT
OFF STREET PARKING	ON STREET PARKING
TURNOVER	PARKING
TRAFFIC ENGINEERING	TRAFFIC PLANNING

55 206301

URBAN TRAVEL PATTERNS FOR HOSPITALS, UNIVERSITIES, OFFICE BUILDINGS AND CAPITOLS

KEEFER LE
WITHEFORD DKHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 62, 144 PP, 10 APP

*TRAFFIC MEASUREMENTS	
*URBAN TRANSPORTATION SYSTEMS	
URBAN AREAS	TRAVEL PATTERNS
HOSPITALS	UNIVERSITIES
OFFICE BUILDINGS	TRIP GENERATION
TRAFFIC ASSIGNMENT	TRAVEL
MODAL SELECTION	
ORIGIN & DESTINATION STUDIES	
URBAN TRANSPORTATION PLANNING	
URBAN LAND USE	REGRESSION ANALYSIS
TRAFFIC GENERATION	TRAFFIC PLANNING

55 206620

QUAL MODE BEHAVIOR OF FREEWAY TRAFFIC

MIKA HS
KREER JB
YUAN LSHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, PP 1-12, 15 FIG, 2 TAB, 3 REF

*TRAFFIC MEASUREMENTS	*TRAFFIC FLOW
TRAFFIC FLOW CHARACTERISTICS	
FREEWAYS	TRAFFIC SPEED
TRAFFIC DENSITY	OSCILLATIONS
TIME	STEADY FLOW
CENTER LANE	OUTER LANE
MEDIAN LANE	

55 206767

SOME ELECTRONIC MEASUREMENTS OF MACROSCOPIC TRAFFIC CHARACTERISTICS ON A MULTILANE FREEWAY

COURAGE KG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 279, PP 107-120, 14 FIG, 4 TAB, 9 REF

*TRAFFIC MEASUREMENTS	DATA ACQUISITION
DIGITAL COMPUTERS	ELECTRONIC DATA PROCESSING
ULTRASONICS	DETECTORS /TRAFFIC/
MEASUREMENTS	
TRAFFIC FLOW CHARACTERISTICS	
TRAFFIC FLOW THEORY	MULTILANE HIGHWAY
FREEWAYS	

AREA 55 TRAFFIC MEASUREMENTS

55 207126

CARROS POR PUESTO-THE 'JITNEY' TAXI SYSTEM OF CARACAS, VENEZUELA

KUDLICK W

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 283, PP 1-10, 2 FIG, 2 TAB, 2 REF

*TRAFFIC MEASUREMENTS	JITNEY
TAXICABS	PUBLICO
PUBLIC TRANSIT	TRANSPORTATION SYSTEMS
DATA ACQUISITION	INTERVIEWS
ORIGIN & DESTINATION STUDIES	
HOUSEHOLDS	TRAFFIC SURVEYS
TRAFFIC COUNTING	EMPLOYMENT
WORK TRIPS	

55 207127

AN ANALYSIS OF CENTRAL BUSINESS DISTRICT PEDESTRIAN CIRCULATION PATTERNS

NESS MP
MORRALL JF
HUTCHINSON BGHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 283, PP 11-18, 7 FIG, 3 TAB, 7 REF

*TRAFFIC MEASUREMENTS	CENTRAL BUSINESS DISTRICT
PEDESTRIANS	GRAVITY MODEL
TRANSPORTATION SYSTEMS	WALKS
PEDESTRIAN CHARACTERISTICS	
TRAFFIC FLOW CHARACTERISTICS	

55 207128

A MARKOVIAN ANALYSIS OF URBAN TRAVEL BEHAVIOR: PATTERN RESPONSE BY SOCIOECONOMIC-OCCUPATIONAL GROUPS

HORTON FE
WAGNER WEHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 283, PP 19-29, 20 TAB, 7 REF

*TRAFFIC MEASUREMENTS	URBAN TRANSPORTATION
TRANSPORTATION EFFECTS	TRAVEL PATTERNS
SOCIOLOGICAL ASPECTS	ECONOMIC FACTORS
RESIDENTIAL AREAS	TRIP GENERATION
OCCUPATIONS	MATHEMATICAL ANALYSIS

55 207129

THE MATHEMATICAL FORM OF TRAVEL TIME FACTORS

ASHFORD N
CIVAVOLT DD
BELLOMO SJ
CLEVELAND DEDISCUSSER
DISCUSSERHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 283, PP 30-47, 17 FIG, 6 TAB, 6 REF

*TRAFFIC MEASUREMENTS	TRAVEL TIME
TRIP	INTERCHANGES
GRAVITY MODEL	SHOPPER
WORK TRIPS	FACTOR ANALYSIS
CORRELATIONS	REGRESSION ANALYSIS
MATHEMATICAL MODELS	

AREA 55 TRAFFIC MEASUREMENTS

55 208508

ANALYTICAL STUDY OF WEIGHING METHODS FOR HIGHWAY VEHICLES IN MOTION

HERRICK RC

HIGHWAY RESEARCH BOARD NCHRP REPORTS 69
REPT 71, 63 PP, 17 FIG, 5 TAB, 11 REF, 9 APP

*TRAFFIC MEASUREMENTS	MOVING VEHICLES
WEIGHING EQUIPMENT	ELECTRONIC DEVICES
DATA PROCESSING	COMPUTATIONS
AXLE LOAD	AVERAGE
DYNAMIC RESPONSE	ERRORS
REGRESSION ANALYSIS	MATHEMATICAL MODELS
MATHEMATICAL ANALYSIS	

55 209426

MULTIPLE-REGRESSION ANALYSIS OF HOUSEHOLD TRIP GENERATION-A CRITIQUE

MCCARTHY GM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 297, PP 31-43, 5 FIG, 13 TAB, 10 REF

*TRAFFIC MEASUREMENTS	REGRESSION ANALYSIS
TRIP GENERATION	STATISTICAL SAMPLING
HOUSEHOLDS	SOCIOLOGICAL ASPECTS
ECONOMIC FACTORS	RESIDENTIAL AREAS
MATHEMATICAL ANALYSIS	EQUATIONS

55 209427

AUTOMOBILE OCCUPANCY PROJECTIONS USING A MODAL-SPLIT MODEL

SPIELBERG F

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 297, PP 57-67, 19 FIG, 5 TAB

*TRAFFIC MEASUREMENTS	AUTOMOBILES
OCCUPANTS	MODAL SPLIT
TRANSPORTATION MODELS	COMPUTER PROGRAMS
TRAVEL TIME	TRIP GENERATION
INCOME	CENTRAL BUSINESS DISTRICT
MODEL TESTS	HIGHWAY USAGE

55 209428

TRIP GENERATION: A CRITICAL APPRAISAL

KASSOFF H
DEUTSCHMAN HC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 297, PP 15-30, 8 FIG, 11 TAB

*TRAFFIC MEASUREMENTS	TRIP GENERATION
EVALUATION	MATHEMATICAL ANALYSIS
HOUSEHOLDS	ZONES
DATA ANALYSIS	REGRESSION ANALYSIS
STATISTICAL METHODS	

AREA 55 TRAFFIC MEASUREMENTS

55 209429

LICENSE PLATE TRAFFIC SURVEY

MCCANN H
MARING G

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 297, PP 68-78, 8 FIG, 3 TAB, 4 APP

*TRAFFIC MEASUREMENTS	LICENSE PLATES
TRAFFIC SURVEYS	
ORIGIN & DESTINATION STUDIES	
MOTOR VEHICLES	QUESTIONNAIRES
RECORDING	TRAVEL PATTERNS
PHOTOGRAPHY	REGISTRATIONS
AUTOMATION	TRANSPORTATION
SURVEYS /DATA COLLECTION/	TRIP GENERATION

55 209430

A SIMPLIFIED TRIP-DISTRIBUTION MODEL FOR THE ESTIMATION OF URBAN TRAVEL

LUND JW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 297 PP 1-14, 10 FIG, 1 TAB

*TRAFFIC MEASUREMENTS	ESTIMATING
TRAVEL	URBAN AREAS
URBAN TRANSPORTATION PLANNING	
TRAFFIC ASSIGNMENT	GRAVITY MODEL
TRAVEL PATTERNS	
ORIGIN & DESTINATION STUDIES	TRANSPORTATION MODELS
URBAN LAND USE	
ECONOMICS	

55 209431

CALIBRATION OF TRANSIT NETWORKS IN MEDIUM-SIZED URBAN AREAS

HARTGEN DT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 297, 13 PP, 8 FIG, 3 TAB

*TRAFFIC MEASUREMENTS	
URBAN TRANSPORTATION PLANNING	
TRANSPORTATION SYSTEM ANALYSIS	
CALIBRATIONS	COMPUTER APPLICATIONS
TRAVEL PATTERNS	TRAVEL TIME
DISTANCE	INVENTORIES
SPEED	BUS TRANSPORTATION

55 212096

FACTORS, TRENDS, AND GUIDELINES RELATED TO TRIP LENGTH

BELLOMO SJ
DIAL RB
VOORHEES AM

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 89, 59 PP, 55 FIG, 31 TAB, 30 REF, 5 APP

*TRAFFIC MEASUREMENTS	TRIP
LENGTH	METROPOLITAN AREAS
CHANGES	WORK TRIPS
AUTOMOBILE DRIVERS	MODAL SELECTION
TRANSPORTATION SYSTEMS	TRAFFIC FORECASTING
SIMULATIONS	SOCIOLOGICAL ASPECTS
ECONOMIC FACTORS	SPEED
TRAVEL TIME	

AREA 55 TRAFFIC MEASUREMENTS

55 212993

A PULSED DOPPLER RADAR EXPERIMENT FOR HIGHWAY TRAFFIC RESEARCH

SCHNEEBERGER RF
HAYMAN RAHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 308, PP 92-104, 11 FIG, 1 TAB, 6 REF

*TRAFFIC MEASUREMENTS	DOPPLER EFFECT
PULSE AMPLITUDE MODULATION	RADAR
TRAFFIC FLOW CHARACTERISTICS	
TRAFFIC RESEARCH	TRAFFIC FLOW THEORY
SPEED	MEASUREMENTS
DISTRIBUTION	

55 214623

CAPACITY OF SIGNALIZED INTERSECTIONS

REILLY EF
SEIFERT JHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 321, PP 1-15, 9 FIG, 3 TAB, 3 REF, 1 APP

*TRAFFIC MEASUREMENTS	
*TRAFFIC CONTROL AND OPERATIONS	
HIGHWAY CAPACITY	TRAFFIC SIGNALS
INTERSECTION CAPACITY	INTERSECTIONS
DATA SAMPLING	TRAFFIC FLOW

55 214628

THE ENVIRONMENTAL INFLUENCE OF RAIN ON FREEWAY CAPACITY

JONES ER
GOOLSBY MEHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 321, PP 74-82, 3 FIG, 6 TAB, 5 REF

*TRAFFIC MEASUREMENTS	
*TRAFFIC CONTROL AND OPERATIONS	
FREEWAYS	HIGHWAY CAPACITY
TRAFFIC SURVEILLANCE	BOTTLENECKS
TRAFFIC FLOW	RAINFALL
DATA SAMPLING	PEAK HOUR TRAFFIC

55 214629

CAPACITY ANALYSIS OF A HIGHWAY LINK

SMITH WL
FAULCONER JE
SMITH BLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 321, P B3

*TRAFFIC MEASUREMENTS	
*TRAFFIC CONTROL AND OPERATIONS	
SYSTEMS ANALYSIS	HIGHWAY CAPACITY
BRIDGES	TOLL BOOTHS
INTERSECTIONS	FREEWAYS
HIGHWAY DESIGN	TIME LAPSE PHOTOGRAPHY

AREA 55 TRAFFIC MEASUREMENTS

55 214940

EVALUATION OF BIAS IN LICENSE PLATE TRAFFIC SURVEY RESPONSE

MCCANN H
MARING GHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 77-83, 4 FIG, 4 TAB, 1 REF

*TRAFFIC MEASUREMENTS	QUESTIONNAIRES
INTERVIEWS	SURVEYS /DATA COLLECTION/
HIGHWAY USER CHARACTERISTICS	
ORIGIN & DESTINATION STUDIES	
TRAFFIC SURVEYS	INTERSTATE HIGHWAY SYSTEM
LICENSE PLATES	

55 214941

DERIVING THE TRAFFIC CONSEQUENCES OF AIRPORT LOCATION ALTERNATIVES

PEARSON PM
MCLAUGHLIN WAHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 84-95, 6 FIG, 3 TAB, 19 REF

*TRAFFIC MEASUREMENTS	AIRPORTS
LOCATING	AIRPORT LOCATION
TRANSPORTATION MODELS	MATHEMATICAL MODELS
MODAL SPLIT	ACCESS
AIRPORT ACCESS	TRAVEL TIME
TRAFFIC GENERATION	TRAFFIC FORECASTING
COST COMPARISONS	DEMAND
INTERCITY TRANSPORTATION	

55 214949

THE EFFECT OF LEFT TURN PENALTIES ON TRAFFIC ASSIGNMENT ACCURACY

BRONZINI MS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 220-231, 5 FIG, 5 TAB, 7 REF

*TRAFFIC MEASUREMENTS	INTERSECTIONS
LEFT TURN	TRAFFIC ASSIGNMENT
URBAN TRANSPORTATION	TRANSPORTATION MODELS
MATHEMATICAL MODELS	PENALTIES

55 218900

PORTABLE, EASILY INSTALLED WEIGHT ANALYZER RECORDS AXLE LOADING OF VEHICLES IN MOTION

HIGHWAY RESEARCH NEWS, HWY RES BOARD APR71
NO 43, P 43

*TRAFFIC MEASUREMENTS	AXLE LOAD
AUTOMATION	TRUCKS
WEIGHING EQUIPMENT	MOTION
PORTABLE	MOVING VEHICLES

AREA 55 TRAFFIC MEASUREMENTS

55 218964

THE EFFECT OF DISCRETE TIME MEASUREMENT ON SPEED DATA

PAHL J

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 349, PP 1-12, 15 FIG, 8 TAB, 4 REF

*TRAFFIC MEASUREMENTS	VEHICULAR PHASE
TIME SERIES ANALYSIS	TRAVEL TIME
PULSE GENERATORS	DISCRETE DISTRIBUTIONS
TRANSFORMATIONS	SIMULATIONS
SPEED STUDIES	COMPUTER PROGRAMS
STATISTICAL ANALYSIS	

55 218965

AN EXPERIMENTAL VALIDATION OF VARIOUS METHODS FOR OBTAINING RELATIONSHIPS BETWEEN TRAFFIC FLOW, CONCENTRATION, AND SPEED ON MULTILANE HIGHWAYS

GAFARIAN AV
LAWRENCE RL
MUNJAL PK
PAHL JHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 349, PP 13-30, 18 FIG, 2 TAB, 10 REF

*TRAFFIC MEASUREMENTS	TRAFFIC FLOW
TRAFFIC VOLUME	MULTILANE HIGHWAY
TRAFFIC SPEED	STATISTICAL ANALYSIS
RELATIONSHIPS	GRAPHICAL ANALYSIS
TRAFFIC ANALYSIS	SITE SURVEYS

55 218967

INFLUENCE OF INCIDENTS ON FREEWAY QUALITY OF SERVICE

GOOLSBY ME

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 349, PP 41-46, 2 FIG, 6 TAB, 4 REF

*TRAFFIC MEASUREMENTS	DISABLED VEHICLES
FREEWAY OPERATIONS	PEAK HOUR
TIME	TRAFFIC FLOW
TRAFFIC VOLUME	TRAFFIC DELAY
DETECTORS /TRAFFIC/	STATISTICAL ANALYSIS
T TEST	F TEST

55 222084

ANALYSIS OF AIR PASSENGER TRAVEL IN THE TWIN CITIES METROPOLITAN AREA

NAVIN FP
WOLSFELD RPHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 26-38, 5 FIG, 5 TAB, 8 REF

*TRAFFIC MEASUREMENTS	TRIP GENERATION
MODELS	AIR TRANSPORTATION
AIRCRAFT	PASSENGERS
SOCIO-ECONOMIC FACTORS	TRAVEL PATTERNS
TRAVEL TIME	STATISTICAL ANALYSIS

AREA 55 TRAFFIC MEASUREMENTS

55 222086

DEMAND FOR TRAVEL ON THE CANADIAN AIRWAY SYSTEM

PEARSON PM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 47-64, 3 FIG, 11 TAB, 19 REF

*TRAFFIC MEASUREMENTS	AIR TRANSPORTATION
DEMAND	MODELS
SIMULATIONS	INTERCITY TRANSPORTATION
SYSTEMS ANALYSIS	GRAPHICAL ANALYSIS
ORIGIN & DESTINATION STUDIES	
BUSINESS	BUSINESS TRIPS
AIRPORTS	TRAVEL TIME
COSTS	

55 222091

DEVELOPMENT OF A DOWNTOWN PARKING MODEL

ERGUN G

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 118-134, 11 FIG, 6 TAB, 11 REF

*TRAFFIC MEASUREMENTS	CENTRAL BUSINESS DISTRICT
PARKING	SELECTING
CHOICES	MODELS
TIME FACTOR	COSTS
STATISTICAL ANALYSIS	

55 222094

ANALYSIS OF TRAVEL PEAKING

DICKERT W
EASLER K
SPIELBERG FLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 159-180, 24 FIG, 3 TAB, 1 REF

*TRAFFIC MEASUREMENTS	PEAK HOUR
TRAVEL PATTERNS	MODELS
URBAN AREAS	TIME FACTOR
SIMULATIONS	TRANSPORTATION PLANNING

55 222095

SYNTHESIS OF VEHICLE TRIP PATTERNS IN SMALL URBAN AREAS

HAJJ HM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 181-198, 3 FIG, 9 TAB, 13 REF

*TRAFFIC MEASUREMENTS	MOTOR VEHICLES
TRAVEL PATTERNS	TRIP GENERATION
TRAFFIC ASSIGNMENT	MODELS
URBAN AREAS	TRAVEL TIME
SOCIO-ECONOMIC FACTORS	

55 222096

A MULTIPATH TRAFFIC ASSIGNMENT MODEL

DIAL RB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 199-210, 6 FIG, 1 TAB, 1 REF

*TRAFFIC MEASUREMENTS	TRAFFIC ASSIGNMENT
MODELS	ROUTE SELECTION
TRAFFIC CONTROL	PATHS
TRIP DIVERSION	

AREA 55 TRAFFIC MEASUREMENTS

55 222097

AUTOMOBILE USE PATTERNS IN NEW YORK CITY AND ITS ENVIRONS

JORDAN JD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 211-227, 12 FIG, 4 REF

*TRAFFIC MEASUREMENTS	AUTOMOBILES
SOCIO-ECONOMIC FACTORS	PATRONAGE
PATTERNS	UTILIZATION
TRAVEL PATTERNS	TRIP

55 222099

PRECISE DETERMINATION OF EQUILIBRIUM IN TRAVEL FORECASTING PROBLEMS USING NUMERICAL OPTIMIZATION TECHNIQUES

WILKIE OF
STEFANEK RGHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 239-252, 5 FIG, 1 TAB, 16 REF, 1 APP

*TRAFFIC MEASUREMENTS	NETWORK FLOWS
TRANSPORTATION PLANNING	EQUILIBRIUM
TRANSPORTATION SYSTEMS	TRAVEL
FORECASTING	LEVEL OF SERVICE
MATHEMATICAL ANALYSIS	DEMAND
ALGORITHMS	TRAVEL DEMAND

55 223002

TRAFFIC DATA COLLECTION THROUGH AERIAL PHOTOGRAPHY

CYRA DJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 375 PP 28-39
7 FIG 9 TAB 12 REF

*TRAFFIC MEASUREMENTS	TRAFFIC STUDIES
PEAK HOUR TRAFFIC	AERIAL PHOTOGRAPHY
VEHICLES	SPEED

55 224759

TRAFFIC ASSIGNMENT WITHOUT BIAS

BENESH AH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 36-46
10 FIG 5 TAB 7 REF

*TRAFFIC MEASUREMENTS	TRAFFIC ASSIGNMENT
TRAVEL TIME	DISTANCE
EXPONENTIAL FUNCTIONS	LINKAGES
SPEED	

AREA 55 TRAFFIC MEASUREMENTS

55 224761

EFFECT OF ZONE SIZE ON TRAFFIC ASSIGNMENT AND TRIP DISTRIBUTION

WILDERMUTH BR
DELANEY DJ
THOMPSON KEHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 58-75
8 FIG 15 TAB

*TRAFFIC MEASUREMENTS	TRAFFIC ASSIGNMENT
TRIP DISTRIBUTION	
ORIGIN & DESTINATION STUDIES	
ZONES	SIZE
TRIP	SIMULATIONS
ACCURACY	

55 224762

DEVELOPMENT AND APPLICATION OF DIRECT TRAFFIC ESTIMATION METHOD

GUR Y

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 76-88
6 FIG 1 TAB 4 REF

*TRAFFIC MEASUREMENTS	LINK VOLUME
TRANSPORTATION MODELS	EXPRESSWAYS
TRAFFIC ASSIGNMENT	TRIP DISTRIBUTION
TRAFFIC VOLUME	

55 224763

TOWARD AN EFFICIENT HIGHWAY SERVICE ESTIMATOR FOR CONGESTED NETWORKS

MENESTREL HL
WILDERMUTH BRHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 89-97
3 FIG 4 TAB 2 REF

*TRAFFIC MEASUREMENTS	LEVEL OF SERVICE
HIGHWAYS	NETWORKS
CONGESTION	CAPACITY RESTRAINT
TRAVEL TIME	TRAVEL
COSTS	COMPUTER SIMULATION MODELS
COMPUTER APPLICATIONS	MODELS
MULTIPLE PATHS	

55 224764

ACTIVITY-ACCESSIBILITY MODELS OF TRIP GENERATION

NAKKASH TZ
GRECCO WLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 98-110
5 FIG 3 TAB 15 REF

*TRAFFIC MEASUREMENTS	TRIP GENERATION
MATHEMATICAL MODELS	ACCESS
ZONES	
URBAN TRANSPORTATION PLANNING	

AREA 55 TRAFFIC MEASUREMENTS

55 224767

TRAVEL TO OUTDOOR RECREATION AREAS IN KENTUCKY

DEACON JA
PIGMAN JG
DEEN RCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 134-5*TRAFFIC MEASUREMENTS RECREATION
TRAFFIC ASSIGNMENT TRAVEL
MODELS

55 224768

DEVELOPMENT AND TESTING OF A MULTIPATH-ASSIGNMENT TECHNIQUE

DALTON PM
HARPELINK MDHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 136-8*TRAFFIC MEASUREMENTS TRAFFIC ASSIGNMENT
MODELS COMPUTER SIMULATION MODELS
MINIMUM PATH MULTIPLE PATHS
ITERATION INCREMENTS
COSTS CAPACITY RESTRAINT

55 224773

DISTRIBUTION PATTERNS OF AUTOMOBILE TRAVEL IN THE NEW YORK METROPOLITAN AREA

JORDAN JD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 159-6C*TRAFFIC MEASUREMENTS AUTOMOBILES
OWNERSHIP CITIES
SUBURBS TRIP GENERATION
TRIP INTERVIEWS
EXPRESSWAYS UTILIZATION

55 224819

PRECISION FUEL-CONSUMPTION MEASUREMENT FOR RATING THE QUALITY OF SERVICE OF URBAN ROUTES

CLAFFEY PJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 398 1 P*TRAFFIC MEASUREMENTS LEVEL OF SERVICE
TRAFFIC DELAY FUEL CONSUMPTION
URBAN HIGHWAYS CITY STREETS
RUNNING SPEED

1 REF

AREA 55 TRAFFIC MEASUREMENTS

55 224820

RECORDING AND ANALYSIS OF TRAFFIC ENGINEERING MEASURES

COURAGE KG
BISSELL HHHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 398 PP 2-11
8 FIG 2 REF*TRAFFIC MEASUREMENTS DIGITAL SYSTEMS
MAGNETIC TAPE RECORDING TAPE RECORDERS
COMPUTER APPLICATIONS GRAPHIC METHODS
TRAFFIC FLOW TRAFFIC SPEED
TRAFFIC DELAY PEAK HOUR TRAFFIC
TRAFFIC VOLUME HEADWAY
CONTOURS TURBULENCE
CAR FOLLOWING

55 224821

INVESTIGATION OF A COMBINED PHOTOGRAPHIC AND COMPUTER-SIMULATION TECHNIQUE FOR USE IN THE STUDY OF ISOLATED INTERSECTIONS

DIEWALD W
NEMETH ZAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 398 PP 12-4
2 FIG*TRAFFIC MEASUREMENTS INTERSECTIONS
PHOTOGRAPHY LEFT TURN
STOPPED TIME DELAY COMPUTER SIMULATION MODELS
SIMULATIONS FOUR LANE HIGHWAYS
TWO LANE HIGHWAYS DATA ACQUISITION

55 224822

WEAVING AREA OPERATIONS STUDY: ANALYSIS AND RECOMMENDATIONS

PIGNATARO LJ
ROESS KP
MC SHANE WR
CROWLEY KW
LEE B
SULLIVAN TD

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 398 PP 15-30
8 FIG 5 TAB 12 REF*TRAFFIC MEASUREMENTS HIGHWAY CAPACITY
WEAVING TRAFFIC LEVEL OF SERVICE
RAMPS PREDICTIONS
TRAFFIC SPEED TURBULENCE
TRAFFIC FLOW

55 224823

A CAPACITY ANALYSIS TECHNIQUE FOR HIGHWAY JUNCTIONS

WATTLEWORTH JA
INGRAM JWHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 398 PP 31-6
2 FIG 1 TAB 3 REF*TRAFFIC MEASUREMENTS JUNCTIONS
INTERSECTIONS HIGHWAY CAPACITY
LINEAR PROGRAMMING PREDICTIONS
CRITICAL VALUES CAPACITY
MATHEMATICAL MODELS

AREA 55 TRAFFIC MEASUREMENTS

55 224824

CAPACITY AND LEVEL OF SERVICE CONDITIONS ON DANISH TWO-LANE HIGHWAYS

RDRBECH J

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 398 PP 37-47
 16 FIG 2 TAB 6 REF

*TRAFFIC MEASUREMENTS	TWC LANE HIGHWAYS
RURAL HIGHWAYS	LEVEL OF SERVICE
OPERATING SPEED	TRAFFIC VOLUME
MAGNETIC TAPE RECORDING	HIGHWAY CAPACITY
SLOW MOVING VEHICLES	SIGHT DISTANCE
TRUCKS	PASSENGER CAR EQUIVALENCE

55 228025

MEASURES OF THE QUALITY OF TRAFFIC SERVICE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
 NO 130 24 PP REFS

*TRAFFIC MEASUREMENTS	LEVEL OF SERVICE
MEASUREMENTS	GLOSSARIES
DEFINITION	

55 228100

NATIONAL FOREST TRAVEL SURVEY

KANAFANI AK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 408 PP 26-37
 APP 4 FIG 1 TAB 5 REF

*TRAFFIC MEASUREMENTS	RECREATIONAL ROADS
TRANSPORTATION SYSTEM ANALYSIS	TRAVEL PATTERNS
FORESTS	
TRAFFIC SURVEYS	

55 228101

MODELS FOR RECREATION TRAFFIC ESTIMATION WITHIN A NATIONAL FOREST

SULLIVAN EC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 408 PP 38-49
 9 FIG 11 REF

*TRAFFIC MEASUREMENTS	TRAFFIC ASSIGNMENT
ESTIMATING	FORESTS
RECREATIONAL FACILITIES	TRAVEL PATTERNS
MODELS	DEMAND
TRAFFIC VOLUME	TRIP GENERATION

55 228102

A MODEL FOR ALLOCATING RECREATIONAL TRAVEL DEMAND TO NATIONAL FORESTS

GYAMFI P

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 408 PP 50-61
 7 FIG 5 TAB 4 REF

*TRAFFIC MEASUREMENTS	ALLOCATION MODELS
MATHEMATICAL MODELS	RECREATIONAL ROADS
TRANSPORTATION SYSTEM ANALYSIS	TRAVEL PATTERNS
FORESTS	DEMAND
TRIP GENERATION	

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 205284

SURFACE AND SUBSURFACE EXPLORATION BY INFRARED SURVEYS

MATALUCCI RV
 ABDEL-HADY M

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
 NO 102, PP 1-12, 13 FIG, 1 TAB, 19 REF

*EXPLORATION-CLASSIFICATION /SOILS/	INFRARED RADIATION
INFRARED PHOTOGRAPHY	SUBSURFACE EXPLORATIONS
IMAGES	HIGHWAY CONSTRUCTION
TERRAIN	SOIL COMPOSITION
SOIL COMPOSITION	SOIL TEXTURE
SOIL TEXTURE	CHLOROPHYLL
REMOTE CONTROL	SENSORS
RIGHT-OF-WAY ACQUISITION	DRAINAGE
SENSORS	

61 205286

MULTISENSOR ANALYSIS FOR SOILS MAPPING

RIB HT
 MILES KD

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
 NO 102, PP 22-37, 6 FIG, 2 TAB, 6 PHOT, 5 REF

*EXPLORATION-CLASSIFICATION /SOILS/	SENSORS
REMOTE CONTROL	SOIL ANALYSIS
REMOTE SENSORS	EVALUATION
SOIL CONDITIONS	PANCHROMATIC FILM
AERIAL PHOTOGRAPHS	INFRARED PHOTOGRAPHY
COLOR FILM	COLOR AERIAL PHOTOGRAPHY
SOIL MAPPING	

61 206263

SELECTION OF SOIL STRENGTH VALUES FOR THE DESIGN OF FLEXIBLE

YODER EJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 276, PP 1-13, 9 FIG, 2 TAB, 12 REF

*EXPLORATION-CLASSIFICATION /SOILS/	FLEXIBLE PAVEMENT DESIGN
*PAVEMENT DESIGN	QUALITY CONTROL
OPTIMUM DESIGN	TEST RESULTS
SOIL TESTS	SOILS
ECONOMIC EVALUATIONS	TRAFFIC
SOIL COMPACTION	COMPRESSIVE STRENGTH
PAVEMENT BASES	SOIL SAMPLING
SOIL MOISTURE	
ENVIRONMENTAL EFFECTS	

61 206268

PHYSIOGRAPHIC SUBDIVISION FOR ENGINEERING PURPOSES

WITCZAK MW
 LOVELL CW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
 NO 276, PP 60-63, 2 FIG, 2 TAB, 2 REF

*EXPLORATION-CLASSIFICATION /SOILS/	PHYSIOGRAPHY
*FOUNDATIONS /SOILS/	GEOGRAPHY
HIGHWAY ENGINEERING	SOIL TEXTURE
MINERAL AGGREGATES	SOILS
SOIL PROPERTIES	LANDSLIDES
VOLUME CHANGES	CRUSHED AGGREGATE
FROST SUSCEPTIBILITY	
CRUSHED STONE	

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 207656

DETERMINATION OF MODULUS OF SOIL REACTION FROM STANDARD SOIL TESTS

NIELSON FO
SHANHAUSAVEE C
YEB KS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 284, PP 1-12, 10 FIG, 4 TAB, 11 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
SOIL TESTS	REACTION
DEFLECTION	FLEXIBILITY
METALS	PIPES
CBR	HVEEM STABILIMETERS
SOIL PROPERTIES	SOIL DENSIFICATION
SOIL COMPACTION	MOISTURE CONTENT
PLASTICITY INDEX	PLASTICITY THEORY
PLATE BEARING TESTS	RESISTANCE VALUE /R/
DIMENSIONAL ANALYSIS	UNIT WEIGHT
COMPACTION TESTS	

61 207657

DETERMINATION OF LATERAL PRESSURES ASSOCIATED WITH CONSOLIDATION OF GRANULAR SOILS

QBRCIAN V
KIRKPATRICK WM DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 284, PP 13-25, 16 FIG, 2 TAB, 13 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
GRANULAR SOILS	LATERAL PRESSURE
SOIL CONSOLIDATION	EARTH PRESSURES
CONSOLIDATION TESTS	DENSITY
GRADATION	POISSONS RATIO
RESIDUAL STRESS	STRESS CONDITIONS /SCIL/
PRESSURE MEASUREMENT	

61 207658

CONSOLIDATION OF TWO LOESSIAL SOILS

KANE H

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 284, PP 26-36, 11 FIG, 3 TAB, 11 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
LOESS SOILS	SOIL CONSOLIDATION
COMPRESSIVE STRENGTH	WATER CONTENT
CLAYS	DENSITY
CONSOLIDATION TESTS	BINDERS
COMPRESSIBILITY	

61 207659

DEVELOPMENT OF A HIGH-VELOCITY IMPACT TEST FOR LABORATORY COMPACTION OF GRANULAR MATERIALS

OCVE RP
WILLIAMSON TG
WALSH HR
BLYSTONE JR
SMITH PC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 284, PP 37-50, 9 FIG, 1 TAB, 7 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
IMPACT TESTS	LABORATORY COMPACTION
COMPACTION TESTS	GRANULAR MATERIALS
MOLDS /FORMING/	COMPACTION CURVES
VIBRATORS	SHAKERS
SUBBASE MATERIALS	DRCP HAMMERS

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 207660

PRESSUREMETER CORRELATION STUDY

HIGGINS LM
FANG HY DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 284, PP 51-62, 10 FIG, 19 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
COHESIVE SOILS	SHEAR STRENGTH
PRESSURE CELLS	PRESSURE SENSORS
SHEAR TESTS	TRIAXIAL TESTING
PORE PRESSURES	COMPARISONS
SOIL CONSOLIDATION	SOIL CONSOLIDATION TESTS

61 207661

CONTROL OF THE PLASTICITY INDEX OF SOIL-AGGREGATE MATERIALS USING HAND-HEEL TESTS

SPENCER JW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 284, PP 63-69, 2 FIG, 3 TAB, 5 REF, 1 APP

*EXPLORATION-CLASSIFICATION /SOILS/	
SOIL AGGREGATES	PLASTICITY INDEX
SOIL TESTS	BANKRUN GRAVELS
LIQUID LIMITS	SHAKING
DRY STRENGTH	PLASTIC LIMIT

61 207662

A DROP HAMMER PENETROMETER FOR DETERMINING THE DENSITY OF SOILS AND GRANULAR MATERIALS

ROSTRON JP
SCHWARTZ AE
GIOIOSA TE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 284, PP 70-75, 5 FIG, 2 TAB, 7 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
DROP HAMMERS	PENETROMETERS
SOIL DENSIFICATION	GRANULAR MATERIALS
HIGHWAY CONSTRUCTION	BASE COURSES
CONSTRUCTION MATERIALS	DRY DENSITY /SOILS/
SANDS	GRANITES
GNEISSES	MOISTURE CONTENT
PENETRATION RESISTANCE	THIXOTROPY

61 207663

EFFECTS OF REMOLDING ON THE PROPERTIES OF A LATERITIC SOIL

TOWNSEND FC
MANKE PG
PARCHER JV

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 284, PP 76-84, 2 FIG, 3 TAB, 17 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
REMOLDING	LATERITES
SOIL PHYSICAL PROPERTIES	GRAIN SIZE ANALYSIS
ATTERBERG LIMITS	SOIL STRUCTURE
SOIL PLASTICITY	SOIL STABILIZATION
PORTLAND CEMENTS	UNCONFINED COMPRESSION
COMPRESSIVE STRENGTH	LIME
BITUMINOUS STABILIZATION	ASPHALTS
WATERPROOFING MATERIALS	SOIL TESTS

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 207664

CHARACTERISTICS OF LATERITIC SOILS USED IN THAILAND ROAD CONSTRUCTION

VALLERGA BA
RANANANDANA NHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
N/ 284, PP 85-103, 3 FIG, 3 TAB, 7I REF

*EXPLORATION-CLASSIFICATION /SOILS/ LATERITES HIGHWAY CONSTRUCTION BORROW SOIL SURVEYS SOIL PROPERTIES	SOIL CHARACTERISTICS REVIEWS ENGINEERING SOILS EXPOSURE
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61 209420

CONQUEST OF THE DARIEN

GHIGLIONE AF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 65
NO 299, PAPER NO 2, PP 18-25, 2 FIG

*EXPLORATION-CLASSIFICATION /SOILS/ GEOPHYSICAL EXPLORATIONS AERIAL PHOTOGRAPHY STEREOSCOPIC PHOTOGRAPHY ELECTRICAL RESISTIVITY METHOD HIGHWAY LOCATION CONSTRUCTION METHODS HIGHWAY CONSTRUCTION FILLS	RECONNAISSANCE SURVEYS AIR PHOTOINTERPRETATION INFRARED PHOTOGRAPHY SWAMPS CONSTRUCTION COSTS ORGANIC DEPOSITS TRESTLES
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61 212982

CLASSIFICATION AND ENGINEERING PROPERTIES OF LATERITIC MATERIALS

VALLERGA BA
VAN TIL CJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 310, PP 52-67, 7 FIG, 3 TAB, 3 REF, 2 APP

*EXPLORATION-CLASSIFICATION /SOILS/ LATERITES SOIL PLASTICITY GRAVELS PAVEMENT EVALUATION BASE COURSES ENGINEERING SOILS	SOIL TESTING DURABILITY SANDS SUBBASE SUBGRADES
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61 212983

CLASSIFICATION AND THE RELATIONSHIP OF ENGINEERING PROPERTIES OF SOME SOILS IN KENYA, EAST AFRICA

ROBINSON PJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 310, PP 68-74, 14 FIG, 10 REF

*EXPLORATION-CLASSIFICATION /SOILS/ ENGINEERING SOILS SOIL CLASSIFICATIONS SOIL GROUPS	SOIL TESTS LIQUID LIMITS THICKNESS DESIGN
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AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 212984

ENGINEERING CLASSIFICATION OF ORGANIC SOILS

ARMAN A

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 310, PP 75-89, 12 FIG, 3 TAB, 9 REF

*EXPLORATION-CLASSIFICATION /SOILS/ SOIL CLASSIFICATION SYSTEMS ORGANIC SOILS REVIEWS SOIL ENGINEERING PH VALUE	SOIL PHYSICAL PROPERTIES LABORATORY TESTS FOUNDATION SOILS WATER CONTENT
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61 214612

MATHEMATICAL SURFACE APPROXIMATION OF THE TERRAIN

MAXWELL OA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 319, PP 16-29, 10 FIG, 13 REF

*EXPLORATION-CLASSIFICATION /SOILS/ *HIGHWAY DESIGN *PHOTOGRAMMETRY COMPUTER APPLICATIONS NUMERICAL ANALYSIS COMPUTER-AIDED DESIGN CONTOURS	*PAVEMENT PERFORMANCE HIGHWAY DESIGN TERRAIN COMPUTER GRAPHICS CROSS SECTIONS EARTHWORK CALCULATION
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61 214615

MULTISPECTRAL DATA INTERPRETATION FOR ENGINEERING SOILS MAPPING

TANGUAY MG
MILES RDHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 319, PP 58-77, 12 FIG, 4 TAB, 14 REF

*EXPLORATION-CLASSIFICATION /SOILS/ *PHOTOGRAMMETRY *PAVEMENT PERFORMANCE SOIL MAPPING COLOR PHOTOGRAPHY SOIL MAPS COMPUTER APPLICATIONS	*HIGHWAY DESIGN ENGINEERING SOILS AERIAL PHOTOGRAPHY PHOTOINTERPRETATION SPECTROGRAMS
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61 214909

GEOLOGIC SETTING OF LANDSLIDES ALONG SOUTH SLOPE OF PINE MOUNTAIN, KENTUCKY

FRGELICH AJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 1-5, 10 FIG, 2 REF

*EXPLORATION-CLASSIFICATION /SOILS/ LANDSLIDES GEOLOGY STRUCTURE STRANDSTONES SILTSTONES	BEOROCKS HIGHWAY CONSTRUCTION STRATIGRAPHY SHALE PLANAR GLIDES
---	--

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 214913

COEFFICIENT OF EARTH PRESSURE AT REST AS RELATED TO SOIL
PRECOMPRESSION RATIO AND LIQUID LIMITSHERIF MA
KCCO DEHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 39-48, 12 FIG, 2 TAB, 8 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
EARTH PRESSURES	LATERAL PRESSURE
COHESIVE SOILS	SATURATED SOILS
SOILS	OVERCONSOLIDATION
PRECOMPRESSION	LIQUID LIMITS
EXPERIMENTS	DEPTH
STRESSES	MEASURING INSTRUMENTS

61 218056

NEW METHOD FOR DETERMINATION OF TENSILE STRENGTH OF SOILS

FANG HY
CHEN WFHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 62-68, 10 FIG, 20 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
TENSILE STRENGTH	SOILS
PLASTICITY THEORY	CONCRETES
METHODS	BITUMINOUS CONCRETES

61 218057

PROBABILISTIC APPROACH TO THE DETERMINATION OF SAFETY
FACTORS FOR THE BEARING CAPACITY OF COHESIVE SOILSKAY JN
KRIZEK RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 69-76, 3 FIG, 1 TAB, 8 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
SAFETY FACTORS	PROBABILITY THEORY
BEARING CAPACITY	COHESIVE SOILS
UNCERTAINTY	COSTS
FOUNDATIONS	DESIGN
SOIL PROPERTIES	LOADING

61 222307

MAXIMUM DENSITY OF SAND BY REPEATED STRAINING IN SIMPLE
SHEAR

YUOY TL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 374, PP 1-9, 5 FIG, 2 TAB, 9 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
LABORATORY TESTS	
MAXIMUM DENSITY /LABORATORY TESTS/	
SHEAR	SHEAR APPARATUS
STRAINS	GRANULAR SOILS
SANDS	COMPACTION TESTS
SOIL COMPACTION	SOIL TESTS

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 222311

A GENERALIZED INVESTIGATION OF POTENTIALLY POOR SOIL SUPPORT
BY REGIONAL GEOMORPHIC UNITS WITHIN THE CONTERMINOUS 48
STATESWITCZAK MW
LOVELL CW
YODER EJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 374, PP 42-56, 9 FIG, 6 TAB, 19 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
GEOLOGICAL SURVEYING	GEOMORPHOLOGY
UNIFIED SOIL CLASSIFICATION SYSTEM	
SOIL MAPS	SOIL SURVEYS
SOIL SUPPORT VALUE	SOIL TEXTURE
ORGANIC DEPOSITS	CLAYS
OCCURRENCES	SEVERITY

61 222312

PARAMETERS FOR CLASSIFICATION OF FINE-GRAINED LATERITE SOILS
OF GHANA

GICIGASU MD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 374, PP 57-79, 21 FIG, 58 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
LATERITES	WEATHERING
FINE GRAINED SOILS	FIELD PERFORMANCE
SOIL CLASSIFICATIONS	TROPICS
CLIMATIC CONDITIONS	PARENT MATERIAL
CLAYS	LINEAR SHRINKAGE

61 226838

COEFFICIENTS OF RELATIVE STRENGTH FOR IOWA GRANULAR BASE
MATERIALSBERGESUN KL
HOOVER JMHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 1-16
12 FIG 5 TAB 11 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
GRANULAR MATERIALS	BASES
UNGRAINED TESTS	TRIAxIAL TESTING
ASPHALTS	AASHO ROAD TEST
GRAVELS	AGGREGATE SOURCES
COMPARISONS	STRENGTH OF MATERIALS
AXIAL STRAIN	FAILURE
VOLUMETRIC ANALYSIS	

61 226839

RELATION OF STRESS TO STRAIN FOR A CRUSHED LIMESTONE BASE
MATERIALMCCRE WM
BRITTON SC
SCHIVNER FHHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 17-8
3 FIG 1 TAB 1 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
LIMESTONE AGGREGATES	STRESS STRAIN RELATIONS
LABORATORY TESTS	TRIAxIAL TESTING
ANISOTROPY	LOADING TESTS
SUBGRADE MATERIALS	PAVEMENT BASES
CRUSHED LIMESTONE	

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 226840

EFFECT OF CHANGES IN GRADATION ON STRENGTH AND UNIT WEIGHT
OF CRUSHED STONE BASEJONES TR
CITEN EL
MACHEHEHL CA
CARLTON TAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 19-23
4 FIG 1 TAB 6 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
CRUSHED STONE	GRANITES
PAVEMENT BASES	GRADATION
SHEAR STRENGTH	UNIT WEIGHT
MATERIALS SPECIFICATIONS	PARTICLE SIZE DISTRIBUTION

61 226841

TESTS FOR SOIL CREEP

LCHNES RA
MILLAN A
DEMIREL T
HANDY RLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 24-33
13 FIG 1 TAB 20 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
BOREHOLES	SHEAR TESTS
TIME	SOIL DEFORMATION
CREEP	INSITU METHODS
YIELD STRESS	SOIL TESTS

61 226844

EFFECT OF CONE ANGLE ON PENETRATION RESISTANCE

NCWATZKI EA
KARAFIATH LLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 51-59
6 FIG 18 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
CONE PENETRATION TESTS	ANGLES /GEOMETRY/
PENETRATION RESISTANCE	PLASTICITY THEORY
COULOMB FAILURE CRITERION	DIFFERENTIAL EQUATIONS
PLASTIC EQUILIBRIUM	ANGLE OF INTERNAL FRICTION
SOILS	SANDS

61 226846

REVIEW OF PARTICLE-SIZE CLASSIFICATIONS OF SOILS

RODERICK GL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 75-86
3 FIG 1 TAB 55 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
PARTICLE SIZE DISTRIBUTION	
SOIL CLASSIFICATION SYSTEMS	
SOIL PARTICLES	SOIL PROPERTIES
SIZE	

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 226847

INFLUENCE OF GEOLOGY AND PHYSICAL PROPERTIES ON STRENGTH
CHARACTERISTICS OF LATERITIC GRAVELS FOR ROAD PAVEMENTSDEGRAFT-JOHNSON JW
BHATIA HS
YEBOA SLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 87-104
14 FIG 3 TAB 20 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
GRAVELS	GRAVEL ROADS
LATERITIC GRAVELS	PAVEMENT PERFORMANCE
TROPICS	GEOLOGY
CLIMATIC FACTOR	TOPOGRAPHY
PHYSICAL PROPERTIES	PAVEMENT DISTRESS

61 226848

SIGNIFICANCE OF PRETESTING PREPARATIONS IN EVALUATING INDEX
PROPERTIES OF LATERITE MATERIALSGIDIGASU MO
YEBOA SLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 105-16
5 FIG 5 TAB 34 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
LATERITES	INDEX PROPERTIES
DRY CONDITIONS	LABORATORY TESTS
FIELD TESTS	WET CONDITIONS
COMPACTION	COMPACTION REQUIREMENTS
MOISTURE CONTENT	

61 226849

REGIONAL APPROACH TO HIGHWAY SOILS CONSIDERATIONS IN INDIANA

SISILIANO WJ
LOVELL CWHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 117-131
4 TAB 27 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
HIGHWAY DESIGN	SOILS
SOIL CLASSIFICATIONS	
REGIONAL PLANNING /TRANSPORTATION/	
SOIL SURVEYS /SURFACE/	STATISTICAL METHODS

61 226853

USE OF INFRARED PHOTOGRAPHY TO IDENTIFY FAULTING IN PIERRE

SHALE
HCKINS ER
HAMMERQUIST CW
RAHN PHHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 152-4
3 REF

*EXPLORATION-CLASSIFICATION /SOILS/	
CONCRETE PAVEMENT DURABILITY	
CONCRETE PAVEMENTS	PAVEMENT DISTRESS
BUCKLING	SHALES
FAULTING	JOINTING OF RCC
AERIAL PHOTOGRAPHY	VEGETATION
SUBGRADE MOISTURE	

AREA 61 EXPLORATION-CLASSIFICATION (Soils)

61 228573

ENGINEERING SOIL MAPPING FROM MULTISPECTRAL IMAGERY USING
AUTOMATIC CLASSIFICATION TECHNIQUES

WEST TR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 58-65
1 FIG 3 TAB 6 REF*EXPLORATION-CLASSIFICATION /SOILS/
SOIL MAPPING CLASSIFICATION
MULTISPECTRAL IMAGERY AIRBORNE SURVEYING
REMOTE SENSING

61 228574

AIRBORNE MICROWAVE RADIOMETER SURVEY TO DETECT SUBSURFACE
VOIDSDEDMAN EV
CULVER JLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 66-70
6 FIGS 1 REF*EXPLORATION-CLASSIFICATION /SOILS/
AIRBORNE SURVEYING SURFACE TEMPERATURE
SUBSURFACE EXPLORATIONS VOIDS
MICROWAVES RADIOMETERS

61 228575

MULTISPECTRAL REMOTE SENSING OF SOIL AREAS: A KANSAS STUDY

WAGNER TW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 71-7
9 FIG 1 TAB 4 REF*EXPLORATION-CLASSIFICATION /SOILS/
REMOTE SENSING MULTISPECTRAL IMAGERY
COMPUTERS SOIL MAPPING

61 228577

SEQUENTIAL AERIAL PHOTOGRAPHY AND IMAGERY FOR SOIL STUDIES

KIEFER RW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 421 PP 85-92
20 FIG 1 TAB 4 REF*EXPLORATION-CLASSIFICATION /SOILS/
AERIAL PHOTOGRAPHY INFRARED IMAGERY
INFRARED COLOR PHOTOGRAPHY SOIL MAPPING
SEASONAL VARIATIONS THERMAL INFRARED IMAGERY
TIME FACTOR

AREA 62 FOUNDATIONS (Soils)

62 205239

CEMENT CONTENT OF SOIL-CEMENT BY X-RAY FLUORESCENCE

HUANG RJ
KODERICK GLHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 263, PP 60-68, 6 FIG, 5 TAB, 17 REF*FOUNDATIONS /SOILS/ SOIL CEMENT
CEMENT CONTENT X RAY SPECTROSCOPY
WEIGHT VOLUME RELATIONSHIPS
CALCIUM IRON
SOIL CEMENT TESTING SOIL SAMPLING
PROCTOR COMPACTION TEST
SPECTROGRAPHIC ANALYSIS /TRACE ELEMENTS/
ALPHA RAYS SCINTILLATION COUNTERS
GAS FLOW X RAY FLUORESCENCE
LITHIUM COMPOUNDS FLUORIDES
NONDESTRUCTIVE TESTS

62 205240

FREEZE-THAW DURABILITY OF LIME-STABILIZED CLAY SOILS

ESMEK E
WALKER RD
KREBS RDHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 263, PP 27-36, 8 FIG, 2 TAB, 5 REF*FOUNDATIONS /SOILS/ FREEZE THAW DURABILITY
CLAYS HYDRATED LIME
SOIL STABILIZATION PORES
SOIL PERMEABILITY KAOLINITES
MONTMORILLONITE RESIDUAL CLAYS
LIMESTONES ULTIMATE STRENGTH

62 205241

EXPERIMENTAL LIME STABILIZATION IN NEBRASKA

RAMSEY WJ
LUND DLHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 263, PP 8-18, 6 FIG, 3 TAB, 3 REF*FOUNDATIONS /SOILS/ HYDRATED LIME
PLASTIC SOILS SUBGRADE MATERIALS
SOIL STABILIZATION BASE COURSES
ADMIXTURES /SOIL/

62 205242

RHODE ISLAND 214 - SOIL CEMENT TEST SECTION

RODERICK GL
HUSTON MTHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 263, PP 37-46, 7 FIG, 5 TAB, 6 REF*FOUNDATIONS /SOILS/ SOIL CEMENT
SOIL CEMENT TESTING EXPERIMENTAL ROADS
PAVEMENT BASES SUBBASE
SODIUM SULFATES CEMENT CONTENT
SOIL CEMENT MIX DESIGN BENKELMAN BEAM
PAVEMENT SMOOTHNESS ROUGHNESS
PLATE BEARING TESTS PAVEMENT DEFLECTION
PAVEMENT CRACKING RIGIDITY
ROCKS SUBGRADE MOISTURE
FCRST PENETRATION

AREA 62 FOUNDATIONS (Soils)

62 205244

CRACKING IN PAVEMENTS INFLUENCED BY VISCOELASTIC PROPERTIES OF SOIL-CEMENT

GEORGE KP

HIGHWAY RESEARCH RECORD, HWY RES BOARD 65
NO 263, PP 47-59, 9 FIG, 1 TAB, 18 REF

*FOUNDATIONS /SOILS/ SHRINKAGE CRACKS SOIL CEMENT RHEOLOGY MODELS SOIL CEMENT TESTING LAYERED VISCOELASTIC SYSTEM	PAVEMENT CRACKING VISCOELASTICITY SOIL PROPERTIES CREEP STRESS STRAIN RELATIONS CURING
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62 205245

THE EFFECT OF ADMIXTURES ON LAYERED SYSTEMS CONSTRUCTED WITH SOIL-CEMENT

ARMAN AR
DANTIN TJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 263, PP 69-80, 8 FIG, 4 TAB, 5 REF

*FOUNDATIONS /SOILS/ ADMIXTURES /SOIL/ BOND SOIL CEMENT MIX DESIGN SOIL CEMENT PAVEMENT CONSTRUCTION SOIL CEMENT STABILIZATION CARBOXYLIC ACIDS	SOIL CEMENT LAYERED SYSTEM MECHANICS CONSTRUCTION COSTS SHEAR STRENGTH CALCIUM /SOIL STABILIZER/
---	--

62 205773

NON-ENGINEERING ELEMENTS IN FACTORS OF SAFETY IN SOIL AND FOUNDATION ENGINEERING

KEENE P

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 269, PP 1-8, 10 REF

*FOUNDATIONS /SOILS/ SOIL ENGINEERING STRESS ANALYSIS ECONOMIC FACTORS SOCIOLOGICAL ASPECTS	SAFETY FACTORS FOUNDATION ENGINEERING STRAINS PSYCHOLOGICAL ASPECTS
---	--

62 205774

FACTORS OF SAFETY IN THE DESIGN OF BURIED PIPELINES

SPANGLER MG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 269, PP 9-16, 6 REF

*FOUNDATIONS /SOILS/ SAFETY FACTORS PIPELINES REINFORCED CONCRETE PIPES METALS PIPE BEDDING DEFLECTION	*MECHANICS /EARTH MASS/ BURIED CHANNELS YIELD STRENGTH RIGID CONDUITS FLEXIBLE CONDUITS SOIL CHARACTERISTICS
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AREA 62 FOUNDATIONS (Soils)

62 205775

SAFETY AND FACTORS OF SAFETY IN TRENCH CONSTRUCTION

MICKLE JL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 269, PP 17-22, 14 REF

*FOUNDATIONS /SOILS/ SAFETY FACTORS TRENCH STABILITY RESEARCH	*MECHANICS /EARTH MASS/ TRENCHES SOIL CHARACTERISTICS
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62 205776

THE SAFETY FACTOR IN EXCAVATIONS AND FOUNDATIONS

SCWERS GF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 269, PP 23-34, 3 FIG, 1 TAB, 2 REF

*FOUNDATIONS /SOILS/ EXCAVATIONS EMPIRICAL METHODS COMPONENTS	SAFETY FACTORS FOUNDATIONS STATISTICAL ANALYSIS
--	---

62 208636

BRIDGE APPROACH DESIGN AND CONSTRUCTION PRACTICES

HRB NCHRP SYNTHESIS OF HWY PRACTICE 69
NO.2, 30 PP, 29 FIG, 1 TAB, REFS, 3 APP

*FOUNDATIONS /SOILS/ INTERVIEWS REVIEWS BRIDGE FOUNDATIONS CONSTRUCTION METHODS SUBGRADE MATERIALS MAINTENANCE COSTS DRAINAGE	*BRIDGE DESIGN BRIDGE APPROACHES BRIDGE DESIGN EMBANKMENT STABILITY BRIDGE ABUTMENTS SUBBASE MATERIALS CONSTRUCTION COSTS
--	---

62 208679

STABILIZATION OF SOILS WITH INORGANIC SALTS AND BASES: A REVIEW OF THE LITERATURE

THORNBURN TH
MURA RHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 294, PP 1-22, 1 TAB, 74 REF

*FOUNDATIONS /SOILS/ SOIL STABILIZATION INORGANIC SALTS REVIEWS CONSTRUCTION METHODS	BIBLIOGRAPHIES SODIUM HYDROXIDE SODIUM CHLORIDES STABILIZERS
--	---

62 208680

STABILIZATION OF BASE COURSE AGGREGATES WITH ROCK SALT

MAINFORT RC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 294, PP 23-41, 18 FIG, 1 TAB, 3 REF

*FOUNDATIONS /SOILS/ ROCK SALT GRADED FINE AGGREGATE TEST SPECIMENS	BASE COURSES SOIL STABILIZATION PUG MILLS PAVEMENT BASES
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AREA 62 FOUNDATIONS (Soils)

62 208681

SALT STABILIZATION RESEARCH

WOOD FO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NC 294, PP 42-45, FIG 7

*FOUNDATIONS /SOILS/ SOIL STABILIZATION CORES SLAGS OPTICAL MICROSCOPES LIMESTONES MOISTURE	SALTS SOIL TESTS BLAST FURNACES GALENA ELECTRON MICROSCOPES MIGRATION TEMPERATURE
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62 211354

DEGRADATION CONTROL OF CRUSHED STONE BASE COURSE MIXES
DURING LABORATORY COMPACTIONHCOVER JM
KUMAR S
BEST TWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 301, PP 18-27, 4 FIG, 11 TAB, 2 REF

*FOUNDATIONS /SOILS/ BASE COURSES DEGRADATION OPTIMUM MOISTURE CONTENT COMPACTION EFFORT AGGREGATE GRADATION PARTICLE SIZE DISTRIBUTION	CRUSHED STONE LABORATORY COMPACTION CONTROL MIXTURES VIBRATORY COMPACTION DENSIFICATION
---	--

62 211965

THE BUMP AT THE END OF THE BRIDGE

HCPKINS TC
DEEN RCHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 302, PP 72-75, 5 FIG

*FOUNDATIONS /SOILS/ SETTLEMENTS BRIDGE FOUNDATIONS ROUGHNESS BITUMINOUS CONCRETES RIGID PAVEMENTS BRIDGE ABUTMENTS BACKFILLS	BRIDGE APPROACHES SURVEYS /DATA COLLECTION/ BRIDGE DECKS PORTLAND CEMENT CONCRETES PATCHING MUDJACKING GRANULAR MATERIALS
--	---

62 211966

ESTIMATED AND OBSERVED SETTLEMENTS OF BRIDGE APPROACHES

HCPKINS TC
SCOTT GDHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 302, PP 76-86, 8 FIG, 7 REF

*FOUNDATIONS /SOILS/ BRIDGE FOUNDATIONS MERCURY MEASURING INSTRUMENTS VOLUME CHANGES CONSOLIDATION TESTS BRIDGE APPROACHES	BRIDGE ABUTMENTS SETTLEMENT PLATES SETTLEMENT /STRUCTURAL/ EMBANKMENTS FOUNDATION SOILS SOIL SAMPLING
--	--

AREA 62 FOUNDATIONS (Soils)

62 212978

EFFECT OF NONLINEAR MATERIAL RESPONSE ON THE BEHAVIOR OF
PAVEMENTS UNDER TRAFFICDEHLEN GL
MCNISMITH CLHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 310, PP 1-16, 14 FIG, 35 REF

*FOUNDATIONS /SOILS/ CONSTRUCTION MATERIALS HIGHWAY PAVEMENTS STRESS STRAIN RELATIONS PAVEMENT DEFLECTION ELASTIC ANALYSIS /STRUCTURAL/ STRESS DISTRIBUTION ASPHALT PAVEMENTS	MATERIALS TESTING MOVING VEHICLES LABORATORY TESTS STIFFENING NONLINEAR SYSTEMS ASPHALTIC CONCRETE SUBGRADE MATERIALS
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62 213961

CONCEPTS FOR DEVELOPING STABILIZATION RECOMMENDATIONS FOR
THE SOILS OF AN AREARCBNETT QL
THOMPSON MRHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 315, PP 1-13, 3 FIG, 3 TAB, 12 REF

*FOUNDATIONS /SOILS/ SOIL STABILIZATION PEDOLOGICAL CLASSIFICATION SYSTEMS STABILIZERS	SOIL STABILIZATION SOIL CLASSIFICATION ECONOMIC FACTORS
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62 213962

EXPERIMENTAL STABILIZATION OF PIERRE SHALE

MCDONALD EB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 315, PP 14-28, 35 FIG, 1 REF

*FOUNDATIONS /SOILS/ SOIL STABILIZATION WARPING EXPERIMENTAL ROADS LIME PORTLAND CEMENTS SERVICEABILITY INDEX SOIL PHYSICAL PROPERTIES	SHALES ROAD SURFACES STABILIZERS SUBGRADES BITUMINOUS STABILIZATION PHOSPHORIC ACID SOIL BEARING CAPACITY
---	---

62 213963

FIELD STUDIES ON THE PULVERIZATION OF BLACK COTTON SOIL FOR
THE CONSTRUCTION OF STABILIZED SOIL ROAD BASESUPPAL HL
CHADDA LR
DHAWAN PKHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 29-35, 2 FIG, 5 TAB, 8 REF

*FOUNDATIONS /SOILS/ LIME SUBBASE MATERIALS	BLACK COTTON SOILS SOIL STABILIZATION PULVERIZATION
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AREA 62 FOUNDATIONS (Soils)

62 213964

CHANGE IN THE CHARACTERISTICS OF CEMENT-STABILIZED SOILS BY
ADDITION OF EXCESS COMPACTION MOISTURELIGHTSEY GR
ARMAN A
CALLIHAN COHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 36-45, 8 FIG, 3 TAB, 6 REF

*FOUNDATIONS /SOILS/ OPTIMUM MOISTURE CONTENT SOIL DENSIFICATION LOAMS SOIL LUBRICATION	SOIL CEMENT STABILIZATION SOIL MOISTURE MOISTURE CONTENT FINE GRAINED SOILS
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62 213965

REACTIONS AND STRENGTH DEVELOPMENT IN PORTLAND CEMENT-SOIL
MIXTURESPLASTER RW
NOBLE DFHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 46-63, 12 FIG, 9 TAB, 16 REF

*FOUNDATIONS /SOILS/ SOIL CEMENT X RAY DIFFRACTION SOIL HORIZONS	PORTLAND CEMENTS SOIL PROPERTIES MICROSCOPY MINERALOGY
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62 213966

FACTORS AFFECTING THE TENSILE STRENGTH OF CEMENT-TREATED
MATERIALSMOORE RK
KENNEDY TW
HUDSON WRHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 64-80, 12 FIG, 3 TAB, 5 REF, 3 APP

*FOUNDATIONS /SOILS/ TENSILE PROPERTIES CEMENT TREATED BASES AGGREGATE GRADATION COMPACTION EFFORT	TENSILE STRENGTH CONSTRUCTION MATERIALS CEMENT CONTENT CURING REGRESSION ANALYSIS
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62 213967

USE OF SODIUM CHLORIDE IN REDUCING SHRINKAGE IN
MONTMORILLONITIC SOIL-CEMENTWANG JW
KREMYDAS AH
ROBBINS EG

DISCUSSE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 81-90, 13 FIG, 1 TAB, 8 REF

*FOUNDATIONS /SOILS/ SOIL CEMENT PROPERTIES MONTMORILLONITE SALTS	SOIL CEMENT SHRINKAGE SODIUM CHLORIDES CURING
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AREA 62 FOUNDATIONS (Soils)

62 213968

LIME STABILIZATION OF CLAY-SAND MIXTURES

SHEN CK
LI SKHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 91-101, 15 FIG, 5 TAB, 9 REF

*FOUNDATIONS /SOILS/ SANDS LIME COMPRESSIVE STRENGTH	CLAYS COMPACTION EFFORT SOIL STABILIZATION PH VALUE
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62 213969

EFFECTS OF SODIUM CHLORIDE AND SODIUM CHLORIDE-LIME
ADMIXTURES ON COHESIVE OKLAHOMA SOILSMARKS BO
HALIBURTON TAHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 102-111, 11 FIG, 1 TAB, 7 REF

*FOUNDATIONS /SOILS/ SODIUM CHLORIDES SOIL PLASTICITY COMPRESSIVE STRENGTH	COHESIVE SOILS LIME SOIL COMPACTION MOISTURE CONTENT
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62 213970

EVALUATION OF REMOLDED FIELD SAMPLES OF LIME-CEMENT-FLY
ASH-AGGREGATE MIXTURES

BARENBERG EJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 112-121, 7 FIG, 4 TAB, 3 REF

*FOUNDATIONS /SOILS/ AIRPORT RUNWAYS VOLUMETRIC ANALYSIS LEACHING FREEZE THAW DURABILITY LIME CEMENTS SOIL AGGREGATE MIXTURES	TEMPERATURE PH METERS CLIMATIC FACTOR CURING LIME FLY ASH
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62 214631

SUPPLEMENTARY RESEARCH NEEDS STATEMENTS

HIGHWAY RES CIRCULAR, HWY RES BOARD OCT70
NO 111, 11 PP

*FOUNDATIONS /SOILS/ DEFLECTION QUALITY CONTROL SHEAR STRENGTH SOIL AGGREGATES PHYSICOCHEMICAL PROPERTIES SOIL EROSION FLY ASH SHRINKAGE CRACKS COARSE AGGREGATES FREEZING	CALCIUM CHLORIDES TEST METHODS SOIL CEMENT SOIL LIME MIXTURES PHOTOINTERPRETATION SOIL STABILIZATION FROST HEAVE VOLUME CHANGES SWELL COARSE GRAINED SOILS MOISTURE MOVEMENT
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AREA 62 FOUNDATIONS (Soils)

62 215704

SUMMARY AND REVIEW OF PART I OF THE SYMPOSIUM ON PILE FOUNDATIONS

KAPP MS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 1-2

*FOUNDATIONS /SOILS/ PILE FOUNDATIONS PILE DRIVING ESTIMATING CONSTRUCTION BEHAVIOR	PILES PILE TYPES PILE BEARING CAPACITIES DESIGN METHODS
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62 215705

TYPES OF PILES: THEIR CHARACTERISTICS AND GENERAL USE

GRAND BA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 3-15, 7 REF

*FOUNDATIONS /SOILS/ PILE TYPES PILE FOUNDATIONS UTILIZATION INSTALLATIONS METHODS HANDLING	PILES PILE LENGTH CHARACTERISTICS DURABILITY DATA TREATMENTS
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62 215709

SUMMARY AND REVIEW OF PART II OF THE SYMPOSIUM ON PILE FOUNDATIONS

LEONARDS GA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 55-59

*FOUNDATIONS /SOILS/ PILES STRUCTURAL BEHAVIOR PILE BEARING CAPACITIES PILE TESTS DESIGN	BEHAVIOR SOILS PILE DRIVING PILE LATERAL LOADS PILE FOUNDATIONS
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62 215710

STRUCTURAL BEHAVIOR OF DRIVEN PILING

YORK DL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 60-73, 16 FIG, 1 TAB, 21 REF

*FOUNDATIONS /SOILS/ STRUCTURAL BEHAVIOR CASE HISTORIES PILE DRIVING	PILES STRUCTURAL FAILURES PILE BEARING CAPACITIES
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AREA 62 FOUNDATIONS (Soils)

62 215711

PILE LOAD TESTS INCLUDING QUICK-LOAD TEST METHOD, CONVENTIONAL METHODS, AND INTERPRETATIONS

FULLER FM
HOY HEHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 74-86, 8 FIG, 4 TAB, 2 PHOT, 5 REF

*FOUNDATIONS /SOILS/ PILES METHODS INSTRUMENTATION	PILE TESTS LOADS TESTING INTERPRETATION
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62 215712

BEARING CAPACITY OF FOUNDATION PILES: STATE OF THE ART

CCYLE HM

SULAIMAN IH

HILL WC

TSCHEBOTARIOFF GP

DISCUSSER

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 87-103, 13 FIG, 2 TAB, 68 REF

*FOUNDATIONS /SOILS/ PILES COHESIVE SOILS PILE BEARING CAPACITIES SOIL PROPERTIES DESIGN	FOUNDATIONS PILE DRIVING COHESIONLESS SOILS PILE GROUPS CHANGES METHODS
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62 215713

LATERAL LOAD CAPACITY OF PILES

DAVISSON MT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 104-112, 10 FIG, 1 TAB, 10 REF

*FOUNDATIONS /SOILS/ PILE LATERAL LOADS PILE FOUNDATIONS ANALYSIS DEPTH EXPERIMENTAL DATA	PILES PILE BEARING CAPACITIES RESISTANCE MODULUS SOILS
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62 215715

PILE LOAD TEST BY IMPACT DRIVING

GCBLE GG

RAUSCHE F

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 333, PP 123-129, 6 FIG, 1 TAB, 3 REF

*FOUNDATIONS /SOILS/ IMPACT PILE LATERAL LOADS STATIC LOADS PENETRATION TESTS FIELD RECORDS ACCURACY	MEASUREMENTS PILE DRIVING PILE TESTS PILE BEARING CAPACITIES COMPUTER APPLICATIONS DATA ACQUISITION
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AREA 62 FOUNDATIONS (Soils)

62 216136

IDENTIFICATION OF SUBGRADE CHARACTERISTICS FROM PROTOTYPE TESTING OF LANDING MATS

RGSNER JC
HARR MEHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 337, PP 11-21, 7 FIG, 4 TAB, 10 REF

*FOUNDATIONS /SOILS/ PAVEMENT DESIGN MATHEMATICAL MODELS AIRPORT RUNWAYS STATIC LOADS LOAD DISTRIBUTION	*PAVEMENT DESIGN PAVEMENTS MECHANICS PROTOTYPE TESTS SUBGRADES PAVEMENT DEFLECTION
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62 218059

SPECIAL TESTS FOR DESIGN OF HIGH EARTH EMBANKMENTS ON US-101

HALL EB
SMITH THIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 90-99, 9 FIG, 2 TAB, 6 REF

*FOUNDATIONS /SOILS/ DESIGN STRESSES ROCKS HIGH PRESSURES	EMBANKMENTS TRIAxIAL TESTING SOILS MIXTURES CONFINEMENT
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62 218060

BEHAVIOR OF HIGH EARTH EMBANKMENT ON US-101

SMITH T
KLEIMAN WFHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 100-110, 15 FIG, 3 TAB, 6 REF

*FOUNDATIONS /SOILS/ STRENGTH TRIAxIAL TESTING PRESSURE	EMBANKMENTS TESTING CONFINEMENT COMPRESSION
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62 219580

SOIL STABILIZATION: A MISSION ORIENTED APPROACH

EPPS JA
DUNLAP WA
GALLAWAY BM
CURRIN DOHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 1-20, 8 FIG, 13 TAB, 54 REF

*FOUNDATIONS /SOILS/ STABILIZERS CLASSIFICATION DECISION MAKING CEMENTS BITUMINOUS STABILIZATION	SOIL STABILIZATION CHEMICALS SELECTING CRITERIA LIME
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AREA 62 FOUNDATIONS (Soils)

62 219581

STABILIZATION OF PIEDMONT SOILS FOR USE AS BASE MATERIAL ON SECONDARY ROAD PROJECTS

STEWART RL
FLETCHER OS
CHU TYHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 21-34, 4 FIG, 8 TAB, 20 REF

*FOUNDATIONS /SOILS/ STABILIZERS PORTLAND CEMENTS PHOSPHORIC ACID SOIL CEMENT EXPERIMENTAL ROADS BASES	SOIL STABILIZATION MICACEOUS SOILS HYDRATED LIME CHEMICALS COMPRESSIVE STRENGTH SECONDARY ROADS
--	--

62 219582

EVALUATION AND PREDICTION OF THE TENSILE PROPERTIES OF ASPHALT-TREATED MATERIALS

HADLEY WO
HUDSON WR
KENNEDY TWHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 35-49, 7 FIG, 8 TAB, 9 REF

*FOUNDATIONS /SOILS/ BITUMINOUS STABILIZATION RIGID PAVEMENTS DESIGN MODULUS OF ELASTICITY /SOIL/ DENSITY POISSONS RATIO COMPACTION	SOIL STABILIZATION SUBBASE LAYERED SYSTEM MECHANICS TENSILE PROPERTIES MIX DESIGN FAILURE TEMPERATURE
--	---

62 219583

INFLUENCE OF PROCESSING PROCEDURES ON STRENGTH OF SAND STABILIZED WITH CATIONIC BITUMEN EMULSION

DUNN CS
SALEM MNHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 50-65, 16 FIG, 2 TAB, 25 REF, 1 APP

*FOUNDATIONS /SOILS/ SANDS CATIONIC EMULSIFIED ASPHALTS EMULSIFIED ASPHALTS TRIAxIAL TESTING UNCONFINED COMPRESSION MIXING CURING	SOIL STABILIZATION SHEAR STRENGTH VISCOSITY MIX DESIGN COMPACTION FILLERS
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62 219584

ESTIMATIONS ON INDIRECT TENSILE STRENGTHS FOR LIME-TREATED MATERIALS

KENNEDY TW
MOORE RKHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 66-77, 8 FIG, 4 TAB, 6 REF

*FOUNDATIONS /SOILS/ LIME INDIRECT METHOD COHESIONMETERS CORRELATIONS COMPACTION CURING CLAYS PREDICTIONS	SOIL STABILIZATION TENSILE PROPERTIES SUBBASE UNCONFINED COMPRESSION DESIGN WATER CONTENT TEMPERATURE TENSILE STRENGTH RIGID PAVEMENTS
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HRIS 62 219585

HRIS 62 219588

AREA 62 FOUNDATIONS (Soils)

62 219585

TENSILE PROPERTIES FOR DESIGN OF LIME-TREATED MATERIALS

MOORE RK
KENNEDY TW
KOZUH JAHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 78-86, 4 FIG, 5 TAB, 9 REF

*FOUNDATIONS /SOILS/ LIME INDIRECT METHOD PREDICTIONS CURING DESIGN	SOIL STABILIZATION TENSILE STRENGTH SUBBASE RIGID PAVEMENT TEMPERATURE WATER CONTENT
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HRIS 62 219584 HRIS 62 219588

62 219586

EFFECT OF SOIL SURFACE AREA AND EXTRACTABLE SILICA,
ALUMINA, AND IRON ON LIME STABILIZATION CHARACTERISTICS
OF ILLINOIS SOILSMOORE JC
JONES RLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 87-92, 1 FIG, 1 TAB, 10 REF

*FOUNDATIONS /SOILS/ LIME REACTIVITY PHYSICO-CHEMICAL PROPERTIES SURFACE AREA ALUMINUM OXIDE CORRELATIONS	SOIL STABILIZATION LIME SOIL WATER REACTION SOIL PROPERTIES SOILS IRON SILICA
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62 219587

STRESS-DEFORMATION PREDICTION IN CEMENT-TREATED SOIL
PAVEMENTSWANG M
MITCHELL JKHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 93-111, 23 FIG, 4 TAB, 21 REF, 1 APP

*FOUNDATIONS /SOILS/ CEMENTS LAYERS PAVEMENT DEFLECTION STRESSES PAVEMENT THICKNESS PAVEMENT DESIGN	SOIL STABILIZATION ELASTIC THEORY FINITE ELEMENTS PAVEMENTS PREDICTIONS REPEATED LOADING PLATE LOAD TEST
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62 219588

ESTIMATIONS OF INDIRECT TENSILE STRENGTHS FOR
CEMENT-TREATED MATERIALSKENNEDY TW
MOORE RK
ANAGNOS JNHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 112-114, 1 FIG, 1 TAB, 4 REF

*FOUNDATIONS /SOILS/ PREDICTIONS SUBBASE INDIRECT METHODS SOIL STABILIZATION RIGID PAVEMENTS	PAVEMENT PERFORMANCE CORRELATIONS DESIGN TENSILE STRENGTH CEMENTS
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HRIS 62 219584 HRIS-219585

AREA 62 FOUNDATIONS (Soils)

62 219589

SHRINKAGE CRACKING OF SOIL-CEMENT BASE: THEORETICAL AND
MODEL STUDIESGEORGE KP
METCALF Jd

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 351, PP 115-133, 9 FIG, 5 TAB, 33 REF

*FOUNDATIONS /SOILS/ BASES CRACKING /FRACTURING/ STRESSES SHRINKAGE CRACKS	SOIL CEMENT SHRINKAGE VISCOELASTICITY THEORIES MODEL TESTS
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62 220819

HIGHWAY DESIGNS TO RESIST SUBGRADE MOISTURE VARIATIONS

HALLIBURTON TA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 360, PP 45-56, 15 REF

*FOUNDATIONS /SOILS/ HIGHWAY DESIGN PAVEMENT CRACKING	SUBGRADE MOISTURE HIGHWAY SUBGRADE PLASTICITY
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62 223337

SIMPLIFIED SOIL-CEMENT MIX DESIGN METHOD FOR ALBERTA SANDS

YEDAVALLY SP
ANDERSON KDHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 379 PP 1-9
2 FIG 5 TAB 12 REF

*FOUNDATIONS /SOILS/ COMPRESSIVE STRENGTH UNCONFINED COMPRESSION TESTS FREEZE THAW TESTS CEMENT CONTENT	SOIL CEMENT MIX DESIGN SANDS
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62 223338

EFFECTS OF FREEZE-THAW PARAMETERS ON THE DURABILITY OF
STABILIZED MATERIALSDEMPSEY BJ
THOMPSON MRHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 379 PP 10-8
4 FIG 4 TAB 6 REF

*FOUNDATIONS /SOILS/ STABILIZED BASE COURSES /MATERIALS/ FRUST ACTION PAVEMENT DURABILITY COOLING SOIL CEMENT PROPERTIES	FREEZE THAW DURABILITY TIME TEST METHODS SOIL CEMENT
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AREA 62 FOUNDATIONS (Soils)

62 223340

CRACKING AND EDGE-LOADING EFFECTS ON STRESSES AND DEFLECTIONS IN A SOIL-CEMENT PAVEMENT

FOSSBERG PE
MITCHELL JK
MONISMITH CLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 379 PP 25-38
20 FIG 7 REF

*FOUNDATIONS /SOILS/ EDGES SOIL CEMENT PAVEMENT TESTING STRESSES CRACKS STABILIZED BASE COURSES /MATERIALS/ BITUMINOUS CONCRETES LOADING	SOIL CEMENT DEFLECTION LAYERED SYSTEM MECHANICS
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62 223342

PERFORMANCE OF SOIL-CEMENT TEST PAVEMENT IN RHODE ISLAND

WANG MC
MCULTROP K
NACCI VAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 379 PP 52-61
10 FIG 3 TAB 5 REF

*FOUNDATIONS /SOILS/ BENKELMAN BEAM EXPERIMENTAL ROADS SOIL CEMENT PROPERTIES STABILIZED BASE COURSES /MATERIALS/ SODIUM SULFATES	SOIL CEMENT ROUGHNESS CURING STRENGTH SOIL CEMENT STABILIZATION
--	---

62 223498

CHARACTERISTICS OF IRREGULARLY SHAPED COMPACTION CURVES SOILS /WITH DISCUSSION/

LEE PY
SUEDKAMP RJ
DASH U

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 381 PP 1-9
8 FIG 2 TAB 13 REF

*FOUNDATIONS /SOILS/ COMPACTION TESTS MOISTURE CONTENT	COMPACTION CURVES DRY DENSITY /SOILS/ SOILS
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62 223499

ACCELERATED CURING OF SALT-TREATED AND LIME-TREATED COHESIVE SOILS

DRAKE JA
HALIBURTON TAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 381 PP 10-9
7 FIG 3 TAB 13 REF

*FOUNDATIONS /SOILS/ ACCELERATED TESTING LIMING OF SOILS COHESIVE SOILS HUMIDITY STABILIZATION	TEMPERATURE CURING METHODS SALT /SODIUM CHLORIDE/ TIME STRENGTH
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AREA 62 FOUNDATIONS (Soils)

62 223500

STABILITY PROPERTIES OF UNCURED LIME-TREATED FINE-GRAINED SOILS

NEUBAUER CH
THOMPSON MRHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 381 PP 20-6
12 FIG 3 TAB 7 REF

*FOUNDATIONS /SOILS/ LIMING OF SOILS STRENGTH DEFORMATION CONE PENETRATION TESTS	STABILITY COHESIVE SOILS FINE GRAINED SOILS REGRESSION ANALYSIS CBR
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62 223501

RELATIVE STABILIZING EFFECT OF VARIOUS LIMES ON CLAYEY SOILS

ALEXANDER ML
SMITH RE
SHERMAN GBHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 381 PP 27-33
4 FIG 4 TAB 5 REF

*FOUNDATIONS /SOILS/ STABILIZATION CALCIUM COMPOUNDS GRADATION COMPACTIBILITY	LIME CLAYS STRENGTH COMPRESSIVE STRENGTH
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62 223502

INVESTIGATION OF SEVERAL ADDITIVES FOR CONTROLLING THE EXPANSION OF PIERRE SHALE

HOSKINS ER
HAMMERQUIST CW
IRBY DHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 381 PP 34-6
1 FIG 1 TAB 3 REF

*FOUNDATIONS /SOILS/ SOILS ADDITIVES HEAVE	SHALES EXPANSION FOUNDATIONS PAVEMENT DISTRESS
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62 223503

LIME STABILIZATION OF ORGANIC SOILS

ARMAN A
MUNFAKH GAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 381 PP 37-45
9 FIG 4 TAB 20 REF

*FOUNDATIONS /SOILS/ STRENGTH STABILITY MOISTURE CONTENT PH VALUE	ORGANIC SOILS LIME DRY DENSITY /SOILS/ PLASTICITY
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AREA 62 FOUNDATIONS (Soils)

62 223504

SODIUM SILICATE STABILIZATION OF SOILS: A REVIEW OF THE LITERATURE

HURLEY CH
THORNBURN THHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 381 PP 46-79 1 TAB 91 REF

*FOUNDATIONS /SOILS/ LIME BIBLIOGRAPHIES WATER STRENGTH LIME FLY ASH ADDITIVES	STABILIZATION SODIUM SILICATE DUST CONTROL SOILS PORTLAND CEMENTS DURABILITY
--	---

62 226842

BEHAVIOR OF NEGATIVE SKIN FRICTION ON MODEL PILES IN MEDIUM-PLASTICITY SILT

KOERNER RM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 34-44 11 FIG 2 TAB 24 REF

*FOUNDATIONS /SOILS/ NEGATIVE FRICTION PILE FOUNDATIONS SILTS SOIL DEFORMATION PILE BATTER PILE FRICTION COATINGS	DRAWDOWN WATER CONTENT PLASTIC SOILS FOUNDATION PROBLEMS LABORATORY TESTS PILE GROUP SPACING ASPHALTS
--	---

62 226843

INFLUENCE VALUE GRAPHS FOR CIRCULAR BEARING AREAS

JUMIKIS AR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 45-50 2 FIG 18 REF

*FOUNDATIONS /SOILS/ INFLUENCE FACTORS BOUSSINESQ FORMULA GRAPHICAL ANALYSIS STRESS DISTRIBUTION /SOILS/ LOAD DISTRIBUTION	CIRCULAR LOADED AREAS ELASTIC THEORY VERTICAL STRESS SOIL BEARING CAPACITY
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62 226845

EMBANKMENT TEST SECTIONS TO EVALUATE FIELD PERFORMANCE OF VERTICAL SAND DRAINS FOR INTERSTATE 295 IN PORTLAND, MAINE WITH DISCUSSION

ALDRICH HP
JOHNSON EG
LANDAU RE

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 60-74 3 FIG 5 TAB 12 REF

*FOUNDATIONS /SOILS/ VERTICAL DRAINS EMBANKMENTS INSTALLING SOILS SENSITIVE CLAYS DRAINS /SAND VERTICAL/	SAND DRAINS FIELD TESTS DRAINAGE PRACTICES SPACING CONSOLIDATION DISTURBANCES
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AREA 62 FOUNDATIONS (Soils)

62 226850

PROGRESS REPORT ON SOIL-BITUMINOUS STABILIZATION

MCDOWELL C

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 132-6 11 FIG 3 REF

*FOUNDATIONS /SOILS/ SANDY CLAYS PAVEMENT BASES	BITUMINOUS STABILIZATION TEST METHODS
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62 226851

ROAD CAPABILITY STUDY ON IMPROVED EARTH ROADS

GRIER JH
PERRY CHHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 137-42 11 FIG 2 TAB

*FOUNDATIONS /SOILS/ BEARING CAPACITY LATERITIC SOILS CLAYS LEAN CLAYS LATERITES SANDS	EARTH ROADS FIELD TESTS SILTY SANDS FATTY CLAYS LOADING TESTS SILTS
--	--

AREA 63 MECHANICS (Earth Mass)

63 204646

SOLUTIONS TO BOUNDARY VALUE PROBLEMS OF STRESSES AND DISPLACEMENTS IN EARTH MASSES AND LAYERED SYSTEMS

HIGHWAY RESEARCH BOARD BIBLIOGRAPHY 69
NO 48, 142 PP, 649 REF

*MECHANICS /EARTH MASS/ EARTH MASSES /PRESSURE CELLS/ BOUNDARY VALUES LAYERED SYSTEM MECHANICS SOIL PLASTICITY REVIEWS	BIBLIOGRAPHIES EARTH ELASTICITY /SOIL/ VISCOSITY INDEXES
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63 207040

THE PRINCIPLE OF REINFORCED EARTH

VIDAL H

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 282, PP 1-16, 37 FIG

*MECHANICS /EARTH MASS/ REINFORCEMENT FRICTION STRESS CONDITIONS /SOIL/ COMPRESSION COMPUTATIONS STRUCTURAL DESIGN	SOILS COHESION PARTICLES CONTACT TENSION MODELS ECONOMICS
--	---

AREA 63 MECHANICS (Earth Mass)

63 207041

THE INFLUENCE OF ADHESION ON THE STRESSES AND DISPLACEMENTS
IN AN ELASTIC HALF-SPACE

SCHIFFMAN RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 282, PP 17-24, 6 FIG, 6 REF

*MECHANICS /EARTH MASS/ VEHICULAR TRAFFIC ADHESION ELASTIC CONTINUUM VERTICAL LOADS ELASTIC THEORY STRESSES FRICTION STRESS DISTRIBUTION /SOILS/ TIRES	SURFACE PROPERTIES TRACTION LATERAL MOVEMENT HALF SPACE THREE DIMENSIONAL ELASTICITY /SCIL/ DISPLACEMENT SHEAR STRESS NUMERICAL ANALYSIS
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63 207042

STRESSES AND DISPLACEMENTS IN VISCOELASTIC PAVEMENT SYSTEMS
UNDER A MOVING LOADCHOU YT
LAREW HGHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 282, PP 25-40, 8 FIG, 2 TAB, 24 REF

*MECHANICS /EARTH MASS/ MOVING VEHICLES STRESSES NUMERICAL ANALYSIS SPEED SOILS	VISCOELASTICITY FLEXIBLE PAVEMENTS DISPLACEMENT FIELD MEASUREMENTS SUBGRADE MATERIALS SOIL PROPERTIES
--	--

63 207043

THE ANALYSIS OF A HOMOGENEOUS, CROSS-ANISOTROPIC ELASTIC
HALF SPACE UNDERGOING DEFORMATIONS THAT POSSESS A VERTICAL
PLANE OF SYMMETRY

GERRARD CM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 282, PP 41-47, 1 FIG, 14 REF

*MECHANICS /EARTH MASS/ ELASTIC CONTINUUM ANISOTROPY SOIL DEFORMATION STRAINS SHEAR STRESS VERTICAL LOADS	LOADING HALF SPACE HOMOGENEITY DISPLACEMENT STRESSES DIRECT SHEAR MATHEMATICAL ANALYSIS
---	---

63 207044

BEARING CAPACITY OF PURELY COHESIVE SOILS WITH A
NONHOMOGENEOUS STRENGTH DISTRIBUTIONJAMES CH
KRIZEK RJ
BAKER WHHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 282, PP 48-56, 5 FIG, 14 REF

*MECHANICS /EARTH MASS/ COHESIVE SOILS SHEAR STRENGTH DEPTH STRESS DISTRIBUTION /SOILS/	SOIL BEARING CAPACITY HOMOGENEITY SHEAR TESTS EMPIRICAL EQUATIONS
---	--

AREA 63 MECHANICS (Earth Mass)

63 207045

EFFECTIVENESS OF LEAKY SHEETPILE

KRIZEK RJ
KARADI GMHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 282, PP 57-62, 8 FIG, 6 FIG

*MECHANICS /EARTH MASS/ SEEPAGE LEAKAGE HOLES EFFICIENCY	STEADY STATE SHEET PILING ELECTRICAL ANALOGUES EMBEDMENTS /PILE/
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63 211353

SUBGRADE MOISTURE STUDIES BY THE BRITISH ROAD RESEARCH
LABORATORY

RUSSAM K

HIGHWAY RESEARCH RECORD, HWY RES BOARD 76
NO 301, PP 5-17, 5 FIG, 2 TAB, 11 REF

*MECHANICS /EARTH MASS/ MOISTURE CONTENT SOIL PROPERTIES PAVEMENT DESIGN	SUBGRADE MOISTURE SOIL MOISTURE PORE WATER TENSIONS
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63 211355

DEFORMATION MEASURING SYSTEM FOR REPETITIVELY LOADED, LARGE
DIAMETER SPECIMENS OF GRANULAR MATERIALMCORE WM
SWIFT G
MILBERGER LJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 301, PP 28-39, 17 FIG, 6 TAB, 3 REF

*MECHANICS /EARTH MASS/ GRANULAR MATERIALS MEASURING INSTRUMENTS TRANSUCERS RECORDERS STRAIN GAGES	DEFORMATION FLEXIBLE PAVEMENTS REPEATED LOADING TRIAXIAL TESTING DISPLACEMENT
---	---

63 212979

A MECHANISM FOR SOIL DEFORMATION AND STRENGTH

NOBLE CA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 310, PP 17-28, 11 FIG, 1 TAB, 43 REF

*MECHANICS /EARTH MASS/ SOIL ENGINEERING SHEAR RESISTANCE DIRECT SHEAR TESTS STRESS STRAIN RELATIONS COHESIVE SOILS TEMPERATURE	SOIL DEFORMATION SHEAR STRENGTH FINE GRAINED SOILS STRAIN RATE REMOLDED SOIL SAMPLES WATER CONTENT MATHEMATICAL ANALYSIS
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AREA 63 MECHANICS (Earth Mass)

63 212980

SPRING ANALOG MODEL FOR FLEXIBLE CULVERT BEHAVIOR

KAY JN
KRIZEK RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 310, PP 29-39, 7 FIG, 17 REF, 1 APP

*MECHANICS /EARTH MASS/ CULVERTS MATHEMATICAL ANALYSIS SPRINGS /ELASTIC/ SOILS EMBANKMENTS DEFORMATION STRESS STRAIN CHARACTERISTICS	FLEXIBLE COCONUTS ANALOG SYSTEMS EARTH PRESSURES MODELS INTERACTION SETTLEMENTS
---	--

63 212981

PERFORMANCE OF AN ASPHALT-TREATED DRAINAGE BLANKET IN A FLEXIBLE PAVEMENT SECTION

SMITH T
FORSYTH R
GRAY WHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 310, PP 40-51, 14 FIG, 4 TAB, 7 REF

*MECHANICS /EARTH MASS/ BITUMINOUS STABILIZATION HIGHWAY DRAINAGE PERMEABILITY MEASUREMENT SUBSURFACE DRAINAGE PERFORMANCE	DRAINAGE BLANKETS ASPHALTS FLEXIBLE PAVEMENTS FIELD TESTS FILTER
---	--

63 214910

EVALUATION OF ROCK SLOPE PROTECTION MATERIAL

SMITH T
MCCAULEY ML
HEARNS RWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 6-13, 6 FIG, 2 TAB, 1 REF

*MECHANICS /EARTH MASS/ SLOPE PROTECTION ROCKS MATERIALS SPECIFICATIONS ABSORPTION RATIOS DURABILITY ABSORPTION RATIO	RIPRAP ROCK PROPERTIES QUALITY CONTRL EVALUATION PHYSICAL TESTS DURABILITY
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63 214911

STABILITY OF SLOPES LOADED OVER A FINITE AREA

KARAFIATH LL
NOWATZKI EAHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 14-25, 11 FIG, 2 TAB, 5 REF, 1 APP

*MECHANICS /EARTH MASS/ BEARING CAPACITY APPROXIMATIONS SOLUTIONS CLAYS SHEAR ZONE ANGLE OF INTERNAL FRICTION SURCHARGE FRICTION COHESIVE SOILS FRICTIONAL PROPERTIES	SLOPE STABILITY LOADS NUMERICAL ANALYSIS SILTS SLOPES PLASTIC EQUILIBRIUM ANGLES FAILURE SOILS COHESIONLESS SOIL
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AREA 63 MECHANICS (Earth Mass)

63 214912

APPLICATION OF PLASTICITY THEORY TO SLOPE STABILITY PROBLEMS

FANG HY
HIRST TJ
KARAFIATH LL

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 26-38, 8 FIG, 2 TAB, 23 REF

*MECHANICS /EARTH MASS/ SLOPE STABILITY FAILURE FRICTION ANGLE GEOMETRY LIMITS PLASTIC EQUILIBRIUM EQUILIBRIUM	PLASTIC THEORY HOMOGENEOUS SOILS FAILURE SURFACES SLOPES EQUATIONS STRESS STRAIN RELATIONS SOILS
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63 214914

DYNAMIC BEHAVIOR OF EMBEDDED FOUNDATION-SOIL SYSTEMS

CHAE YS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 49-59, 12 FIG, 2 TAB, 12 REF

*MECHANICS /EARTH MASS/ FOUNDATIONS SUBSTRATUM EMBEDMENTS MODEL TESTS DEPTH SHAPE MOTION SHEAR RESISTANCE DIMENSIONLESS NUMBERS RATIOS	FOUNDATION SOILS SOILS INTERACTION DYNAMICS FOOTINGS MASS RATIO DYNAMIC RESPONSE AMPLITUDE DIMENSIONLESS PARAMETERS MASS
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63 214916

PHOTOELASTIC AND FINITE ELEMENT ANALYSIS OF EMBANKMENTS CONSTRUCTED OVER SOFT SOILS

THOMS RL
ARMAN AHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 71-86, 8 FIG, 21 REF, 1 APP

*MECHANICS /EARTH MASS/ UNSTABLE SOIL FINITE ELEMENTS ORGANIC SOILS DISPLACEMENT NUMERICAL ANALYSIS ELASTIC THEORY NORMAL STRESS BOUSSINESQ FORMULA ELASTICITY /SOIL/	EMBANKMENTS SOFT STRATA PHOTOELASTICITY STRESSES MODELS TRENCHING SHEAR STRESS STRESS CONCENTRATION MODEL TESTS
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63 214917

STATISTICAL APPROXIMATION FOR CONSOLIDATION SETTLEMENT

ELNAGGAR HA
KRIZEK RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 323, PP 87-96, 8 FIG, 5 REF

*MECHANICS /EARTH MASS/ COMPRESSIBILITY FOUNDATION SOILS CONSOLIDATION EMBANKMENTS STATISTICAL ANALYSIS SOILS	SOIL CONSOLIDATION SOILS FINE GRAINED SOILS SETTLEMENT /STRUCTURAL/ APPROXIMATIONS GRAPHIC METHODS SETTLING
---	---

AREA 63 MECHANICS (Earth Mass)

63 218058

CHART SOLUTIONS FOR ANALYSIS OF EARTH SLOPES

HUNTER JH
SCHUSTER RLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 77-89, 14 FIG, 12 REF

*MECHANICS /EARTH MASS/ SOLUTIONS EARTH SLOPES /STABILITY/	CHARTING SLOPE STABILITY
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63 218061

DETERMINATION OF STRESS DISTRIBUTION AROUND CIRCULAR TUNNELS USING CONFORMAL MAPPING TECHNIQUE

GREEN WE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 345, PP 111-126, 11 FIG, 6 REF

*MECHANICS /EARTH MASS/ STRESS ANALYSIS CIRCULAR TUNNELS	COMPLEX VARIABLES STRESS DISTRIBUTION CONFORMAL MAPPING
--	---

63 218233

MOISTURE MEASUREMENT INSTRUMENTATION, REVIEW OF LITERATURE AND EXISTING TECHNOLOGY

HIGHWAY RESEARCH BOARD NCHRP DIGEST JUL71
DIGEST 33, NCHRP PROJECT 21-1, 5 PP, 2 TAB

*MECHANICS /EARTH MASS/ MEASURING INSTRUMENTS COMPARISONS	MOISTURE CONTENT METHODS MEASUREMENTS
---	---

63 218969

ROADS TO RECOVERY: FIGHTING THE LOS ANGELES KILLER QUAKE

LEGARRA JA

HIGHWAY RESEARCH NEWS, HWY RES BOARD 71
NO 44, PP 2P-25, 1 FIG, 4 PHOT

*MECHANICS /EARTH MASS/ EARTHQUAKE RESISTANT CONSTRUCTION HIGHWAY DAMAGE INTERCHANGES	EARTHQUAKE EFFECTS HIGHWAY MAINTENANCE RAMPS
--	--

63 220055

COMPARISON OF SINGLE-AND MULTIPLE-UNDERREAMED BORED PILES BASED ON LABORATORY AND FIELD EXPERIMENTS

CLISBY MB
MATTOX RMHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP 80-89, 14 FIG, 3 TAB

*MECHANICS /EARTH MASS/ FIELD TESTS BELLS DEFLECTION TESTS	BORED PILE LABORATORY TESTS BEARING CAPACITY CAST IN PLACE PILES
---	---

AREA 63 MECHANICS (Earth Mass)

63 220056

FIELD MEASUREMENTS ON INSTRUMENTED PILES UNDER AN OVERPASS ABUTMENT

NICU NO
ANTES OR
KESSLER RSHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 354, PP90-102, 10 FIG, 1 TAB, 6 REF

*MECHANICS /EARTH MASS/ PILES HORIZONTAL VARIATION SHEAR STRENGTH	BRIDGE ABUTMENTS SOIL COMPOSITION DESIGN CRITERIA
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63 220820

PREFABRICATED SUBSURFACE DRAINS

HEALY KA
LONG RPHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 360, PP 57-64, 10 FIG, 4 REF

*MECHANICS /EARTH MASS/ SUBSURFACE DRAINAGE SYSTEMS FILTRATION LABORATORY TESTS	PREFABRICATED FIELD TESTS DRAINS
--	--

63 220821

GRAVITY FLOW TO EXCAVATIONS AND DRAINAGE TRENCHES IN LAYERED AQUIFERS

MCLEAN FG
KRIZEK RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 360, PP 65-76, 6 FIG, 3 TAB, 22 REF

*MECHANICS /EARTH MASS/ DRAINAGE SYSTEMS AQUIFERS EXCAVATIONS	GRAVITY FLOW TRENCHES FINITE ELEMENTS STEADY STATE
--	---

63 223339

DIRECT-TENSILE STRESS AND STRAIN OF A CEMENT-STABILIZED SOIL

WANG MC
HUSTON MTHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 379 PP 19-24
5 FIG 8 REF

*MECHANICS /EARTH MASS/ STABILIZED BASE COURSES /MATERIALS/ SOIL CEMENT CURING STRESSES	STRENGTH SOIL CEMENT PROPERTIES STRAINS
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AREA 63 MECHANICS (Earth Mass)

63 223341

DYNAMIC PROPERTIES OF CEMENT-TREATED SOILS

CHIANG YC
CHAE YSHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 379 PP 39-51
17 FIG 1 TAB 20 REF

*MECHANICS /EARTH MASS/ MOISTURE CONTENT STRESSES VIBRATION ELASTICITY /SOIL/	SOIL CEMENT SOIL CEMENT TESTING DYNAMIC SHEAR MODULUS REPEATED LOADING
---	---

63 226852

UNCERTAINTY OF SETTLEMENT ANALYSIS FOR OVERCONSOLIDATED CLAYS

KRIZEK RJ
KAY JNHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 405 PP 143-51
5 FIG 2 TAB 7 REF

*MECHANICS /EARTH MASS/ CLAYS PROBABILITY THEORY	OVERCONSOLIDATION SETTLEMENTS PROBABILITY DISTRIBUTIONS
--	---

63 228523

SURFACE SOIL-STRUCTURE INTERACTION: A SYNOPSIS

SELIG ET

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 413 PP 1-4

*MECHANICS /EARTH MASS/ UNDERGROUND STRUCTURES FINITE ELEMENTS STRUCTURAL DESIGN CIRCULAR LOADED AREAS CYLINDERS HISTORY	SOIL STRUCTURE INTERACTION CONDUITS DESIGN PIPE CULVERTS BUCKLING DEFLECTION STATE OF THE ART STUDIES
--	---

63 228524

HISTORICAL DEVELOPMENT OF THE SOIL-STRUCTURE INTERACTION

LINGER DA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 413 PP 5-12
13 FIG 23 REF

*MECHANICS /EARTH MASS/ SOILS UNDERGROUND STRUCTURES HISTORY	SOIL STRUCTURE INTERACTION LOADING SOIL STRUCTURE INTERACTION
---	--

AREA 63 MECHANICS (Earth Mass)

63 228525

MATERIAL PROPERTIES AFFECTING SOIL-STRUCTURE INTERACTION OF UNDERGROUND CONDUITS

KRIZEK RJ
KAY JNHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 413 PP 13-29
8 FIG 6 REF

*MECHANICS /EARTH MASS/ UNDERGROUND STRUCTURES MATERIALS TESTING PIPE CULVERTS ANALYSIS SOIL PROPERTIES	SOIL STRUCTURE INTERACTION CONDUITS MECHANICAL PROPERTIES DESIGN COMPUTER APPLICATIONS
--	--

63 228526

EXPERIMENTAL STUDIES IN SOIL-STRUCTURE INTERACTION

NIELSON FO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 413 PP 30-44
24 FIG 19 REF

*MECHANICS /EARTH MASS/ SOIL DENSIFICATION CULVERT PRESSURE SOIL STRUCTURE INTERACTION FIELD TESTS STRESSES	SOIL MOISTURE IMPERFECT TRENCH METHOD CULVERTS MODEL TESTS DEFLECTION DESIGN
--	---

AREA 64 SOIL SCIENCE

64 205232

AUTOGENOUS HEALING OF LIME-SOIL MIXTURES

THOMPSON MR
DEMPSEY BJHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 263, PP 1-7, 4 FIG, 4 TAB, 6 REF

*SOIL SCIENCE AUTOGENOUS HEALING FREEZE THAW TESTS FREEZING THAWING EFFECTS RENOVATING	SOIL LIME MIXTURES ULTIMATE STRENGTH CURING DETERIORATION
--	--

64 205243

SOME DEFORMATION CHARACTERISTICS OF A LIME-STABILIZED CLAY

FOSSBERG PE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 263, PP 19-26, 6 FIG, 1 TAB, 8 REF

*SOIL SCIENCE CLAYS SOIL STABILIZATION TRIAxIAL COMPRESSION REPEATED LOADING CONFINEMENT STRESS STRAIN RELATIONS	MONTMORILLONITE CURING WATER CONTENT SOIL TESTING DEVIATOR STRESS RESILIENCE SOIL DEFORMATION
--	---

AREA 64 SOIL SCIENCE

64 205416

KEYNOTE ADDRESS, EFFECTS OF TEMPERATURE AND HEAT ON
ENGINEERING BEHAVIOR OF SOILS

WINTERKORN HF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 3-5

*SOIL SCIENCE	SYMPOSIUM
SOIL ENGINEERING	THERMAL PROPERTIES
TEMPERATURE	HEAT
SOIL PROFILES	FROST HEAVE
THERMODYNAMICS	GRANULAR MATERIALS
SOIL CEMENT PROPERTIES	SOIL LIME MIXTURES
SOIL STABILIZATION	

64 205417

GENERAL REPORT ON THERMAL CHARACTERISTICS OF SOILS,
THERMODYNAMICS OF SOIL SYSTEMS, FLUID FLOWS, AND FROST
ACTION

ANDERSON DM

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 6-8, 3 REF

*SOIL SCIENCE	SYMPOSIUM
THERMODYNAMICS	THERMAL PROPERTIES
ENGINEERING SOILS	GRANULAR SOILS
SOIL WATER	TEMPERATURE
SATURATED SOILS	INTERFACES
ELECTROOSMOSIS	THERMAL PROPERTIES
SOIL PROPERTIES	SOIL BEARING CAPACITY
SHEAR STRENGTH	RHEOLOGY
FROZEN SOILS	DEHYDRATION
SOIL SWELL	THERMAL CONDUCTIVITY
ILLITES	KAOLINITES
THERMO OSMOSIS	

64 205418

TEMPERATURE EFFECTS ON THE ENGINEERING PROPERTIES AND
BEHAVIOR OF SOILS

MITCHELL JK

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 9-28, 17 FIG, 32 REF

*SOIL SCIENCE	SOIL ENGINEERING
SOIL PROPERTIES	THERMODYNAMICS
TEMPERATURE	HEAT
THERMAL EXPANSION	PORE WATER
SATURATED SOILS	COMPRESSIBILITY
MATHEMATICAL ANALYSIS	VOLUME CHANGES
PORE PRESSURES	SOIL CONSOLIDATION
COMPRESSION RATIO	LAYERS
THICKNESS	SHEAR STRENGTH
DIRECT SHEAR TESTS	ELASTICITY /SOIL/
COHESIVE SOILS	SOIL DEFORMATION
HYDRATION	SALTS
HEAVE	PAVEMENTS

AREA 64 SOIL SCIENCE

64 205419

EFFECTS OF HEATING ON THE SWELLING OF CLAY MINERALS

AYLMORE LAG
QUIRK JP
SILLS IDHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 31-38, 4 FIG, 4 TAB, 16 REF

*SOIL SCIENCE	DEHYDRATION
HEATING	HYDRATION
SOIL SWELL	ILLITES
CLAY MINERALS	SORPTION
ISOTHERMS	WATER VAPORS
HYGROSCOPICITY	VOLUMETRIC ANALYSIS
CATION EXCHANGE	KAOLINITES
HYDROGEN BUNDS	

64 205420

THERMAL TRANSFER OF LIQUID IN POROUS MEDIA

GLOBUS AM
MGGILEVSKY BMHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 39-50, 2 FIG, 3 TAB, 17 REF

*SOIL SCIENCE	THERMAL MEASUREMENTS
TRANSFER CHARACTERISTICS	TIME
POROUS MATERIALS	LIQUIDS
WATER	BENZENES
CARBON TETRACHLORIDE	SURFACE TENSION
DIBUTYL PHTHALATE	DIFFUSION
CAPILLARITY	THERMO OSMOSIS
THERMODYNAMICS	KINETICS

64 205421

RELATIONSHIPS BETWEEN THE DAILY TEMPERATURE WAVE AND THE
DEVELOPMENT OF THE NATURAL SOIL PROFILEGOETZ R
MULLER SHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 51-65, 11 FIG, 23 REF

*SOIL SCIENCE	MORAINES
COLLOIDS	CLAYS
SOIL FORMATION	SOIL PERMEABILITY
SOIL PROFILES	SOIL TEMPERATURE
CLIMATIC CONDITIONS	SOIL TESTING
SOIL LIME MIXTURES	SILICEOUS CLAYS
CALCAREOUS SOILS	

64 205422

THERMO-OSMOTIC AND THERMOELECTRIC COUPLING IN SATURATED
SOILS

GRAY DH

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 66-77, 8 FIG, 1 TAB, 26 REF

*SOIL SCIENCE	SATURATED SOILS
THERMO OSMOSIS	CLAYS
WATER CONTENT	PORE WATER
ELECTROLYTES	EXCHANGE CAPACITY
MOISTURE MOVEMENT	SOIL TEMPERATURE

AREA 64 SOIL SCIENCE

64 205423

THE PHYSICS AND CHEMISTRY OF FROZEN SOILS

HCEKSTKA P

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN65
NO 103, PP 78-96, 16 FIG, 2 TAB, 26 REF

*SOIL SCIENCE	FROZEN SOILS
SOIL PHYSICS	SOIL CHEMISTRY
THERMAL CONDUCTIVITY	DIELECTRIC CONSTANT
RESISTIVITY	SURFACE AREA
SALTS	TEMPERATURE
THERMODYNAMICS	GRANULAR SOILS
CLAYS	WATER FILM
FILM THICKNESS	MIGRATION /PORE WATER/

64 205424

THERMODYNAMICS OF GRANULAR SYSTEMS

HCLL A

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN65
NO 103, PP 91-113, 15 FIG, 3 TAB, 5 REF

*SOIL SCIENCE	THERMODYNAMICS
GRANULAR SOILS	HEAT CONTENT
TEMPERATURE	SOIL COMPRESSION TESTS
COMPARISONS	GRANULAR MATERIALS
MATHEMATICAL ANALYSIS	

64 205425

HEAT CONDUCTION IN SATURATED GRANULAR MATERIALS

MCGAW R

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN65
NO 103, PP 114-131, 17 FIG, 26 REF

*SOIL SCIENCE	GRANULAR MATERIALS
THERMAL CONDUCTIVITY	MATHEMATICAL ANALYSIS
EQUATIONS	SATURATED SOILS
POROSITY	LIQUIDS

64 205426

TEMPERATURE EFFECT ON WATER RETENTION AND SWELLING PRESSURE OF CLAY SOILS

YONG RN
CHANG HK
WARKENTIN BPHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN65
NO 103, PP 132-137, 4 FIG, 6 REF

*SOIL SCIENCE	CLAY WATER SYSTEMS
TEMPERATURE	SOIL WATER
RETAINING	SOIL SWELL
CAPILLARITY	PRESSURE MEASUREMENT
WATER CONTENT	GLASS
TEST SAMPLES	

AREA 64 SOIL SCIENCE

64 205427

EFFECT OF HEATING ON BEARING CAPACITY OF HIGHWAY SUBGRADES

BARATA FE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN65
NO 103, PP 141-146, 6 FIG, 2 TAB, 9 REF

*SOIL SCIENCE	SOIL BEARING CAPACITY
HEATING	HIGHWAY PAVEMENTS
PAVEMENT SUBGRADES	COMPACTION
DRYING	FINE GRAINED SOILS
GNEISSES	SILTS
SANDS	MOIST FORMING/
TEST SAMPLES	UNIFORM DRYING
DRY CONDITIONS	CURING
SOIL PLASTICITY	SOIL COMPACTION
TROPICS	GRAVELS
IMMERSION	CBR

64 205428

EXPANSION OF SOILS CONTAINING SODIUM SULFATE CAUSED BY DROP IN AMBIENT TEMPERATURES

BLASER HD
SCHERER OJHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN65
NO 103, PP 150-160, 10 FIG

*SOIL SCIENCE	SOIL TESTING
SALTS	HEAVE
EXPANSION	SODIUM SULFATES
TEMPERATURE	HYDRATION
CRYSTALLIZATION	SOIL STRUCTURE
PHOSPHORIC ACID	CALCIUM CHLORIDES
SURCHARGE	LOADING
LABORATORY TESTS	SOIL SWELL

64 205429

INFLUENCE OF HEAT TREATMENT ON THE PULVERIZATION AND STABILIZATION CHARACTERISTICS OF TYPICAL TROPICAL SOILS

CHANDRASEKHARAN EC
BOOMINATHAN S
SADAYAN E
NARAYANASWAMY SETTY KRHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN65
NO 103, PP 161-172, 9 FIG, 1 TAB, 22 REF

*SOIL SCIENCE	HEAT TREATMENT
CLAYS	CEMENTS
SOIL STABILIZATION	TROPICS
LATERITES	BLACK COTTON SOILS
PULVERIZATION	COMPRESSIVE STRENGTH
IMMERSION	SOIL CEMENT
SOIL PLASTICITY	SODIUM CHLORIDES
AGGREGATES	GRAIN SIZES
SOIL CEMENT STABILIZATION	

64 205430

INFLUENCE OF TEMPERATURE AND OTHER CLIMATIC FACTORS ON THE PERFORMANCE OF SOIL-PAVEMENT SYSTEMS

FANG HY

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN65
NO 103, PP 173-185, 11 FIG, 36 REF

*SOIL SCIENCE	CLIMATIC FACTOR
TEMPERATURE	AASHO ROAD TEST
GROUNDWATER LEVEL	FROST PENETRATION
DEPTH	SOILS
PAVEMENT BASES	PAVEMENT PERFORMANCE
PAVEMENT DEFLECTION	SEASONAL VARIATIONS

AREA 64 SOIL SCIENCE

64 205431

EFFECT OF TEMPERATURE ON SOME ENGINEERING PROPERTIES OF CLAY SOILS

LAGUROS JG

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 186-193, 11 FIG, 3 TABLE, 9 REF

*SOIL SCIENCE	TEMPERATURE
SOIL ENGINEERING	CHANGES
CLAYS	ILLITES
KAGLINITES	MONTMORILLONITE
LABORATORY TESTS	REMODELLED SOIL SAMPLES
SOIL COMPACTION	MOISTURE CONTENT
LIQUID LIMITS	PLASTICITY INDEX
KAOINITES	UNCONFINED COMPRESSION
COMPRESSIVE STRENGTH	SOIL DENSIFICATION
VOID RATIOS	

64 205432

EFFECT OF TEMPERATURE ON ELASTICITY OF CLAYS

MURAYAMA S

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 194-203, 15 FIG, 4 REF

*SOIL SCIENCE	CLAYS
TEMPERATURE	VISCOSITY
ELASTICITY /SOILS/	MATHEMATICAL MODELS
STRESS RELAXATION	MARINE CLAYS
MODULUS OF ELASTICITY /SOIL/	
STRESS STRAIN RELATIONS	

64 205433

EFFECT OF TEMPERATURE ON STRENGTH BEHAVIOR OF COHESIVE SOIL

NOBLE CA
DEMIREL THIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 204-219, 6 FIG, 4 TAB, 36 REF

*SOIL SCIENCE	TEMPERATURE
SHEAR STRENGTH	COHESIVE SOILS
CREEP	SOIL DEFORMATION
MODELS	SOIL PLASTICITY
DIRECT SHEAR TESTS	SILTS
DIRECT SHEAR APPARATUS	

64 205434

TRANSIENT TEMPERATURE INFLUENCES ON SOIL BEHAVIOR

PAASWELL RE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 220-230, 5 FIG, 3 TAB, 6 REF

*SOIL SCIENCE	TRANSIENTS
TEMPERATURE	SOIL COMPACTION
SUBGRADES	EMBANKMENTS
CLAYS	COMPACTION CHARACTERISTICS
MOISTURE MOVEMENT	SOIL DEFORMATION
TEMPERATURE DISTRIBUTION	SATURATED SOILS
HEAT	CONDUCTIVITY
SOIL CONSOLIDATION	MOISTURE CONTENT

AREA 64 SOIL SCIENCE

64 205435

SOME TEMPERATURE EFFECTS ON SOIL COMPRESSIBILITY AND PORE WATER PRESSURE

PLUM RL
ESRIG MIHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 231-242, 5 FIG, 2 TAB, 18 REF

*SOIL SCIENCE	COHESIVE SOILS
HEATING	COMPRESSIBILITY
VOLUME CHANGES	TEMPERATURE
OVERCONSOLIDATION	COOLING
STRESS STRAIN CHARACTERISTICS	
PORE WATER PRESSURES	
UNCONFINED COMPRESSION TESTS	TRIAxIAL TESTING
TRIAxIAL COMPRESSION	

64 205436

SOIL STABILIZATION BY INCIPIENT FUSION

PCST JL
PAOUANA JAHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 243-253, 3 FIG, 4 TAB, 15 REF

*SOIL SCIENCE	SOIL STABILIZATION
HIGH TEMPERATURE	SOIL PROPERTIES
MELTING	SOIL COMPOSITION
OXIDES	WATER CONTENT
SOIL AGGREGATES	MINERALOGY
FUSING /MELTING/	HEAT TRANSMISSION
TEMPERATURE MEASUREMENT	SOIL TEMPERATURE
FLUXES	

64 205437

PAVEMENT TEMPERATURES AND THEIR ENGINEERING SIGNIFICANCE IN AUSTRALIA

RICHARDS BG

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 254-266, 11 FIG, 1 TAB, 24 REF

*SOIL SCIENCE	HIGHWAY PAVEMENTS
SEASONAL VARIATIONS	TEMPERATURE
PAVEMENT DESIGN	TEMPERATURE GRADIENT
MOISTURE MOVEMENT	PAVEMENT SUBGRADES
PAVEMENT PERFORMANCE	

64 205438

TEMPERATURE EFFECTS ON THE UNCONFINED SHEAR STRENGTH OF SATURATED, COHESIVE SOIL

SHERIF MA
BURROUS CMHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 267-272, 4 FIG, 1 TAB, 16 REF

*SOIL SCIENCE	TEMPERATURE
UNCONFINED COMPRESSION TESTS	
SHEAR STRENGTH	SATURATED SOILS
COHESIVE SOILS	CLAYS
MOISTURE CONTENT	SOIL CONSOLIDATION

AREA 64 SOIL SCIENCE

64 205439

INFLUENCE OF SEEPAGE STREAM ON THE JOINING OF FROZEN SOIL ZONES IN ARTIFICIAL SOIL FREEZING

TAKASHI T

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 69
NC 103, PP 273-286, 8 FIGS, 8 REF

*SOIL SCIENCE	EFFECT
SEEPAGE	STREAMS
FROZEN SOILS	SOIL FREEZING
SOIL PERMEABILITY	TEMPERATURE
HYDRAULICS	DARCYS LAW
EXPERIMENTS	FREEZING
PIPES	DAM-UP

64 205440

EFFECT OF PRELIMINARY HEAT TREATMENT ON THE SHEAR STRENGTH OF KAOLINITE CLAY

WOHLBIER H
HENNING DHIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN69
NO 103, PP 287-300, 15 FIG, 3 TAB, 10 REF

*SOIL SCIENCE	HEAT TREATMENT
SHEAR STRENGTH	KAOLINITES
CLAYS	WATER CONTENT
LIQUID LIMITS	SOIL PLASTICITY
TRIAxIAL TESTING	SHEAR TESTS
STIFFNESS	SOIL STABILIZATION

64 206264

SUBGRADE MOISTURE VARIATIONS STUDIED WITH NUCLEAR DEPTH GAGES

MARKS BD
HALIBURTON TAHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 276, PP 14-24, 7 FIG, 1 TAB, 11 REF

*SOIL SCIENCE	
*EXPLORATION-CLASSIFICATION /SOILS/	
*PAVEMENT DESIGN	SUBGRADE MOISTURE
PAVEMENT PERFORMANCE	HIGHWAY PAVEMENTS
CLIMATE	SOILS
PAVEMENT DURABILITY	TRAFFIC COUNTING
HIGHWAY DESIGN	PAVEMENT SUBGRADES
DATA ACQUISITION	INFILTRATION
RUNOFF	TEMPERATURE
SURFACE DRAINAGE	RIGID PAVEMENTS

64 206265

A RATIONAL APPROACH TO THE DESIGN OF FLEXIBLE PAVEMENTS TO RESIST THE DETRIMENTAL EFFECTS OF FROST ACTION

MOULTON LK
SCHAUB JHHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 276, PP 25-38, 5 FIG, 4 TAB, 15 REF, 1 APP

*SOIL SCIENCE	*PAVEMENT DESIGN
FLEXIBLE PAVEMENT DESIGN	FROST SUSCEPTIBLE SOIL
FROST ACTION EFFECTS	HVEEM STABILOMETERS
SUBGRADE MOISTURE	THICKNESS DESIGN
THEORY OF CONSOLIDATION	FROST HEAVING SOILS
RESISTANCE VALUE /R/	MATHEMATICAL ANALYSIS

AREA 64 SOIL SCIENCE

64 206266

FROST PENETRATION AND MOISTURE CHANGES RELATED TO HIGHWAY PAVEMENT SHOULDER COLOR

STRAUB AL
ODDEN PF
MOORHEAD FTHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 276, PP 39-49, 9 FIG, 11 REF

*SOIL SCIENCE	*PAVEMENT DESIGN
TEMPERATURE	MOISTURE
PORTLAND CEMENT CONCRETES	CONCRETE PAVEMENTS
SLABS	SEALING
SHOULDERS	
NUCLEAR MOISTURE DENSITY DETERMINATIONS	
COLOR	SOIL MOISTURE
TEMPERATURE CONTROL	PAVEMENT DESIGN
ROAD TESTS	THERMISTORS

64 206267

THERMAL CONDUCTIVITY OF SOME SOIL SYSTEMS IN A THERMO-OSMOTIC PROCESS OF FREEZING

JUMIKIS AR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 276, PP 50-59, 4 FIG, 4 TAB, 16 REF

*SOIL SCIENCE	*MECHANICS /EARTH MASS/
THERMAL CONDUCTIVITY	FROST ACTION EFFECTS
HEAT MEASUREMENT	SOIL TEMPERATURE
SOIL FREEZING	OSMOSIS
FROZEN SOILS	TEMPERATURE MEASUREMENT

64 211352

QUANTITATIVE EVALUATION OF CLIMATIC FACTORS IN RELATION TO SOIL MOISTURE REGIME

THOM HC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 301, PP 1-4, 2 TAB, 9 REF

*SOIL SCIENCE	PRECIPITATION
SUBGRADE MOISTURE	SOIL MOISTURE
TEMPERATURE	METEOROLOGICAL DATA

64 212124

PHENOMENON AND MECHANISM OF FROST HEAVING

KAPLAR CW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 304, PP 1-13, 12 FIG, 1 TAB, 1 PHOT, 22 REF

*SOIL SCIENCE	FROST ACTION
FROST HEAVE	SOIL FREEZING
ICE LENSES	VOLUME CHANGES
SUCTION /SOIL WATER/	FREE ENERGY
FROST SUSCEPTIBILITY	FROST SUSCEPTIBLE SOIL
SOIL STRUCTURE	

AREA 64 SOIL SCIENCE

64 212125

INFLUENCE OF FROST ACTION ON THE BEARING CAPACITY OF SOILS

JESSBERGER HL
CARBEE DLHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 304, PP 14-26, 10 FIG, 5 TAB, 17 REF, 1 APP

*SOIL SCIENCE	FROST ACTION
FROST SUSCEPTIBLE SOIL	SOIL BEARING CAPACITY
SUBGRADE MATERIALS	SUBBASE MATERIALS
CBR TESTING	FREEZE THAW TESTS
SOIL SAMPLING	PARTICLE SIZE DISTRIBUTION
UNIFORMITY	

64 212126

LATERAL THRUST IN FROZEN GRANULAR SOILS CAUSED BY TEMPERATURE CHANGE

LABA JT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 304, PP 27-37, 13 FIG, 3 REF

*SOIL SCIENCE	GRANULAR SOILS
FROZEN SOILS	STRAIN GAGES
SANDS	ICE
EXPANSION	SOIL PRESSURES
SOIL TEMPERATURE	SOIL POROSITY
TIME	LATERAL PRESSURE

64 212127

QUANTITATIVE CHARACTERIZATION OF CYCLIC FREEZING AND THAWING IN STABILIZED PAVEMENT MATERIALS

THOMPSON MR
DEMPSEY BJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 304, PP 38-44, 2 FIG, 2 TAB, 8 REF

*SOIL SCIENCE	STABILIZED BASE COURSES /MATERIALS/
FROST ACTION EFFECTS	FREEZING THAWING EFFECTS
HEAT TRANSFER	MODELS
COMPUTATIONS	FREEZE THAW DURABILITY
FREEZE THAW TESTS	TEST METHODS

64 212128

LOW-TEMPERATURE EFFECTS ON THE COMPACTION AND STRENGTH OF A SANDY CLAY

HIGHTER WH
ALTSCHAEFFL AG
LOVELL CWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 304, PP 45-51, 4 FIG, 2 TAB, 17 REF

*SOIL SCIENCE	LOW TEMPERATURE
SANDY CLAYS	COMPRESSIVE STRENGTH
SOIL COMPACTION	ANALYSIS OF VARIANCE
COMPACTION EFFORT	TEMPERATURE
WATER CONTENT	UNIT WEIGHT
UNCONFINED COMPRESSION	STIFFNESS

AREA 64 SOIL SCIENCE

64 213971

DIFFERENTIAL THERMAL AND THERMOGRAVIMETRIC ANALYSIS OF REACTED BENTONITE-LIME-WATER MIXTURES

GLENN GR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 315, PP 122-132, 4 FIG, 2 TAB, 22 REF

*SOIL SCIENCE	X RAY DEFFRACTICA
BENTONITES	HUMIDITY
THERMAL ANALYSIS	THERMOGRAPHS
LIME	WATER
TUBERMORITES	CRYSTALLOGRAPHY

64 220815

STRESS-STRAIN BEHAVIOR OF FROZEN FINE-GRAINED SOILS

AKILI W

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 360, PP 1-8, 12 FIG, 1 TAB, 9 REF

*SOIL SCIENCE	FROZEN SOILS
STRESS STRAIN CHARACTERISTICS	FINE GRAINED SCILS
TEMPERATURE	COMPACTION CURVES
STRENGTH	
SOIL DEFORMATION	

64 220816

FROST BEHAVIOR OF COMPACTED SOILS

WANG M
RODERICK GLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 360, PP 9-25, 18 FIG, 1 TAB, 17 REF, APP

*SOIL SCIENCE	FROST EFFECTS
SOIL COMPACTION	SOIL CCOMPOSITION
FROST HEAVE	FREEZING
FROST PENETRATION	

64 220817

VISCOELASTIC PROPERTIES OF A LATERALLY CONFINED SAND-ICE SYSTEM SUBJECTED TO TEMPERATURE INCREASE

LABA JT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 360, PP 26-36, 9 FIG, 1 TAB, 5 REF

*SOIL SCIENCE	SANDS
ICE	VISCOELASTICITY
FROZEN SOILS	FREEZING THAWING EFFECTS
MODULUS OF ELASTICITY	

64 220818

THREE-DIMENSIONAL INFLUENCE VALUES OF OISTURBANCE DISTRIBUTION OF TEMPERATURE FROM HEATED STRUCTURES ON PERMAFROST

JUMIKIS AR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 360, PP 37-44, 4 FIG, 3 TAB, 3 REF

*SOIL SCIENCE	TEMPERATURE DISTRIBUTION
PERMAFROST	GRAPHICAL ANALYSIS

AREA 64 SOIL SCIENCE

64 222313

THE INFLUENCE OF SESQUIOXIDES ON LATERITIC SOIL PROPERTIES

TCWNSEND FC
MANKE PG
PARCHER JVHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 374, PP 80-92, 9 FIG, 2 TAB, 25 REF

*SOIL SCIENCE	LATERITES
LABORATORY STUDIES	CHEMICAL PROPERTIES
PHYSICAL PROPERTIES	IRON OXIDES
ALUMINUM SESQUIOXIDES	GRAIN SIZE ANALYSIS
REMOLDING	ATTERBERG LIMITS
FRIABILITY	

64 224625

FREEZING AND HEAVING OF SATURATED AND UNSATURATED SOILS

MILLER RD

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 393 PP 1-11
7 FIG 13 REF

*SOIL SCIENCE	SOIL PRESSURES
ICE PRESSURES	SOILS
SATURATED SOILS	HEAVING
FROST HEAVE	UNSATURATED SOILS
FROZEN SOILS	ICE LENSES

64 224626

PREDICTING UNFROZEN WATER CONTENTS IN FROZEN SOILS FROM SURFACE AREA MEASUREMENTS

ANDERSON DM
TICE ARHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 393 PP 12-8
3 FIG 2 TAB 31 REF

*SOIL SCIENCE	FROZEN SOILS
WATER CONTENT	SOIL TEMPERATURE
TEMPERATURE DISTRIBUTION	SOIL WATER
PHASE	TIME DEPENDENT FUNCTIONS
FOUNDATIONS	FOOTINGS
PIPELINES	EQUATIONS

64 224627

USE OF THE ICE-WATER SURFACE TENSION CONCEPT IN ENGINEERING PRACTICE

WILLIAMS PJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 393 PP 19-29
9 FIG 1 TAB 20 REF

*SOIL SCIENCE	FROZEN SOILS
SOIL FREEZING	FROST HEAVE
FROST SUSCEPTIBILITY	SENSITIVITY
SOILS	SURFACE TENSION

AREA 64 SOIL SCIENCE

64 224628

CHEMICAL ADDITIVES TO REDUCE FROST HEAVE AND WATER ACCUMULATION IN SOILS, WITH DISCUSSION AND CLOSURE

BRANCT GH
MOULTON LK
MARTIN RE
DISCUSSEUR
DISCUSSEURHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 393 PP 30-44
11 FIG 2 TAB 35 REF

*SOIL SCIENCE	FROST SUSCEPTIBLE SOIL
WATERPROOFING TECHNIQUES	FROST PROTECTION
CHEMICALS	ADDITIVES
MOIST CONDITION	FROST HEAVE
MOISTURE MOVEMENT	ICE LENSES

64 224629

FROST HEAVING VERSUS DEPTH TO WATER TABLE

MCGAW R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 393 PP 45-55
15 FIG 2 TAB 5 REF

*SOIL SCIENCE	FROST HEAVE
FROST PENETRATION	WATER TABLES
DEPTH	RATE

64 224630

INFLUENCE OF FREEZING RATE ON FROST HEAVING

PENNER E

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 393 PP 56-64
8 FIG 9 REF

*SOIL SCIENCE	FROST HEAVE
FROST PENETRATION	RATE
FROST SUSCEPTIBILITY	HEAT LOSS
HEAT TRANSFER	ICE LENSES

64 224631

FROST AND SORPTION EFFECTS IN ARGILLACEOUS ROCKS

DUNN JR
HUDEC PPHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 393 PP 65-78
1 FIG 3 TAB 32 REF

*SOIL SCIENCE	MINERAL AGGREGATES
CARBONATE ROCKS	SHALES
SILTSTONES	SODIUM CHLORIDES
WATER	ADSORPTION
SORPTION	ICING
DIFFERENTIAL THERMAL ANALYSIS	
FROST ACTION	FREEZE THAW TESTS
CLAY MINERALS	

AREA 64 SOIL SCIENCE

64 224632

PRESSURE-TIME RELATIONSHIP IN LATERALLY STRESSED FROZEN GRANULAR SOILS

LABA JT
AZIZ KAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 393 PP 79-87
13 FIG 4 REF

*SOIL SCIENCE	GRANULAR SOILS
LATERAL STRESS	SANDS
ICE	FROZEN SOILS
STRESS RELAXATION	SOIL PRESSURES
TIME DEPENDENT FUNCTIONS	PURSIVITY

AREA 70 LEGAL STUDIES

70 204687

ALABAMA SUPREME COURT RULES THAT CONDEMNEE IS NOT ENTITLED TO DAMAGES AND ATTORNEY'S FEES WHERE THE CONDEMNING AUTHORITY HAS DISMISSED THE PROCEEDINGS PRIOR TO THE ASSESSMENT OF DAMAGES AND COMPENSATION

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB65
NO 93, PP 7-8

*LEGAL STUDIES	EMINENT DOMAIN
LEGAL FEES	DAMAGES
COMPENSATION	TERMINATION
LEGAL ACTION	

70 204688

APPROPRIATION OF RIPARIAN RIGHTS NECESSITATING RELOCATION OF BUSINESS WARRANTS RECOVERY FOR RELOCATION COSTS PLUS REPLACEMENT COSTS FOR THE MACHINERY USED AT THE PRIOR LOCATION

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB65
NO 92, PP 1-3,

*LEGAL STUDIES	WATER RIGHTS
CONDEMNATION	COMPENSATION
RELOCATION	APPRAISALS
DAMAGES	ECONOMIC BENEFITS
HIGHWAY IMPROVEMENTS	LAND USE

AREA 70 LEGAL STUDIES

70 204684

OWNER OF RIPARIAN RIGHTS IS ENTITLED TO USE LAND UNDER WATER FOR A COMMERCE-CONNECTED PURPOSE WHERE IT DOES NOT INTERFERE WITH THE NAVIGABILITY OF THE CHANNEL

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB65
NO 93, PP 3-4

*LEGAL STUDIES	WATER RIGHTS
STREAM CHANNELS	OREOGING
LAND FILL	LAND RECLAMATION
MARINA	APPROPRIATIONS
STATE GOVERNMENT	REAL PROPERTY
UNDERWATER	LAND USE
COMPENSATION	LEGAL ASPECT

70 204689

TRIAL COURT'S REFUSAL TO RECEIVE TESTIMONY CONCERNING MACHINERY ON CONDEMNED PROPERTY CONSTITUTED SUFFICIENT GROUNDS FOR NEW TRIAL

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB65
NO 92, PP 3-5

*LEGAL STUDIES	CONDEMNATION
BUILDINGS	MACHINERY
APPRAISALS	EVIDENCE
PIECE-MEAL EVIDENCE	

70 204685

THE FACT THAT HEARSAY EVIDENCE MAY BE USED COLLATERALLY IN CONNECTION WITH COMPARABLE VALUATIONS DOES NOT MEAN THAT HEARSAY IS ACCEPTABLE DIRECTLY ON THE ISSUE OF VOLUNTARINESS OF ONE OF THE COMPARABLE SALES

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB65
NO 93, PP 5-6

*LEGAL STUDIES	DAMAGES
APPRAISALS	CONDEMNATION
EVIDENCE	HEARSAY EVIDENCE
REAL PROPERTY	

70 204690

TRIAL JUDGE IS NOT WARRANTED IN APPLYING HIS OWN ESTIMATES TO A PROFFERED METHOD OF VALUATION WHERE EVIDENCE PRESENTED DIFFERENT ESTIMATES

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB65
NO 92, PP 5-6

*LEGAL STUDIES	CONDEMNATION
APPRAISALS	DAMAGES
REPLACEMENT COSTS	ANNUITY METHOD
APPRAISAL GUIDELINES	

70 204686

WHERE THERE IS A WIDE VARIANCE IN VALUATIONS AND GREAT DIFFERENCE IN EXPERT OPINION, A COMMISSIONER'S REPORT MUST CONTAIN SUFFICIENT INFORMATION TO PERMIT INTELLIGENT JUDICIAL REVIEW

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB65
NO 93, PP 6-7

*LEGAL STUDIES	CONDEMNATION
APPRAISALS	EXPERT TESTIMONY
LAND VALUES	LAND USE
LAND APPRAISAL	REPORTS
COMPENSATION	

70 204691

WHERE APPROPRIATED LAND IS SUBJECT TO MULTIPLE INTERESTS IT IS VALUED AS BELONGING TO ONE PERSON AND THE SEVERAL INTERESTS ARE THEN ENTITLED TO LITIGATE THEIR PROPORTIONATE RIGHTS IN A SEPARATE PROCEEDING

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB65
NO 92, PP 6-7

*LEGAL STUDIES	LAND APPRAISAL
CONDEMNATION	REAL PROPERTY
EXPERT TESTIMONY	EASEMENTS
APPRAISALS	

AREA 70 LEGAL STUDIES

70 204692

IT IS AN ISSUE OF FACT WHETHER CONSEQUENTIAL DAMAGES ARE OFFSET BY ANY BENEFIT BESTOWED BY THE APPROPRIATION AND A TRIAL DETERMINATION OF THAT ISSUE WILL NOT BE OVERTURNED WHERE THERE IS EVIDENCE TO SUPPORT IT

HIGHWAY RES CIRCULAR, HWY RES BOARD FEB69
NO 92, PP 7-8

*LEGAL STUDIES PARTIAL TAKING HIGHWAY IMPROVEMENTS CONSEQUENTIAL DAMAGES BENEFITS	DAMAGES LAND ACQUISITION REMAINDER EVIDENCE
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70 204761

RELOCATION ASSISTANCE UNDER CHAPTER FIVE OF THE 1968 FEDERAL-AID HIGHWAY ACT

HIGHWAY RESEARCH BOARD NCHRP DIGEST MAR69
NO 3, 18 PP, REFS, PROJECT 20-6

*LEGAL STUDIES RELOCATION LAWS COSTS	*URBAN COMMUNITY VALUES FEDERAL AID JUST COMPENSATION CASE STUDIES
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70 204763

SELECTED MATERIALS ON HIGHWAY LAW AND ADMINISTRATION

HIGHWAY RESEARCH BOARD BIBLIOGRAPHY 65
NO 49, 57 PP, 1177 REF

*LEGAL STUDIES BIBLIOGRAPHIES ACCESS AIR RIGHTS HIGHWAY CLASSIFICATION RELOCATION EMINENT DOMAIN EVIDENCE INTERGOVERNMENTAL RELATIONS /US/ INVERSE CONDEMNATION LAND USE CONTROLS HIGHWAY USER SERVICES POLICE POWER LEGAL STUDIES TRAFFIC REGULATION	*LAND ACQUISITION HIGHWAY LAW RIGHT OF ACCESS APPRAISALS CONTRACT ADMINISTRATION EASEMENTS ENCROACHMENTS LAND ACQUISITION LAWS HIGHWAY USER TAXATION ROADSIDE DEVELOPMENT TORTS ZONING
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70 204764

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS OF THE 1969 ANNUAL REPORT ON HIGHWAY RELOCATION ASSISTANCE, TRANSMITTED BY THE SECRETARY OF THE DEPARTMENT OF TRANSPORTATION TO THE CONGRESS, AS REQUIRED BY SECTION 33 OF THE FEDERAL-AID HIGHWAY ACT OF 1968

HIGHWAY RES CIRCULAR, HWY RES BOARD MAR69
NO 95, 5 PP

*LEGAL STUDIES FEDERAL AID LAND ACQUISITION REPLACEMENTS METHODS	HIGHWAY RELOCATION LEGAL ASPECT RIGHT-OF-WAY ACQUISITION HOUSES
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AREA 70 LEGAL STUDIES

70 204765

COMMITTEE ACTIVITY: IMPAIRMENT OF ACCESS

HIGHWAY RES CIRCULAR, HWY RES BOARD MAR69
NO 96, 5 PP

*LEGAL STUDIES HIGHWAYS REAL PROPERTY COMPENSATION	RIGHT OF ACCESS ACCESS LEGAL ASPECT DAMAGE
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70 204766

EXCESS CONDEMNATION WARRANTED WHERE INITIAL TAKING LANDLOCKS REMAINDER DESPITE DISPROPORTIONATE SIZE OF THE REMNANT

HIGHWAY RES CIRCULAR, HWY RES BOARD APR69
NO 97, PP 1-3

*LEGAL STUDIES HIGHWAYS PUBLIC LAND LANDLOCK	CONDEMNATION REMAINDER PARTIAL TAKING LAND ACQUISITION
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70 204767

CONDEMNEE IS NOT ENTITLED TO BENEFIT FROM INCREASED LAND VALUES OCCASIONED BY THE CONDEMNATION PROJECT, BUT MAY BENEFIT FROM INCREASED VALUES CAUSED BY CITY'S LAND PURCHASING THROUGH PRIVATE CORPORATION

HIGHWAY RES CIRCULAR, HWY RES BOARD APR69
NO 97, PP 3-4

*LEGAL STUDIES LAND ACQUISITION CONSTRUCTION	LAND VALUES AIRPORTS BENEFITS
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70 204768

THE OWNER OF MINERAL RIGHTS IS NOT ENTITLED TO SEPARATE PROCEEDINGS FOR THE CONDEMNATION OF HIS INTERESTS AND SUCH MUST BE CONDEMNED IN AN ACTION AGAINST THE WHOLE FEE

HIGHWAY RES CIRCULAR, HWY RES BOARD APR69
NO 97, PP 4-5

*LEGAL STUDIES REAL PROPERTY PROPERTY ACQUISITION FEE SIMPLE OILS	MINERALS LEGAL ASPECT CONDEMNATION GASES LAND APPRAISAL
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70 205234

STANDING TO SUE FOR PURPOSES OF SECURING JUDICIAL REVIEW OF EXERCISE OF ADMINISTRATIVE DISCRETION IN ROUTE LOCATION OF FEDERAL-AID HIGHWAYS

VANCE JC
OBRIEN HT

HIGHWAY RESEARCH BOARD NCHRP DIGEST APR69
DIGEST NO 6, PROJECT 20-6, 9 PP

*LEGAL STUDIES REVIEWS HIGHWAY LOCATION FEDERAL AID HIGHWAYS JUDICIAL REVIEW STANDING TO SUE	ADMINISTRATIVE CASE STUDIES HIGHWAY PLANNING LAWS DECISIONS
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AREA 70 LEGAL STUDIES

70 205325

POLICY FEATURES OF HIGHWAY CONTRACTS

ANDREWS PJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 1-9

- *LEGAL STUDIES
- FEDERAL AID HIGHWAYS
- CONTRACTORS BIDS
- ECONOMIC FACTORS
- SOCIOLOGICAL ASPECTS
- PUBLIC WORKS
- CONSTRUCTION COSTS
- CONSTRUCTION CONTRACTS
- HIGHWAY CONSTRUCTION
- COMPETITIVE BIDDING
- LAWS
- SALARIES
- OVERTIME
- NONDISCRIMINATION

70 205326

ANTIDISCRIMINATION PROVISIONS OF HIGHWAY CONTRACTS

ANDERS DH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 10-14

- *LEGAL STUDIES
- CONSTRUCTION CONTRACTS
- FEDERAL AID HIGHWAYS
- NONDISCRIMINATION
- HIGHWAY CONSTRUCTION
- MANUALS

70 205327

PRE-BIDDING MEASURES TO MINIMIZE CONTROVERSIES IN HIGHWAY CONSTRUCTION

BERMAN MT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 15-22

- *LEGAL STUDIES
- IMPROVEMENT
- HIGHWAY CONSTRUCTION
- COMPETITIVE BIDDING
- SUBSURFACE EXPLORATIONS
- SITE SURVEYS
- CHANGED CONDITIONS CLAUSE
- PRICES
- PUBLIC
- CONSTRUCTION CONTRACTS
- CONTRACTORS BIDS
- BORING
- INFORMATION DISSEMINATION
- CLEARING
- EXCAVATING
- SEPARATION

70 205328

SETTLEMENT PROCEDURES: HIGHWAY CONTRACTORS' CLAIMS

ANDERS DH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 23-27

- *LEGAL STUDIES
- CONSTRUCTION CONTRACTS
- CONTRACTORS
- STATE HIGHWAY ADMINISTRATION
- DOCUMENTATION
- FACTS
- SETTLEMENTS
- FEDERAL AID HIGHWAYS
- HIGHWAY CONSTRUCTION
- CLAIMS
- LEGAL ASPECT
- LAWS

AREA 70 LEGAL STUDIES

70 205329

QUALITY CONTROL IN HIGHWAY CONSTRUCTION PROGRAMS

DUNBAR DW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 28-34

- *LEGAL STUDIES
- HIGHWAY CONSTRUCTION
- CONSTRUCTION CONTRACTS
- LAWS
- MATERIALS HANDLING
- ADMINISTRATIVE PROCEDURES
- CONSTRUCTION SPECIFICATIONS
- CONSTRUCTION PRACTICE
- *CONSTRUCTION
- CONTRACT ADMINISTRATION
- QUALITY CONTROL
- INSPECTION PROCEDURE
- STORAGE
- LEGAL ASPECT

70 205330

TRADE ASSOCIATION INFORMATION EXCHANGES UNDER THE ANTI-TRUST LAWS: COMPULSORY OR OPEN COMPETITION

DAKIN MG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 35-40

- *LEGAL STUDIES
- INFORMATION DISSEMINATION
- ANTI-TRUST LAWS
- PRICE FIXING
- BENEFIT COST ANALYSIS
- CONSENT DECREES
- EXCHANGING
- LAWS
- COST DATA
- COMPETITION

70 205333

APPRAISAL TESTIMONY: A VIEW FROM THE WITNESS STAND

BORGMAN AG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 260, PP 55-59

- *LEGAL STUDIES
- CONDEMNATION
- PREPARATION
- REAL PROPERTY
- CONDEMNATION PROCEDURES
- MOVING
- IMPROVEMENT
- LAND VALUES
- APPRAISALS
- WITNESSES
- COMPARISONS
- SALES
- DAMAGES
- COSTS
- PARTIAL TAKING

70 205687

INSTRUCTION ALLOWING JURY IN CONDEMNATION PROCEEDING TO CONSIDER EXPERIENCE, ABILITY, KNOWLEDGE, AND TRAINING OF APPRAISER TESTIFYING WAS NOT PREJUDICIAL

HIGHWAY RES CIRCULAR, HWY RES BOARD MAY69
NO 98, PP 1-3

- *LEGAL STUDIES
- BUSINESS
- WITNESSES
- REMAINDER
- CONDEMNATION PROCEDURES
- PROPERTY CONDEMNATION
- RELOCATION
- EXPERT TESTIMONY
- TRIALS

70 205688

EVIDENCE OF OTHER SALES HELD ADMISSIBLE, EVEN THOUGH NOT COMPARABLE WHERE NOT OFFERED AS SUBSTANTIVE PROOF OF VALUE

HIGHWAY RES CIRCULAR, HWY RES BOARD JUN69
NO 98, PP 3-4

- *LEGAL STUDIES
- PROPERTY CONDEMNATION
- SALES
- LAND VALUES
- EVIDENCE
- APPRAISALS
- BEFORE AND AFTER STUDIES
- INCOME

AREA 70 LEGAL STUDIES

70 205689

ADMISSION OF PLAT NOT ERROR WHERE TESTIMONY CURES
PREJUDICIAL DEFECTSHIGHWAY RES CIRCULAR, HWY RES BOARD MAY69
NC 98, PP 5-6

*LEGAL STUDIES EASEMENTS EVIDENCE	RIGHT-OF-WAY ACQUISITION MAPS
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70 205690

EVIDENCE OF UNCONSUMMATED SETTLEMENT MAY BE ADMITTED WHEN
INTRODUCED BY THE CONDEMNEEHIGHWAY RES CIRCULAR, HWY RES BOARD JUN69
NO 98, PP 6-7

*LEGAL STUDIES PUBLIC SALES EMINENT DOMAIN	PROPERTY CONDEMNATION HOUSING EVIDENCE
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70 205691

ATTORNEY'S FEES IN CONDEMNATION PROCEEDING ARE NOT TAXABLE
AS COSTS AGAINST OPPOSITE STATUTORY PARTY, EXCEPT BY EXPRESS
PROVISIONSHIGHWAY RES CIRCULAR, HWY RES BOARD JUN69
NO 99, PP 1-3

*LEGAL STUDIES FEES DAMAGE	LEGAL RESPONSIBILITY PROPERTY CONDEMNATION EMINENT DOMAIN
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70 205692

IN THE CONSTRUCTION OF AN INTERSTATE FREEWAY THE STATE CAN
CONDEMN INTERESTS IN REAL PROPERTY TO PROVIDE ACCESS TO
OTHERWISE LANDLOCKED PARCELSHIGHWAY RES CIRCULAR, HWY RES BOARD JUN69
NO 99, PP 3-4

*LEGAL STUDIES EASEMENTS HIGHWAYS UTILIZATION LAND OWNERSHIP	EMINENT DOMAIN ACCESS PUBLIC BENEFITS
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70 205693

COURT MAY NOT INTERFERE WITH EXERCISE OF MUNICIPAL
LEGISLATIVE DISCRETION OR SUBSTITUTE ITS JUDGMENT FOR THAT
OF LEGISLATIVE ACTION EXCEPT WHERE LEGISLATIVE ACTION IS SO
ARBITRARY AND CAPRICIOUS AS TO BE UNREASONABLEHIGHWAY RES CIRCULAR, HWY RES BOARD JUN69
NO 99, PP 4-6

*LEGAL STUDIES HIGHWAY CONSTRUCTION BYPASS HIGHWAYS WATER SUPPLY LAWS MANIFEST ERROR	HIGHWAY BRIDGES INJUNCTION INTERSTATE HIGHWAY SYSTEM WATER POLLUTION JUDGMENT
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AREA 70 LEGAL STUDIES

70 205694

PROPERTY TAKEN TO PROVIDE NEEDED PARKING FACILITIES WITHIN
URBAN RENEWAL AREA MAY BE SAID TO BE ACQUIRED FOR LEGITIMATE
PLANNING PURPOSES UNDER URBAN RENEWAL LAWHIGHWAY RES CIRCULAR, HWY RES BOARD JUN69
NC 99, PP 6-7

*LEGAL STUDIES EMINENT DOMAIN LAND ACQUISITION	URBAN RENEWAL PARKING JUDGMENT
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70 207809

REPORT OF COMMITTEE ON CONDEMNATION AND CONDEMNATION
PROCEDURE OF THE SECTION OF LOCAL GOVERNMENT LAW OF THE
AMERICAN BAR ASSOCIATIONHIGHWAY RES CIRCULAR, HWY RES BOARD SEP69
NO 100, MEMORANDUM 205, PP 1-2

*LEGAL STUDIES CONDEMNATION COURTS PROPERTY CONDEMNATION UTILIZATION PARTIAL TAKING BIOLOGICALS COMPENSATION	REVIEWS CONDEMNATION PROCEDURES DECISIONS PUBLIC DAMAGES APPRAISALS HIGHWAY LAW
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70 207810

CONDEMNATION COMPENSATION AND THE COURTS, PROCEEDINGS OF A
TWO DAY NATIONAL INSTITUTEHIGHWAY RES CIRCULAR, HWY RES BOARD SEP69
NO 100, MEMORANDUM 205, P 3

*LEGAL STUDIES PUBLIC COMPENSATION AIR SPACE CONTROL PARTIAL TAKING PROPERTY CONDEMNATION	PROPERTY ACQUISITION UTILIZATION DISPLACEMENT JOINT DEVELOPMENT RELOCATION APPRAISALS
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70 207811

A MUNICIPALITY WAS NOT REQUIRED TO REIMBURSE A UTILITY
COMPANY FOR COST OF RELOCATING PIPES, MAINS, AND CONDUITS
FROM BEDS OF CITY STREETS WHICH WERE CLOSED FOR PUBLIC
SCHOOL USE ON THEORY OF CONDEMNATION, IN VIEW OF FACT CITY
MADE NO ATTEMPT TO APPROPRIATE THE UTILITY'S PROPERTYHIGHWAY RES CIRCULAR, HWY RES BOARD SEP69
NO 100, MEMORANDUM 205, PP 4-5

*LEGAL STUDIES COMPENSATION RELOCATION URBAN RENEWAL REAL PROPERTY	PUBLIC UTILITIES CONDEMNATION PIPES COMMON LAW
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70 208188

VALUATION CHANGES RESULTING FROM INFLUENCE OF PUBLIC
IMPROVEMENTSHIGHWAY RESEARCH BOARD NCHRP DIGEST OCT69
DIGEST 11, 25 PP

*LEGAL STUDIES APPRAISING CHANGES HIGHWAY CONSTRUCTION CONDEMNATION EMINENT DOMAIN LAND ACQUISITION	*LAND ACQUISITION APPRAISALS HIGHWAY IMPROVEMENTS LAND VALUES DEPRECIATION MARKET VALUE LEGAL ASPECT
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AREA 70 LEGAL STUDIES

70 208589

THEORY AND PRACTICE IN INVERSE CONDEMNATION FOR FIVE REPRESENTATIVE STATES

HERING BG
ORDOVER MGHIGHWAY RESEARCH BOARD NCHRP REPORTS 65
REPT 72, 45 PP, 1 TAB, 1 APP

*LEGAL STUDIES	INVERSE CONDEMNATION
LAWS	PROPERTY DAMAGE
PROPERTY ACQUISITION	JUST COMPENSATION
HIGHWAY CONSTRUCTION	SEVERIGN IMMUNITY
STATES	

70 209493

SUMMARY OF SENATE REPORT ON S. 1 (MUSKIE BILL), 1969

HIGHWAY RES CIRCULAR, HWY RES BOARD JAN70
NO 105, 4 PP

*LEGAL STUDIES	LAND ACQUISITION
RELOCATION	FEDERAL AID
DISPLACEMENT	LAWS
PAYMENT	REIMBURSABLE COSTS
REAL PROPERTY	RESIDENTS
BUSINESS	

70 211360

RULES OF DISCOVERY AND DISCLOSURE IN HIGHWAY CONDEMNATION PROCEEDINGS

LCNG JM
WATTS CEHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
REPT NO 67, 28 PP, 2 APP

*LEGAL STUDIES	CONDEMNATION
CONDEMNATION PROCEDURES	HIGHWAYS
EMINENT DOMAIN	REGULATIONS
DISCOVERY	EXPERT TESTIMONY
APPRAISALS	LAWS

70 211361

RECOGNITION OF BENEFITS TO REMAINDER PROPERTY IN HIGHWAY VALUATION CASES

MONTANO JM

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
REPT NO 88, 24 PP

*LEGAL STUDIES	RIGHT-OF-WAY ACQUISITION
RIGHT-OF-WAY APPRAISAL	CONDEMNATION
HIGHWAYS	BENEFITS
REMAINDER	LAND VALUES
ZONING	

AREA 70 LEGAL STUDIES

70 212999

VALUATION AND CONDEMNATION OF SPECIAL PURPOSE PROPERTIES

LEVEL EE

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 92, NCHRP PROJECT 11-1 (6), 47 PP, 1 FIG, 2 TAB

*LEGAL STUDIES	*LAND ACQUISITION
APPRAISALS	CONDEMNATION
SCHOOLS	RELIGIOUS BUILDINGS
PARKS	UTILITIES
CEMENTARIES	MARKET VALUE
JUST COMPENSATION	SUBSTITUTES
IMPROVEMENT	INCOME
COSTS	REPLACEMENT COSTS
DEPRECIATION	

70 213001

VALUATION AND CONDEMNATION PROBLEMS INVOLVING TRADE FIXTURES

SNITZER EL

HIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 94, NCHRP PROJECT 11-1 (9), 1 TAB, 1 APP

*LEGAL STUDIES	FIXTURES
COMMON LAW	APPRAISALS
CONDEMNATION	COMPENSATION
JUST COMPENSATION	ECONOMIC IMPACT
ECONOMIC CONSIDERATIONS	EQUIPMENT
MACHINERY	

70 214838

EMINENT DOMAIN AND LAND USE MEMORANDUM

HIGHWAY RES CIRCULAR, HWY RES BOARD OCT70
NO 115, 6 PP

*LEGAL STUDIES	*LAND ACQUISITION
*TRANSPORTATION ECONOMICS	*URBAN COMMUNITY VALUES
LAND ACQUISITION	RIGHT-OF-WAY ACQUISITION
RIGHT-OF-WAY APPRAISAL	EMINENT DOMAIN
INTERSTATE HIGHWAY SYSTEM	ECONOMIC IMPACT
INTERCHANGES	TRAFFIC VOLUME
ROADSIDE DEVELOPMENT	URBAN HIGHWAYS
ARTERIAL STREETS /URBAN/	AESTHETICS

70 214839

SUMMARY OF THE 1970 ANNUAL REPORT ON HIGHWAY RELOCATION ASSISTANCE, TRANSMITTED BY THE SECRETARY OF THE DEPARTMENT OF TRANSPORTATION TO THE CONGRESS AS REQUIRED BY SECTION 33 OF THE FEDERAL ACT OF 1968.

HIGHWAY RES CIRCULAR, HWY RES BOARD OCT70
NO 114, PP 1-5

*LEGAL STUDIES	RELOCATION
HOUSING	HIGHWAY CONSTRUCTION
FEDERAL AID HIGHWAYS	HOUSE TRAILERS

AREA 70 LEGAL STUDIES

70 214989

ENVIRONMENTAL ISSUES IN HIGHWAY LAW

WELL DE

HIGHWAY RESEARCH BOARD 27JUL70
29 PP, 9TH ANNUAL WORKSHOP ON HIGHWAY LAW

*LEGAL STUDIES	ENVIRONMENT
ENVIRONMENTAL EFFECTS	LAW
ENVIRONMENTAL POLICY ACT	PUBLIC
PUBLIC LAND	PUBLIC RELATIONS
HEARINGS	HIGHWAY LAW
HIGHWAY PLANNING	HIGHWAYS

70 214990

CONTROL OF ENCROACHMENTS THROUGH THE COMMON LAW THEORY OF NUISANCES

SATISKY H

HIGHWAY RESEARCH BOARD 7C
16 PP, 9TH ANNUAL WORKSHOP ON HIGHWAY LAW

*LEGAL STUDIES	HIGHWAY LAW
HIGHWAYS	ENCROACHMENTS
OBSTRUCTION	NUISANCE

70 214991

AN ATTORNEY GENERAL LOOKS AT THE HIGHWAY CONDEMNATION LAW

MCLEOD DR

HIGHWAY RESEARCH BOARD 7C
4 PP, 9TH ANNUAL WORKSHOP ON HIGHWAY LAW

*LEGAL STUDIES	HIGHWAY LAW
LAND ACQUISITION	RIGHT-OF-WAY ACQUISITION
HIGHWAYS	CONDEMNATION
EMINENT DOMAIN	

70 214992

EQUAL EMPLOYMENT OPPORTUNITY AND THE PHILADELPHIA PLAN

CUNLIFFE RW

HIGHWAY RESEARCH BOARD 7C
1 PP 15 PP

*LEGAL STUDIES	*URBAN COMMUNITY VALUES
EMPLOYMENT	EQUAL OPPORTUNITY
FEDERAL AID	CONSTRUCTION
MINORITY HIRING	PHILADELPHIA PLAN
CONTRACTORS	LABOR UNIONS
PERSONNEL	CONSTRUCTION CONTRACTS
HIGHWAY CONSTRUCTION	CONTRACTORS BIDS
BUILDING TRADES	

AREA 70 LEGAL STUDIES

70 214994

OPERATIONAL PROBLEMS IN RELOCATION ASSISTANCE

LEWIS HJ

HIGHWAY RESEARCH BOARD 7C
21 PP

*LEGAL STUDIES	*URBAN COMMUNITY VALUES
RELOCATION	RELOCATION ASSISTANCE
PROPERTY	LAND APPRAISAL
LAND ACQUISITION	RIGHT-OF-WAY ACQUISITION
COMPENSATION	TAXATIONS
BUSINESS	RESIDENTIAL BUILDINGS
MOVING	EQUIPMENT
PROPERTY CONDEMNATION	PROPERTY TAXES

70 214995

THE LAW OF FIXTURES IN CONDEMNATION

FANNON JE

HIGHWAY RESEARCH BOARD 7C
11 PP, 9TH ANNUAL WORKSHOP ON HIGHWAY LAW

*LEGAL STUDIES	FIXTURES
CONDEMNATION	LAND APPRAISAL
PROPERTY VALUE	

70 214996

FIRST-HAND REPORT PREPARED FOR THE NINTH ANNUAL WORKSHOP ON HIGHWAY LAW

HIGHWAY RESEARCH BOARD 7C
29 PP, 9TH ANNUAL WORKSHOP ON HIGHWAY LAW

*LEGAL STUDIES	HIGHWAYS
HIGHWAY CONSTRUCTION	HIGHWAY LAW
CONSTITUTIONAL LAW	CONTRACTORS
EMINENT DOMAIN	TORTS
LEGAL STUDIES	CASE STUDIES

70 215489

CALIFORNIA'S LEGISLATION FOR DEVELOPMENT OF REPLACEMENT HOUSING

HIGHWAY RES CIRCULAR, HWY RES BOARD JAN71
NO 118, 10 PP

*LEGAL STUDIES	*LAND ACQUISITION
RELOCATION ASSISTANCE	HOUSING
LAW	REPLACEMENTS
RELOCATION	CITIZEN PARTICIPATION

70 215490

1969 COMMITTEE REPORT OF THE LOCAL GOVERNMENT LAW SECTION OF THE AMERICAN BAR ASSOCIATION

HIGHWAY RES CIRCULAR, HWY RES BOARD JAN71
NO 119, 9 PP

*LEGAL STUDIES	*LAND ACQUISITION
RELOCATION ASSISTANCE	HOUSING
LAW	REPLACEMENTS
RELOCATION	CITIZEN PARTICIPATION

AREA 70 LEGAL STUDIES

70 215509

APPLICATION OF NATIONAL ENVIRONMENTAL POLICY ACT TO HIGHWAY PROJECTS

HIGHWAY RES CIRCULAR, HWY RES BOARD JAN71
NO 117, 5 PP

*LEGAL STUDIES	ENVIRONMENT
LAWS	LEGAL ASPECT
HIGHWAY CONSTRUCTION	ENVIRONMENTAL PROTECTION

70 215725

FEDERAL ENVIRONMENTAL LEGISLATION AND REGULATIONS AS AFFECTING HIGHWAYS

HIGHWAY RESEARCH BOARD NCHRP DIGEST JAN71
NO 25, NCHRP PROJECT 20-6, 35 PP, 7 REF, 1 APP

*LEGAL STUDIES	ENVIRONMENT
LAWS	REGULATIONS
LEGAL ASPECT	POLLUTION
ENVIRONMENTAL PROTECTION	HIGHWAY CONSTRUCTION
RIGHT-OF-WAY ACQUISITION	FEDERAL AID HIGHWAYS
UNITED STATES GOVERNMENT	

70 215737

VALUATION IN EMINENT DOMAIN AS AFFECTED BY ZONING

HIGHWAY RESEARCH BOARD NCHRP DIGEST DEC70
NO 22, NCHRP PROJ 20-6, 19 PP, 89 REF

*LEGAL STUDIES	EMINENT DOMAIN
RIGHT-OF-WAY APPRAISAL	ZONING
LEGAL ASPECT	RIGHT-OF-WAY ACQUISITION
REAL PROPERTY	JUST COMPENSATION
CONDEMNATION	

70 215744

SUMMARY OF 1970 REPORT OF COMMITTEE ON CONDEMNATION AND CONDEMNATION PROCEDURE, SECTION OF LOCAL GOVERNMENT LAW, AMERICAN BAR ASSOCIATION

HIGHWAY RES CIRCULAR, HWY RES BOARD JAN71
NO 120, 12 PP, 7 REF

*LEGAL STUDIES	CONDEMNATION
CONDEMNATION PROCEDURES	LAWS
JOINT DEVELOPMENT	MULTIPLE USE

70 216288

THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969

HIGHWAY RES CIRCULAR, HWY RES BOARD MAR71
NO 122, 11 PP

*LEGAL STUDIES	LAWS
ENVIRONMENT	POLICY
UNITED STATES GOVERNMENT	

AREA 70 LEGAL STUDIES

70 216349

JUNKYARD LAW HELD TO BE CONSTITUTIONAL AS A VALID EXERCISE OF THE POLICE POWER

HIGHWAY RES CIRCULAR, HWY RES BOARD MAR71
NO 123, 4 PP

*LEGAL STUDIES	JUNKYARDS
STATE HIGHWAYS	AESTHETICS
ENVIRONMENT	PUBLIC
LAND ACQUISITION	LAND OWNERSHIP
CONDEMNATION PROCEDURES	COURTS
TRAFFIC FLOW	APPRAISAL GUIDELINES
MACHINERY	EQUIPMENT
LAWS	

70 216480

JUNKYARD VALUATION: SALVAGE INDUSTRY APPRAISAL PRINCIPLES APPLICABLE TO HIGHWAY BEAUTIFICATION

MILLER SF

HIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 112, 41 PP, 1 TAB, 38 REF, 6 APP

*LEGAL STUDIES	HIGHWAYS
BEAUTIFICATION	LAWS
JUNKYARDS	SALVAGE
SCREENING	REMOVAL
RELOCATION	DISPOSAL
APPRAISING	SCRAP
RIGHT-OF-WAY APPRAISAL	APPRAISAL GUIDELINES

70 217167

PROPOSED LEGISLATION TO AUTHORIZE JOINT DEVELOPMENT OF HIGHWAY RIGHTS-OF-WAY

VANCE JC

HIGHWAY RESEARCH BOARD NCHRP DIGEST MAY71
NO 31, 12 PP, 1 APP

*LEGAL STUDIES	JOINT DEVELOPMENT
HIGHWAYS	RIGHT-OF-WAY
LAWS	

70 217816

ENVIRONMENTAL IMPACT STATEMENTS: A VIEW IN THREE DIMENSIONS

HIGHWAY RES CIRCULAR, HWY RES BOARD APR71
NO 126, 26 PP

*LEGAL STUDIES	FEDERAL AID
PROJECTS	ENVIRONMENTAL EFFECTS
LAWS	ENVIRONMENTAL POLICY ACT
HIGHWAY CONSTRUCTION	

70 217956

CHANGES IN EXISTING STATE LAW REQUIRED BY THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970

HIGHWAY RESEARCH BOARD NCHRP DIGEST JUN71
NO 32, 13 PP

*LEGAL STUDIES	RIGHT-OF-WAY ACQUISITION
LAND ACQUISITION	DISPLACEMENT
RELOCATION	RELOCATION ASSISTANCE
FEDERAL AID	

AREA 70 LEGAL STUDIES

70 218411

POWER, POLICY, PEOPLE: A STUDY OF DRIVER LICENSING
ADMINISTRATION

REESE JH

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 123, 229 PP, REFS

*LEGAL STUDIES	*HIGHWAY SAFETY
HIGHWAY SAFETY	SYSTEM SAFETY
DRIVER LICENSING	LEGAL ASPECT
ADMINISTRATION	POLICY
CRITERIA	STANDARDS
REGULATIONS	
STATE HIGHWAY ADMINISTRATION	

70 220655

CONTROL OF HIGHWAY ADVERTISING SIGNS - SOME LEGAL PROBLEMS

CUNNINGHAM RA

HIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 119, 72 PP, 3 APP

*LEGAL STUDIES	CONTROL
ROADSIDE ADVERTISING	LEGAL STUDIES
UNITED STATES GOVERNMENT	STATE GOVERNMENT
BEAUTIFICATION	LAWS
HIGHWAYS	

70 222644

A SYNTHESIS OF CASE LAW JURISPRUDENCE RELATING TO WET-
WEATHER HIGHWAY CONDITIONS

OLIVER DC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NC 376, PP 29-36

*LEGAL STUDIES	WET CONDITIONS
NEGLIGENCE	LIABILITIES
LITIGATION	SLIPPERINESS
DAMAGES	CLAIMS
LEGAL RESPONSIBILITY	SIGNING

70 223555

ENVIRONMENTAL LITIGATION IN 1971

SHANE JN

HIGHWAY RES CIRCULAR, HWY RES BOARD MAY72
NO 135 16 PP

*LEGAL STUDIES	COURTS
ENVIRONMENTAL IMPACT STATEMENT	HIGHWAY LOCATION
FEDERAL AID HIGHWAYS	HIGHWAYS
LITIGATION	
HIGHWAY PROGRAMMING	

AREA 70 LEGAL STUDIES

70 223756

LEGAL EFFECT OF REPRESENTATIONS AS TO SUBSURFACE CONDITIONS

VANCE JC

HIGHWAY RESEARCH BOARD NCHRP DIGEST JUN72
17 PP

DIGEST 39

REFS

*LEGAL STUDIES	HIGHWAY DEPARTMENTS
CLAIMS	LIABILITIES
HIGHWAY CONSTRUCTION	CONTRACTS
UNDERGROUND	SUBSURFACE EXPLORATIONS
LEGAL RESPONSIBILITY	

70 224335

ENVIRONMENTAL LEGISLATION MEMORANDUM

HIGHWAY RES CIRCULAR, HWY RES BOARD JUN72
NO 136 32 PP

*LEGAL STUDIES	ENVIRONMENTAL EFFECTS
ENVIRONMENTAL IMPACT STATEMENTS	
HIGHWAY LOCATION	HIGHWAY DESIGN

70 224845

APPEAL BODIES FOR HIGHWAY RELOCATION ASSISTANCE

MORTON HJ
ISACGFF MAHIGHWAY RESEARCH BOARD NCHRP DIGEST AUG72
16 PP

DIGEST 40

*LEGAL STUDIES	RELOCATION ASSISTANCE
STATES	HIGHWAY DEPARTMENTS
ADMINISTRATIVE PROCEDURES	LAWS
REGULATIONS	HEARINGS

70 227969

VALUATION AND COMPENSABILITY OF NOISE, POLLUTION, AND OTHER
ENVIRONMENTAL FACTORS

SCHMIDT JD

HIGHWAY RESEARCH BOARD NCHRP SUMMARY 72
PP 124-7

PROC NO 11-1(7)

*LEGAL STUDIES	COMPENSATION
TAKING /PROPERTY/	NOISE /SOUND/
AIR POLLUTION	WATER POLLUTION
EMINENT DOMAIN	HIGHWAYS

70 228027

TRIAL STRATEGY AND TECHNIQUES TO EXCLUDE NONCOMPENSABLE
DAMAGES AND IMPROPER VALUATION METHODS IN EMINENT DOMAIN
CASESHIGHWAY RESEARCH BOARD NCHRP DIGEST SEP72
NO 41 24 PP

*LEGAL STUDIES	EMINENT DOMAIN
COMPENSATION	CONDEMNATION
APPRAISING	METHODS
COURTS	

AREA 70 LEGAL STUDIES

70 228966

DAMAGES DUE TO DRAINAGE, RUNOFF, BLASTING, AND SLIDES

LEWIS H
MCDANIEL AH
PETERS RB
JACOBS DMHIGHWAY RESEARCH BOARD NCHRP REPORTS 72
NO 134 26 PP

2 APP

*LEGAL STUDIES	LEGAL ASPECT
LEGAL STUDIES	LANDSLIDES
BLASTING	DAMAGES
DRAINAGE	RUNOFF

70 229716

SUPPLEMENTAL CONDEMNATION: A DISCUSSION OF THE PRINCIPLES OF EXCESS AND SUBSTITUTE CONDEMNATION

HOLLOWAY JP

HIGHWAY RESEARCH BOARD NCHRP DIGEST OCT72
NO 42 20 PP

*LEGAL STUDIES	ADVANCE ACQUISITION
CONDEMNATION	RIGHT-OF-WAY ACQUISITION
LEGAL ASPECT	

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 208686

TRANSPORTATION SYSTEMS IN THE FUTURE DEVELOPMENT OF METROPOLITAN AREAS: THE PERMANENT CORRIDOR CONCEPT

LEISCH JE
BAKKER JJ

DISCUSSEK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 83-101, 8 FIG, 1 TAB, 5 REF, 1 APP

*URBAN TRANSPORTATION ADMINISTRATION	
*URBAN TRANSPORTATION SYSTEMS	
URBAN AREAS	URBAN TRANSPORTATION
TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION PLANNING	
TRIP GENERATION	RAPID TRANSIT

81 211629

HIGHWAY STUDIES RELEVANT TO ANALYSIS OF RAPID TRANSIT

THIEL F

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, PP 35-40, 31 REF

*URBAN TRANSPORTATION ADMINISTRATION	
ECONOMIC IMPACT	
TRANSPORTATION SYSTEM ANALYSIS	
HIGHWAYS	URBAN LAND USE
EMPLOYMENT	POPULATION
ECONOMIC DEVELOPMENT	COMMUNITY CONSEQUENCES
CENTRAL BUSINESS DISTRICT	ATTITUDES /MENTAL/
SURVEYS /DATA COLLECTION/	

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 211630

NOTES ON THE METHODOLOGY OF URBAN TRANSPORTATION IMPACT ANALYSIS

BOYCE DE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, PP 41-44, 3 FIG, 3 REF

*URBAN TRANSPORTATION ADMINISTRATION	
URBAN TRANSPORTATION	ECONOMIC IMPACT
LAND VALUES	TRAFFIC VOLUME
BEFORE AND AFTER STUDIES	FORECASTING
COMPARISONS	TERMINALS /TRANSPORTATION/
STATISTICAL METHODS	ANALYSIS OF VARIANCE
CHANGES	RAPID TRANSIT SYSTEMS

81 211632

PANEL 2: IMPACTS ON TRAVEL VOLUMES AND TRAFFIC FLOW CHARACTERISTICS BY ALL MODES

KENNEDY N

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, P 46

*URBAN TRANSPORTATION ADMINISTRATION	
TRAFFIC VOLUME	TRAFFIC FLOW
ECONOMIC IMPACT	DATA ACQUISITION
CONSUMERS	TRANSPORTATION SYSTEMS
COMMUNITY VALUES	URBAN TRANSPORTATION
TRANSPORTATION MODELS	

81 215364

THE PHILADELPHIA AIRPORT ORIGIN - DESTINATION SURVEY-A STATISTICAL ANALYSIS

CORRAOING JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 330, PP 30-36, 3 TAB, 1 PHOT, 2 REF

*URBAN TRANSPORTATION ADMINISTRATION	
AIRPORT ACCESS	ACCESS
AIRPORTS	
ORIGIN & DESTINATION STUDIES	

81 215741

DATA REQUIREMENTS FOR METROPOLITAN TRANSPORTATION PLANNING

HIGHWAY RESEARCH BOARD NCHRP DIGEST JAN71
NO 27, NCHRP, PROJ 8-7, 5 PP

*URBAN TRANSPORTATION ADMINISTRATION	
REGIONAL PLANNING	TRANSPORTATION PLANNING
URBAN TRANSPORTATION PLANNING	
DATA ACQUISITION	

81 217926

CONFERENCE SUMMARY

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121 PP 1-4

*URBAN TRANSPORTATION ADMINISTRATION	
CONFERENCES	CENSUS
DATA	TRANSPORTATION PLANNING
APPLICATIONS	RESEARCH
SOCIOECONOMIC ASPECTS	WORK TRIPS
FORECASTING	POPULATION FORECASTING
EMPLOYMENT	LAND USE
TRANSPORTATION MODELS	
URBAN TRANSPORTATION PLANNING	

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 217927

DATA REQUIREMENTS FOR CONTINUING TRANSPORTATION PLANNING

HAMBURG JR
CREIGHTON RL
MANNING CHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 5-8, 1 REF

*URBAN TRANSPORTATION ADMINISTRATION	TRANSPORTATION PLANNING
CONTINUING BASIS	REQUIREMENTS
DATA	NETWORKS
GEOGRAPHY	SOCIOLOGICAL ASPECTS
SIMULATIONS	
ECONOMIC CONSIDERATIONS	
REGIONAL PLANNING /TRANSPORTATION/	
TRAVEL PATTERNS	
CONTINUING TRANSPORTATION PLANNING	
SOCIOECONOMIC DATA	

81 217928

WHAT CAN THE BUREAU OF THE CENSUS SUPPLY?

TAEUBER C

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 9-14

*URBAN TRANSPORTATION ADMINISTRATION	DATA
CENSUS	TRACT
POPULATION	

81 217929

SUPPLEMENTAL DATA NEEDS

SCSSLAU AB
MCDONNELL JJHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 15-23, 3 FIG

*URBAN TRANSPORTATION ADMINISTRATION	DATA
CENSUS	
TRANSPORTATION PLANNING	
CONTINUING TRANSPORTATION PLANNING	

81 217930

SOCIOECONOMIC DATA

VOIGHT R

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 24-30, 4 TAB, 1 REF

*URBAN TRANSPORTATION ADMINISTRATION	CENSUS
SOCIOECONOMIC DATA	
DATA	

81 217931

WORK-TRIP DATA

DALY JF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 31-33

*URBAN TRANSPORTATION ADMINISTRATION	WORK TRIPS
FRANGIPANI	DATA
CENSUS	

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 217932

NETWORK DATA, GEOGRAPHIC CODING CAPABILITIES, AND AREA SYSTEMS

FARNSWORTH G

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 34-38, 1 FIG

*URBAN TRANSPORTATION ADMINISTRATION	DATA
CENSUS	TRANSPORTATION PLANNING
COMPUTER APPLICATIONS	GEOGRAPHY
NETWORKS	COMPUTER PROGRAMS
CODING	
ADDRESS CODING GUIDE	
DUAL INDEPENDENT MAP ENCODING	

81 217933

JOURNEY-TO-WORK STATISTICS

ROBERTSON SR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 39-42, 1 REF

*URBAN TRANSPORTATION ADMINISTRATION	DATA
CENSUS	ZONES
TRAFFIC	GEOGRAPHY
WORK TRIPS	COMPUTER PROGRAMS
CODING	
TRANSPORTATION PLANNING	

81 217934

PLANNING SPECIAL TRANSPORTATION SERVICES

PAASWELL RE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 43-57, 10 FIG, 3 TAB, 8 REF

*URBAN TRANSPORTATION ADMINISTRATION	INCOME
SOCIOECONOMIC DATA	MAPPING
TRAVEL PATTERNS	POPULATION
CONTOURS	TRANSPORTATION PLANNING
LAND VALUES	CENSUS
LATENT DEMAND	POOR
DATA	ELDERLY
NEGROES	
URBAN TRANSPORTATION PLANNING	

81 217935

FORECASTING POPULATION AND EMPLOYMENT

ZITTER M

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 58-62, 1 TAB, 9 REF

*URBAN TRANSPORTATION ADMINISTRATION	DATA
CENSUS	EMPLOYMENT
POPULATION	ESTIMATES
PROJECTIONS	

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 217936

CENSUS DATA, LAND USE, AND TRANSPORTATION MODELING

WORRAL RD

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 63-67, 3 FIG

*URBAN TRANSPORTATION ADMINISTRATION	
CENSUS	LAND USE
TRANSPORTATION MODELS	DATA
MODELS	TRAVEL
FORECASTING	IMPACT
MAINTENANCE	

81 217937

AN APPROACH USING WORK-TRIP DATA

SHUNK GA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 68-71, 1 REF

*URBAN TRANSPORTATION ADMINISTRATION	
WORK TRIPS	TRAVEL PATTERNS
CENSUS	DATA
URBAN TRANSPORTATION PLANNING	
MODAL SELECTION	

81 217938

IMPROVED TRANSPORTATION MODELING

BRAND D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 72-75, 3 REF

*URBAN TRANSPORTATION ADMINISTRATION	
CENSUS	DATA
TRANSPORTATION PLANNING	TRANSPORTATION MODELS
TRAVEL PATTERNS	VARIANCE

81 217939

USE OF CENSUS DATA FOR TRANSPORTATION PLANNING

PISARSKI AE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 76-77

*URBAN TRANSPORTATION ADMINISTRATION	
CENSUS	DATA
TRANSPORTATION	TRANSPORTATION PLANNING

81 217940

USE OF CENSUS DATA IN URBAN TRANSIT PLANNING

WICKSTROM GV

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 78-81, 4 FIG, 1 TAB, 3 REF

*URBAN TRANSPORTATION ADMINISTRATION	
CENSUS	DATA
URBAN TRANSPORTATION PLANNING	
MASS TRANSIT	TRAVEL DEMAND
LATENT DEMAND	ELDERLY
MINORS	WORK TRIPS

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 217941

LIMITATIONS OF CENSUS DATA FOR TRANSPORTATION PLANNING AND NEEDED PROGRAMS

BARRACLOUGH RE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 121, PP 82-85, 1 FIG, 1 REF

*URBAN TRANSPORTATION ADMINISTRATION	
CENSUS	DATA
TRANSPORTATION PLANNING	GEOGRAPHY
MODE	
DUAL INDEPENDENT MAP ENCODING	
NETWORKS	TRANSPORTATION

81 218062

SUMMARY OF CONFERENCE PROCEEDINGS

MCCL LA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 4-10

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	DEMONSTRATION PROJECT
INTERCITY TRANSPORTATION	INTRACITY TRANSPORTATION
TRUCKS	AIR TRANSPORTATION
RAIL TRANSPORTATION	PUBLIC TRANSIT
TRANSPORTATION PLANNING	POLICY
DATA	URBAN AREAS
RESEARCH	ENVIRONMENTAL EFFECTS
TRAFFIC FLOW	ECONOMIC IMPACT
LAND USE	TERMINALS /TRANSPORTATION/
URBAN LAND USE	TRANSPORTATION POLICY
FREIGHT TRANSPORTATION	

HRIS 81 218063. HRIS 81 218088

81 218063

COMMODITY FLOW AND URBAN TRANSPORTATION PLANNING

MICKLE DG

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 11-12

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	URBAN AREAS
FREIGHT TRANSPORTATION	

81 218064

THE INTEREST OF THE U.S. DEPARTMENT OF TRANSPORTATION IN URBAN GOODS MOVEMENT

DYE I

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 13-14

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	URBAN AREAS
POLICY	TRANSPORTATION PLANNING
FREIGHT TRANSPORTATION	

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 218065

CANADIAN FEDERAL GOVERNMENT'S ROLE IN TRANSPORTATION AND URBAN GOODS MOVEMENT

HALTON CC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NC 120, PP 15-18

*URBAN TRANSPORTATION ADMINISTRATION	TRANSPORTATION PLANNING
TRANSPORTATION	RESOURCE ALLOCATION
MODAL SPLIT	ORGANIZING
ORGANIZATIONS	ECONOMIC ANALYSIS
RESOURCES	

81 218066

PROBLEMS AND ISSUES IN URBAN GOODS MOVEMENT

CARROLL JD

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NC 120, PP 19-21

*URBAN TRANSPORTATION ADMINISTRATION	URBAN AREAS
COMMODITY FLOW	INTRACITY TRANSPORTATION
DATA	
ORIGIN & DESTINATION STUDIES	SOLID WASTE
TRUCKS	

81 218067

STRUCTURE AND ECONOMICS OF INTRAURBAN GOODS MOVEMENT

WOOD RT

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NC 120, PP 22-37, 4 FIG, 10 TAB

*URBAN TRANSPORTATION ADMINISTRATION	URBAN AREAS
COMMODITY FLOW	
INTRACITY TRANSPORTATION	
ORIGIN & DESTINATION STUDIES	
BARGES	WATER TRANSPORTATION
RAIL TRANSPORTATION	PIPELINES
TRUCKS	ECONOMIC ANALYSIS
COSTS	DISTRIBUTION
COMMODITIES	CONSUMERS
INDUSTRY	FREIGHT TRANSPORTATION

81 218068

EFFECTS OF GOVERNMENTAL POLICY AND PROGRAMS ON THE INDUSTRY

TAFF CA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NC 120, PP 38-47, 3 REF

*URBAN TRANSPORTATION ADMINISTRATION	URBAN AREAS
COMMODITY FLOW	REGULATIONS
FREIGHT TRANSPORTATION	ZONES
RATES /COSTS/	EXEMPTION
COMMERCIAL	SUBURBS
INTERMODAL	TRUCKS
TRAFFIC FLOW	COMMON CARRIERS
AIR TRANSPORTATION	POPULATION MOVEMENTS
DISTRIBUTION	NOISE /SOUND/
ENVIRONMENTAL EFFECTS	TERMINALS /TRANSPORTATION/
SIZE AND WEIGHT LAWS	DELIVERY
DEMONSTRATION PROJECT	
PICKUPS	

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 218069

URBAN GOODS MOVEMENTS IN CANADA: INFORMATION SOURCES AND REQUIREMENTS

LEA ND

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NC 120, PP 48-59, 1 FIG, 2 TAB, 5 REF

*URBAN TRANSPORTATION ADMINISTRATION	URBAN AREAS
COMMODITY FLOW	INFORMATION
FREIGHT TRANSPORTATION	PRODUCTION
TRUCKS	TERMINALS /TRANSPORTATION/
TRAFFIC	PRODUCTIVITY
DISTRIBUTION	

81 218070

STATE OF RESEARCH AND DATA ON URBAN GOODS MOVEMENTS AND SOME COMMENTS ON THE PROBLEM

SMITH WS

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NC 120, PP 60-74, 181 REF

*URBAN TRANSPORTATION ADMINISTRATION	URBAN AREAS
COMMODITY FLOW	TRUCKS
FREIGHT TRANSPORTATION	TRAFFIC FLOW PATTERN
INFORMATION	
BIBLIOGRAPHIES	

81 218075

PROBLEMS ASSOCIATED WITH URBAN GOODS MOVEMENT AT THE LOCAL LEVEL - A NONGOVERNMENTAL TRANSPORTATION PLANNING AGENCY

ROSS DR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NC 120, PP 84-86

*URBAN TRANSPORTATION ADMINISTRATION	PASSENGERS
COMMODITY FLOW	TRANSPORTATION PLANNING
URBAN AREAS	
REGIONAL PLANNING /TRANSPORTATION/	INTERMODAL
AIRPORTS	PLANNING
REGULATIONS	INTERCITY TRANSPORTATION
LOCATING	
TERMINALS /TRANSPORTATION/	

HRIS 15 218071 HRIS 15 218072 HRIS 15 218073
HRIS 15 218074 HRIS 81 218076

81 218076

PROBLEMS ASSOCIATED WITH URBAN GOODS MOVEMENT AT THE LOCAL LEVEL - THE U.S. DEPARTMENT OF TRANSPORTATION

CAFFERTY M

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NC 120, PP 86-89, 2 REF

*URBAN TRANSPORTATION ADMINISTRATION	FEDERAL AID
TRANSPORTATION POLICY	CRITERIA
URBAN TRANSPORTATION PLANNING	
FUND ALLOCATIONS	

HRIS 15 218071 HRIS 15 218072 HRIS 15 218073
HRIS 15 218074 HRIS 81 218075

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 218078

IMPROVEMENTS AND INNOVATIONS IN URBAN GOODS MOVEMENT

ORSKI CK
JAKOBSBERG WHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 100-109, 7 REF

*URBAN TRANSPORTATION ADMINISTRATION	FREIGHT TRANSPORTATION
COMMODITY FLOW	INTRACITY TRANSPORTATION
INTERCITY TRANSPORTATION	TRUCKS
DISTRIBUTION	TERMINALS /TRANSPORTATION/
DELIVERY	COMMUNITY PLANNING
NEW TOWNS	
URBAN AREAS	

81 218079

CHANGING URBAN STRUCTURE AND ITS IMPLICATIONS FOR TERMINALS AND PICKUP AND DELIVERY PROBLEMS IN METROPOLITAN AREAS

MAYER HM

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 110-120

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	URBAN AREAS
FREIGHT TRANSPORTATION	TRUCKS
TERMINALS /TRANSPORTATION/	AIRPORTS
TRANSPORTATION PLANNING	TRAFFIC FLOW PATTERNS

81 218080

TERMINAL LOCATION AND COLLECTION AND DISTRIBUTION IN THE CITY CENTER AND SUBURBAN AREAS - PANEL REPORT

LCVEJOY WB

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 121-124

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	URBAN AREAS
TRUCKS	TERMINALS /TRANSPORTATION/
PICKUPS	DELIVERY
DISTRIBUTION	LOCATING
DESIGN	OPERATING COSTS
DATA	ANALYSIS

81 218082

FUTURE INNOVATIONS AND CHANGING SOCIOECONOMIC STRUCTURE OF THE CITY - PANEL REPORT

CHINITZ B

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 130-132

*URBAN TRANSPORTATION ADMINISTRATION	
FREIGHT TRANSPORTATION	URBAN AREAS
COMMUNICATIONS	POPULATION MOVEMENTS

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 218084

DEMAND FORECASTING AND DEVELOPMENT OF FRAMEWORK FOR ANALYSIS OF URBAN COMMODITY FLOW - PANEL REPORT

FRENCH A
WATSON PHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 135-141, 1 FIG

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	URBAN AREAS
MODELS	DEMAND
FORECASTING	

81 218085

DEMAND FORECASTING AND DEVELOPMENT OF A FRAMEWORK FOR ANALYSIS OF URBAN COMMODITY FLOW: STATEMENT OF THE PROBLEM

HEDGES CA

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 145-148, 3 REF

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	FREIGHT TRANSPORTATION
URBAN AREAS	MODELS
INFORMATION	DEMANDS
FORECASTING	

81 218086

FREIGHT TRANSPORT IN URBAN AREAS: ISSUES FOR RESEARCH AND ACTION

GOELLER BF

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 149-162, 2 REF

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	FREIGHT TRANSPORTATION
URBAN AREAS	MODELS
FORECASTING	DEMAND
TECHNOLOGY	INTERFERENCE
CONFLICT	TRUCKS
AUTOMOBILES	TRAFFIC CONGESTION
BENEFIT COST ANALYSIS	URBAN LAND USE
REGULATIONS	

81 218087

REVIEW OF URBAN GOODS MOVEMENT STUDIES

CHAPPELL CW
SMITH MTHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 163-181, 15 FIG, 6 TAB, 37 REF

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	FREIGHT TRANSPORTATION
URBAN AREAS	STUDIES
BIBLIOGRAPHIES	COSTS
WATER TRANSPORTATION	PIPELINES
RAIL TRANSPORTATION	TRUCKS
AIR TRANSPORTATION	HOURS
TIME	

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 218088

MAIL SURVEY TO COLLECT TRUCK-COMMODITY DATA

LIEDER N

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120, PP 182-196, 4 FIG, 14 TAB, 1 REF

*URBAN TRANSPORTATION ADMINISTRATION	
COMMODITY FLOW	FREIGHT TRANSPORTATION
URBAN AREAS	TRUCKS
WEIGHT	MILEAGE
ORIGIN & DESTINATION STUDIES	
COMMODITIES	RAIL TRANSPORTATION
SURVEYS /DATA COLLECTION/	

81 220656

DATA REQUIREMENTS FOR METROPOLITAN TRANSPORTATION PLANNING

HIGHWAY RESEARCH BOARD NCHRP REPORTS 71
NO 120, 90 PP, 31 FIG, 23 TAB, 148 REF, 3 APP

*URBAN TRANSPORTATION ADMINISTRATION	
URBAN TRANSPORTATION PLANNING	
DATA	REQUIREMENTS
COSTS	STRATEGY
TRANSPORTATION PLANNING	INVESTMENTS
MODE	

81 220704

NEW TRANSPORTATION REGION IS INTENDED TO SOLVE TRAFFIC
WOES OF CHICAGO AREAHIGHWAY RESEARCH NEWS, HWY RES BOARD SEP71
NO 45, PP 39-44, 5 FIG

*URBAN TRANSPORTATION ADMINISTRATION	
REGIONAL PLANNING /TRANSPORTATION/	
ORGANIZATIONS	HIGHWAY DEPARTMENTS
DEPARTMENTS OF TRANSPORTATION	

81 223904

INFORMATION SYSTEMS RELATED TO HIGHWAY PLANNING

MESSER RT

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
SPECIAL REPORT 128 PP 113-5

*URBAN TRANSPORTATION ADMINISTRATION	
HIGHWAY PLANNING	INFORMATION SYSTEMS

81 223905

PROGRAMS OF THE U.S. BUREAU OF THE CENSUS RELATED TO HIGHWAY
PLANNING

CHURCH DE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 72
SPECIAL REPORT 128 PP 116-9

*URBAN TRANSPORTATION ADMINISTRATION	
CENSUS	DATA
COMMODITY FLOW	TRANSPORTATION PLANNING

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 224956

URBAN COMMODITY FLOW
REPORT OF A CONFERENCEHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 120 205 PP
FIGS TABS REFS

*URBAN TRANSPORTATION ADMINISTRATION	
*TRANSPORTATION ECONOMICS	COMMODITY FLOW
URBAN AREAS	EFFICIENCY
POLICY	GOVERNMENTS
REGIONAL PLANNING	
URBAN TRANSPORTATION PLANNING	
INFORMATION	MODELS
RESEARCH	DEMONSTRATION PROJECTS
DATA	

81 226020

PENNDOT'S TELECOUNT SYSTEM

REITZ CT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 71-86
9 FIG 4 TAB 10 REF

*URBAN TRANSPORTATION ADMINISTRATION	
TRAFFIC SURVEILLANCE	TELECOUNT
MONITORS	TELEPHONES
SYSTEMS	SYSTEMS ENGINEERING
DIGITAL SYSTEMS	COMMUNICATION SYSTEMS

81 226021

PROCEDURE FOR ESTIMATING NATIONAL MARKET AND TOTAL
SOCIOECONOMIC IMPACTS OF NEW SYSTEMS OF URBAN TRANSPORTATIONCANTY ET
GLOB TFHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 87-98
1 FIG 26 REF

*URBAN TRANSPORTATION ADMINISTRATION	
URBAN TRANSPORTATION	MARKETS
ECONOMIC IMPACT	ENVIRONMENTAL EFFECTS
SOCIOLOGICAL ASPECTS	STATISTICAL METHODS
CASE STUDIES	

81 226022

CAPABILITIES OF COMPUTERIZING COMPOSITE MAPPING FOR
SIMULATING LOCATION ZONES FOR SELECTED ECONOMIC ACTIVITIES
AND PUBLIC SERVICES

NEZ G

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 99-103
5 FIG 2 REF

*URBAN TRANSPORTATION ADMINISTRATION	
LAND USE	MODELS
MAPPING	SYSTEMS
GEOGRAPHY	COMPUTER PROGRAMS
COMPUTER APPLICATIONS	GRIDS /COORDINATES/
DATA PROCESSING	DATA RETRIEVAL

AREA 81 URBAN TRANSPORTATION ADMINISTRATION

81 226117

STATEWIDE INTERMODAL TRANSPORTATION PLANNING IN THE LESS
URBANIZED STATE

WILSON WH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 401 PP 6-9

*URBAN TRANSPORTATION ADMINISTRATION	
*TRANSPORTATION ADMINISTRATION	
STATE PLANNING	TRANSPORTATION PLANNING
INTERMODAL	

AREA 82 URBAN COMMUNITY VALUES

82 205351

A WORKING COMMUNITY RELATIONS PROGRAM

DASCH RB

HIGHWAY RESEARCH NEWS, HWY RES BOARD 65
NO 35, PP 59-65, 5 PHOT

*URBAN COMMUNITY VALUES	*CONSTRUCTION
CONSTRUCTION OPERATIONS	HIGHWAY CONSTRUCTION
PUBLIC	INFORMATION DISSEMINATION
CONSTRUCTION SCHEDULING	COORDINATION
COMMUNITY RELATIONS	

82 206295

TOWARD MEASUREMENT OF COMMUNITY IMPACT: THE UTILIZATION OF
LONGITUDINAL TRAVEL DATA TO DEFINE RESIDENTIAL LINKAGESELLIS RH
WDRRALL RDHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 277, PP 25-39, 1 FIG, 4 TAB, 30 REF

*URBAN COMMUNITY VALUES	
*URBAN TRANSPORTATION SYSTEMS	
COMMUNITY CONSEQUENCES	HOUSEHOLDS
RESIDENTIAL AREAS	SOCIOLOGICAL ASPECTS
INTERVIEWS	DESTINATION
LINKAGES	TRIP GENERATION
DISCRIMINATE ANALYSIS	RESIDENTIAL AREAS

82 206296

ACCESSIBILITY AND ENVIRONMENTAL QUALITY

PENDAKUR VS
BROWN GRHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 277, P 40

*URBAN COMMUNITY VALUES	
*URBAN TRANSPORTATION SYSTEMS	
COMMUNITY CONSEQUENCES	AUTOMOBILES
ACCESS	MOTOR VEHICLES
ENVIRONMENTAL EFFECTS	TRAFFIC PLANNING
PEDESTRIANS	DRIVERS /VEHICLE/
HIGHWAY SAFETY	ATTITUDES /MENTAL/
INTERVIEWS	

AREA 82 URBAN COMMUNITY VALUES

82 207079

CONFERENCE SUMMARY AND RECOMMENDATIONS

CREIGHTON RL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 3-16, 171-173, 2 REF, 1 APP,

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
URBAN TRANSPORTATION	TRANSPORTATION SYSTEMS
EXPRESSWAYS	
URBAN TRANSPORTATION PLANNING	
FEDERAL AID HIGHWAYS	INTERSTATE HIGHWAY SYSTEM
ECONOMIC IMPACT	VALUES
APPRAISALS	URBAN HIGHWAYS
HIGHWAY LOCATION	URBAN RENEWAL

82 207080

OPENING STATEMENTS

CAREY WN
HOLMES EH
HEARING VJHIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 19-28

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
URBAN TRANSPORTATION	
URBAN TRANSPORTATION PLANNING	
HIGHWAY RESEARCH	SOCIOLOGICAL ASPECTS
ECONOMIC FACTORS	SYSTEMS ANALYSIS
TRANSPORTATION SYSTEMS	COMMUNITY PLANNING
BENEFIT COST ANALYSIS	ATTITUDES /MENTAL/
JOINT DEVELOPMENT	

82 207081

THE FORMATION OF VALUES AS A PROCESS IN HUMAN LEARNING

BOLDING KE

HIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 31-45, 1 FIG
DISCUSSION BY J. B. LANSING, M. HUMPHREY, S. H. MANTEL, A.
B. JACOBS, R. E. ENGELEN, R. G. HOWES, A. ALTSCHULER, M.
PKARSKY, D. APPELYARD, A. KRUSHKHOV, C. A. STEELE, E. A.
FRANCE, I. J. RUBIN

*URBAN COMMUNITY VALUES	VALUES
THEORIES	ECONOMIC ANALYSIS
COMMUNITY VALUES	POLITICS
SOCIOLOGICAL ASPECTS	INFORMATION SYSTEMS
DECISION MAKING	

82 207082

THE RESIDENT LOOKS AT COMMUNITY VALUES

YLVISAKER PN

HIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 49-71
DISCUSSION BY M. HUMPHREY, E. J. MILAND, D. SCHLOSS,
G. E. WILLEKE, L. HILL, A. EUSTON, A. FELDT, J. SCHOFER,
S. M. BREUNING, A. JACOBS, T. H. ROBERTS

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
HUMAN FACTORS	TRANSPORTATION SYSTEMS
MOBILITY	STABILITY
SOCIOLOGICAL ASPECTS	
URBAN TRANSPORTATION PLANNING	
HOUSING	RELOCATION
NEIGHBORHOODS	ZONING
EMPLOYMENT	
REGIONAL PLANNING /TRANSPORTATION/	

AREA 82 URBAN COMMUNITY VALUES

82 207083

THE VALUES OF URBAN TRANSPORTATION POLICY

ALTSHULEK A DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 75-86, 3 REF

*URBAN COMMUNITY VALUES	
URBAN TRANSPORTATION PLANNING	COMMUNITY VALUES
FEDERAL AID HIGHWAYS	ECONOMIC FACTORS
SOCIOLOGICAL ASPECTS	MULTIPLE PURPOSE PROJECTS
INVESTMENTS	
POLITICS	

82 207084

THE URBAN PLANNER LOOKS AT VALUES

HAND I

HIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 87-94, 10 REF, 1 APP

*URBAN COMMUNITY VALUES	
URBAN TRANSPORTATION PLANNING	RECREATIONAL FACILITIES
COMMUNITY VALUES	HIGHWAY LOCATION
ACCESS	
TRANSPORTATION SYSTEMS	

82 207085

COMMUNITY VALUES, SOCIAL MEASUREMENT, AND TRANSPORTATION POLICY

OLSON M
STONE J DISCUSSER
HUMPHREY M DISCUSSER
HOWES R
ALTSHULER A DISCUSSER

HIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 95-106, 1 REF

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
URBAN TRANSPORTATION PLANNING	SOCIOLOGICAL ASPECTS
VALUES	PLANNING
INDEXES	BUDGETING
PROGRAMMING	
SYSTEMS ANALYSIS	

82 207086

THE HIGHWAY ADMINISTRATOR LOOKS AT VALUES

LEGARRA JA
LAMMERS TRHIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 109-116

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
EXPRESSWAYS	FREEWAY PLANNING
HIGHWAY LOCATION	
FREEWAY LOCATION /SELECTION/	COMMUNITY PLANNING
CONSTRUCTION COSTS	RIGHT-OF-WAY ACQUISITION
COMMUNITY CONSEQUENCES	

AREA 82 URBAN COMMUNITY VALUES

82 207087

WATTS-CENTURY FREEWAY

HILL SL
BRIJWELL L DISCUSSERHIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 117-121

*URBAN COMMUNITY VALUES	FREEWAY PLANNING
FREEWAY LOCATION /SELECTION/	COMMUNITY VALUES
CONSTRUCTION COSTS	LAND ACQUISITION
COMMUNITY RELATIONS	REPLACEMENTS
HOUSING	COMMUNITY PLANNING
LAWS	

82 207088

CHICAGO'S CROSSSTOWN EXPRESSWAY: MOD-HIGHWAY FOR URBAN AMERICA

PIKARSKY M

HIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 123-137, 12 FIG

*URBAN COMMUNITY VALUES	CENTRAL BUSINESS DISTRICT
FREEWAY LOCATION /SELECTION/	ARTERIAL STREETS /URBAN/
TRAFFIC CONGESTION	JOINT DEVELOPMENT
TRAFFIC GENERATION	COMMUNITY PLANNING
COMMUNITY VALUES	LAND USE PLANNING
TRIP GENERATION	DISPLACEMENT
HOUSING	
TRAFFIC CORRIDORS	

82 207089

COMMUNITY VALUES AND OPERATIONS RESEARCH

MANTEL SJ
DEAN BVHIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 139-146, 23 REF

*URBAN COMMUNITY VALUES	
URBAN TRANSPORTATION PLANNING	LAND USE PLANNING
URBAN LAND USE	COMMUNITY VALUES
DECISION MAKING	DECISION THEORY
MATHEMATICAL MODELS	
OPERATIONS RESEARCH	

82 207090

SECOND WORKSHOP REPORTS

FELDT A
SCHOFER J
BREUNING SM
JACOBS AHIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR69
NO 105, PP 147-163
DISCUSSION BY D. SPAID, M. PIKARSKY, A. SOLCH, I. RUBIN, C. MANN, M. SHAFFER, F. D. SCHAD, E. FRANCE, L. BRIDWELL, J. STONE, L. HILL, R. BONNER, K. SHIATTE, T. ROBERTS

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
COMMUNICATIONS	
URBAN TRANSPORTATION PLANNING	INFORMATION DISSEMINATION
PUBLIC WORKS	TRANSPORTATION SYSTEMS
DECISION MAKING	COMMUNITY PLANNING
LAND USE PLANNING	METROPOLITAN AREA PLANNING
JOINT DEVELOPMENT	

AREA 82 URBAN COMMUNITY VALUES

82 207091

REPORTS ON NCHRP PROJECT ON THE IMPACTS OF HIGHWAYS UPON ENVIRONMENTAL VALUES

KRUSHKOV A
MANHEIM MHIGHWAY RESEARCH BOARD SPECIAL REPORTS MAR 69
NO 105, PP 165-168

*URBAN COMMUNITY VALUES	ECONOMIC IMPACT
ENVIRONMENT	URBAN TRANSPORTATION
URBAN HIGHWAYS	HIGHWAY PLANNING
RESEARCH	MANUALS
HIGHWAY LOCATION	COMMUNITY VALUES
COMMUNITY RELATIONS	

82 208689

TRANSPORTATION PLANNING FOR NEW TOWNS

MORRIS RL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 104-116, 12 FIG, 9 TAB, 10 REF

*URBAN COMMUNITY VALUES	EMPLOYMENT
URBAN TRANSPORTATION PLANNING	RESIDENTIAL DEVELOPMENT
COMMUNITY PLANNING	CONSTRUCTION COSTS
RESIDENTIAL AREAS	PARKING
TRAVEL TIME	RIGHT-OF-WAY
LAND USE PLANNING	
MULTIPLE USE	

82 209406

NATIONAL SURVEY OF TRANSPORTATION ATTITUDES AND BEHAVIOR.
PHASE II: ANALYSIS REPORTHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 82, 89 PP, 5 REF, 2 APP

*URBAN COMMUNITY VALUES	INTERVIEWS
QUESTIONNAIRES	TRANSPORTATION
ATTITUDES /MENTAL/	BEHAVIOR
AUTOMOBILES	PUBLIC TRANSIT
STATISTICAL METHODS	TRANSPORTATION FINANCE
TRANSPORTATION PLANNING	HIGHWAY PLANNING
HIGHWAY USERS	SURVEYS /DATA COLLECTION/

82 209448

MOVING BEHAVIOR AND RESIDENTIAL CHOICE - A NATIONAL SURVEY

BUTLER EW
CHAPIN FS
HEMMEIS GC
KAISER EJ
STEGMAN MA
WEISS SFHIGHWAY RESEARCH BOARD NCHRP REPORTS 69
NO 81, 130 PP, 2 FIG, 121 TAB, 115 REF, 3 APP

*URBAN COMMUNITY VALUES	SURVEYS /DATA COLLECTION/
INTERVIEWS	HOUSEHOLDS
METROPOLITAN AREAS	QUESTIONNAIRES
MOBILITY	HOUSING
PREFERENCE	ATTITUDES /MENTAL/
ECONOMIC FACTORS	SOCIOLOGICAL ASPECTS

AREA 82 URBAN COMMUNITY VALUES

82 211170

AN APPROACH TO THE RELOCATION PROBLEM

CAREY WN

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, P 10

*URBAN COMMUNITY VALUES	DISPLACEMENT
RELOCATION	BUSINESS
FAMILIES	COMMUNITY PLANNING
TRANSPORTATION SYSTEMS	URBAN RENEWAL
HOUSING	ECONOMIC FACTORS
SOCIOLOGICAL ASPECTS	

82 211171

THE MAGNITUDE OF DISPLACEMENT

WELLS F

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, P 12

*URBAN COMMUNITY VALUES	DISPLACEMENT
BUSINESS	FAMILIES
HIGHWAY IMPROVEMENTS	HOUSING
RELOCATION	POPULATION GROWTH
SOCIOLOGICAL ASPECTS	URBAN RENEWAL
COMMUNITY PLANNING	

82 211172

DISPLACEMENT AND RELOCATION NEEDS FOR PRESENT AND FUTURE
HIGHWAY PROGRAMSHIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, PP 13-18

*URBAN COMMUNITY VALUES	DISPLACEMENT
RELOCATION	BUSINESS
FAMILIES	PUBLIC WORKS
FEDERAL AID HIGHWAYS	COMPENSATION
HOUSING	LAWS

82 211173

CURRENT RESEARCH RELATING TO RELOCATION OF FAMILIES AND
BUSINESSES

HARTMAN GW

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, PP 19-24, 20 REF

*URBAN COMMUNITY VALUES	RESEARCH
DISPLACEMENT	RELOCATION
BUSINESS	FAMILIES
PUBLIC WORKS	URBAN RENEWAL
HIGHWAY IMPROVEMENTS	SOCIOLOGICAL ASPECTS
ECONOMIC FACTORS	COMMUNITY CONSEQUENCES
COMMUNITY PLANNING	HOUSING

AREA 82 URBAN COMMUNITY VALUES

82 211174

COMMUNITY REACTION TO A NEW TRANSPORTATION CORRIDOR AND THE EFFECTS OF RELOCATION ON THE COMMUNITY

DOWNS A

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, PP 25-27

*URBAN COMMUNITY VALUES	COMMUNITY CONSEQUENCES
COMMUNITY VALUES	TRANSPORTATION SYSTEMS
URBAN RENEWAL	DISPLACEMENT
RELOCATION	HIGHWAY IMPROVEMENTS
FEDERAL AID HIGHWAYS	HOUSING
COMPENSATION	ECONOMIC FACTORS
COMPENSATION	BENEFIT COST ANALYSIS
COMMUNITY PLANNING	

82 211176

RELOCATION PROBLEMS VIEWED FROM THE AFFECTED CITIZENS' POINT OF VIEW

SMART WL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, PP 30-32

*URBAN COMMUNITY VALUES	RELOCATION
URBAN RENEWAL	URBAN HIGHWAYS
DISPLACEMENT	HIGHWAY IMPROVEMENTS
HOUSING	ECONOMIC FACTORS
FAMILIES	COMMUNITY CONSEQUENCES

82 211177

RELOCATION: SOCIAL AND ECONOMIC ASPECT*

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 110, 56 PP, REFS

*URBAN COMMUNITY VALUES	RELOCATION
DISPLACEMENT	HIGHWAY CONSTRUCTION
HIGHWAY IMPROVEMENTS	COMMUNITY CONSEQUENCES
BUSINESS	FAMILIES
RIGHT-OF-WAY ACQUISITION	SYSTEMS ANALYSIS
INTERGOVERNMENTAL RELATIONS /US/	ECONOMIC FACTORS
COMMUNITY PLANNING	COMMUNITY VALUES
SOCIOLOGICAL ASPECTS	

82 211627

SOCIAL AND ENVIRONMENTAL IMPACTS OF THE BART SYSTEM: NEEDED RESEARCH

FOLEY DL

LEE OB

APPLEYARD D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, PP 13-19, 7 REF

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
SOCIOLOGICAL ASPECTS	LAND VALUES
INCOME	ECONOMIC IMPACT
PROPERTY TAXES	ENVIRONMENTAL EFFECTS
BEFORE AND AFTER STUDIES	RAPID TRANSIT SYSTEMS
RAIL TRANSPORTATION	COMMUTER TRANSPORTATION
ATTITUDES /MENTAL/	TERMINALS /TRANSPORTATION/
HOUSEHOLDS	SURVEYS /DATA COLLECTION/

AREA 82 URBAN COMMUNITY VALUES

82 211633

PANEL 3: IMPACTS ON SOCIAL AND ENVIRONMENTAL CHARACTERISTICS

FOLEY D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, PP 47-48, 1 TAB

*URBAN COMMUNITY VALUES	URBAN TRANSPORTATION
TRANSPORTATION SYSTEMS	SOCIOLOGICAL ASPECTS
ENVIRONMENTAL EFFECTS	RAPID TRANSIT SYSTEMS
HIGHWAY TRANSPORTATION	COMMUNITY CONSEQUENCES

82 212129

A METHOD FOR DECISIONS AMONG FREEWAY LOCATION ALTERNATIVES BASED ON USER AND COMMUNITY CONSEQUENCES

OGLESBY CH

BISHOP B

WILLEKE GE

HANDERSON H

DISCUSSER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 1-15, 2 FIG, 5 TAB, 15 REF

*URBAN COMMUNITY VALUES	DECISION MAKING
FREEWAY LOCATION /SELECTION/	COMMUNITY CONSEQUENCES
URBAN AREAS	GRAPHICAL ANALYSIS
HIGHWAY USER BENEFITS	ATTITUDES /MENTAL/
ECONOMIC ANALYSIS	COMMUNITY PLANNING
BENEFIT COST ANALYSIS	
HIGHWAY PLANNING	

82 212131

THE IMPACTS OF HIGHWAYS ON ENVIRONMENTAL VALUES

MANHEIM M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 26-27

*URBAN COMMUNITY VALUES	ECONOMIC IMPACT
ENVIRONMENTAL EFFECTS	COMMUNITY CONSEQUENCES
ALTERNATE SYSTEM	EVALUATION
DISPLACEMENT	HIGHWAY LOCATION
ROUTE SELECTION	MODEL TESTS
CASE STUDIES	FIELD TESTS
CONSTRUCTION COSTS	

82 212133

COMMUNITY ATTITUDES TOWARD FREEWAY PLANNING: A STUDY OF CALIFORNIA'S PLANNING PROCEDURES

BISHOP B

OGLESBY CH

WILLEKE GE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 41-52, 8 FIG, 12 TAB, 1 REF

*URBAN COMMUNITY VALUES	COMMUNITY PLANNING
FREEWAY LOCATION /SELECTION/	DECISION MAKING
FREEWAY PLANNING	ECONOMIC FACTORS
COMMUNITY CONSEQUENCES	COMMUNITY VALUES
ATTITUDES /MENTAL/	
SOCIOLOGICAL ASPECTS	

AREA 82 URBAN COMMUNITY VALUES

82 212135

SOCIAL IMPACT ANALYSIS OF AN URBAN FREEWAY SYSTEM

GRIER GW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 63-74, 1 FIG

*URBAN COMMUNITY VALUES	INTERSTATE HIGHWAY SYSTEM
SOCIOLOGICAL ASPECTS	FREEWAYS
COMMUNITY CONSEQUENCES	RELOCATION
ROUTE SELECTION	URBAN HIGHWAYS
URBAN RENEWAL	

82 212137

ESTIMATING TRAFFIC NOISE LEVELS AND ACCEPTABILITY FOR FREEWAY DESIGN

COLONY DC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 80-87, 5 FIG, 5 TAB, 5 REF

*URBAN COMMUNITY VALUES	TRAFFIC NOISES
FREEWAYS	FREEWAY DESIGN
FREEWAY LOCATION /SELECTION/	
LAND VALUES	RESIDENTIAL BUILDINGS
HOUSEHOLD	INTERVIEWS
ECONOMIC IMPACT	TRAFFIC VOLUME
MODELS	

82 212138

BASIC APPROACHES TO THE MEASUREMENT OF COMMUNITY VALUES

WACHS M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 88-98, 1 FIG, 18 REF

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
MEASUREMENTS	
URBAN TRANSPORTATION PLANNING	
ENVIRONMENTAL EFFECTS	ATTITUDES /MENTAL/

82 212139

AN ANALYSIS OF INDIVIDUAL PREFERENCES FOR ACCESSIBILITY TO ELECTED NEIGHBORHOOD SERVICES

PETERSON GL
WORRALL RD
HANDERSON M

DISCUSSEER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 99-111, 9 FIG, 3 TAB, 3 REF

*URBAN COMMUNITY VALUES	ATTITUDES /MENTAL/
COMMUNITY VALUES	NEIGHBORHOODS
SERVICES	
URBAN TRANSPORTATION PLANNING	

AREA 82 URBAN COMMUNITY VALUES

82 212140

ATTITUDE TECHNIQUES IN ACTION

SCHAFFER MT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 112-122, 11 REF

*URBAN COMMUNITY VALUES	ATTITUDES /MENTAL/
URBAN TRANSPORTATION PLANNING	
SAMPLING	TEST METHODS
INTERVIEWS	QUESTIONNAIRES

82 212141

SOCIOLOGICAL FIELD WORK IS ESSENTIAL IN STUDYING COMMUNITY VALUES

FELLMAN G
HANDERSON M

DISCUSSEER

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 123-132, 24 REF

*URBAN COMMUNITY VALUES	COMMUNITY VALUES
DATA ACQUISITION	FIELD STUDIES
SOCIAL VALUES	

82 212142

COMMUNITY RESPONSE TO THE DESIGN FEATURES OF ROADS: A TECHNIQUE FOR MEASUREMENT

WINKEL GH
MALEK R
THIEL PHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 133-145, 5 TAB, 5 PHOT, 10 REF

*URBAN COMMUNITY VALUES	ATTITUDES /MENTAL/
HIGHWAY DESIGN	AESTHETICS
ROADSIDE IMPROVEMENT	ROADSIDE ADVERTISING
SIMULATIONS	HIGHWAY USER BENEFITS
TRAFFIC SAFETY	URBAN COMMUNITY VALUES

82 220383

DEVELOPMENT OF GUIDES FOR COMMUNITY ACCEPTANCE OF HIGHWAY LOCATION, DEVELOPMENT, AND CONSTRUCTION

MASON JB
MOORE CTHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 43-54, 1 TAB, 9 REF

*URBAN COMMUNITY VALUES	HIGHWAY LOCATION
HIGHWAYS	OBJECTIVES
CRITERIA	ACCEPTABILITY

AREA 82 URBAN COMMUNITY VALUES

B2 220384

NONUSER EFFECTS IN HIGHWAY PLANNING

WEINER P
DEAK EJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 55-68, 5 TAB, 20 REF

*URBAN COMMUNITY VALUES	HIGHWAY LOCATION
COMMUNITY VALUES	HIGHWAY PLANNING
EVALUATION	DECISION MAKING
CITIZEN PARTICIPATION	QUESTIONNAIRES
IMPACT	BENEFITS
COSTS	PUBLIC OPINION

82 220385

ENVIRONMENTAL QUALITY OF CITY STREETS: THE RESIDENTS' VIEWPOINT

APPLEYARD D
LINTELL MHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 69-84, 6 FIG, 21 REF

*URBAN COMMUNITY VALUES	CITY STREETS
ENVIRONMENT	TRAFFIC
QUESTIONNAIRES	ENVIRONMENTAL EFFECTS
SOCIOLOGICAL ASPECTS	INTERVIEWS
RESIDENTS	COMMUNITY VALUES

HRIS 82 220394

82 220386

IMPACT OF HIGHWAYS ON URBAN NEIGHBORHOODS: A MODEL OF SOCIAL CHANGE

BURKHARDT JE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 85-94, 1 TAB, 12 REF

*URBAN COMMUNITY VALUES	HIGHWAY LOCATION
COMMUNITY VALUES	MODELS
SOCIOLOGICAL ASPECTS	

82 220387

FREEWAY EFFECTS ON RESIDENTIAL MOBILITY IN METROPOLITAN NEIGHBORHOODS

MC LEAN EL
ADKINS WGHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 95-104, 2 FIG, 2 TAB, 20 REF

*URBAN COMMUNITY VALUES	FREEWAYS
RESIDENTS	MOBILITY
COMMUNITIES	URBAN AREAS
CORRELATIONS	HIGHWAY LOCATION
SOCIOLOGICAL ASPECTS	

82 220388

PEDESTRIAN TRANSPORTATION FOR RETIRED PEOPLE

CARP FM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 105-118, 5 TAB, 51 REF

*URBAN COMMUNITY VALUES	ELDERLY
PEDESTRIANS	WALKS
TRANSPORTATION	

AREA 82 URBAN COMMUNITY VALUES

B2 220389

SOCIAL, ECONOMIC, AND ENVIRONMENTAL IMPACTS OF A SYSTEM OF HIGH - ACCESSIBILITY CORRIDORS

TESKA RB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 119-129, 1C FIG, 9 REF

*URBAN COMMUNITY VALUES	*URBAN LAND USE
CORRIDORS	TRANSPORTATION
EMPLOYMENT	URBAN LAND USE
URBAN PLANNING	LAND USE PLANNING
TRANSPORTATION PLANNING	
URBAN TRANSPORTATION PLANNING	COMMUNITY PLANNING
ACCESS	

82 220393

HONSHU-SHIKOKU BRIDGE EFFECTS /ABRIDGEMENT/

FUJITA D

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, PP 168-169

*URBAN COMMUNITY VALUES	BRIDGES
HIGHWAY BRIDGES	RAILROAD BRIDGES
ROUTE SELECTION	ECONOMIC FACTORS
MODELS	SIMULATIONS

B2 220394

ENVIRONMENTAL QUALITY OF STREETS AND FREEWAYS: VIEW FROM THE ROAD /ABRIDGEMENT/

APPLEYARD D
CUCHEK WHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, P 170, 4 REF

*URBAN COMMUNITY VALUES	CITY STREETS
URBAN HIGHWAYS	IMPACT
COMMUNITIES	ENVIRONMENTAL EFFECTS
SOCIOLOGICAL ASPECTS	CRITERIA
EVALUATION	FREEWAYS

HRIS 82 220385

82 220396

EFFECTS ON NONRELOCATED HOUSEHOLDS OF BUILDING A HIGHWAY IN A DENSE URBAN RESIDENTIAL AREA

SALE J
STEINBERG EHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 356, P 173

*URBAN COMMUNITY VALUES	SOCIOLOGICAL ASPECTS
IMPACT	FREEWAYS
URBAN HIGHWAYS	SERVICES
ACCESS	ENVIRONMENTAL EFFECTS
COMMUNITY VALUES	POOR
NEGROES	

AREA 82 URBAN COMMUNITY VALUES

82 223493

COMMUNITY PARTICIPATION: HOW TO GET THERE FROM HERE

BOUCHARD RJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 380 PP 1-7

*URBAN COMMUNITY VALUES CITIZEN PARTICIPATION ATTITUDES /MENTAL/	COMMUNITY VALUES TRANSPORTATION PLANNING
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82 223494

COMMUNITY INVOLVEMENT IN TRANSPORTATION PLANNING: A NEW APPROACH

TRAVIS KM
PLOG SCHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 380 PP 8-13

*URBAN COMMUNITY VALUES SURVEYS /DATA COLLECTION/ TRANSPORTATION PLANNING COMMUNITY VALUES	SOCIOLOGICAL ASPECTS PUBLIC OPINION CITIZEN PARTICIPATION
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82 223495

ACHIEVING POSITIVE COMMUNITY PARTICIPATION IN THE FREEWAY PLANNING PROCESS

PARK KS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 380 PP 14-22
3 FIG

*URBAN COMMUNITY VALUES BENEFIT COST ANALYSIS CITIZEN PARTICIPATION PUBLIC OPINION	FREEWAY PLANNING COMMUNITY VALUES TRANSPORTATION PLANNING
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82 223496

STRUCTURING CITIZEN INVOLVEMENT IN FREEWAY PLANNING

FIELDING GJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 380 PP 23-36
3 FIG 9 REF

APP

*URBAN COMMUNITY VALUES COMMUNITY VALUES PUBLIC OPINION	FREEWAY PLANNING CITIZEN PARTICIPATION TRANSPORTATION PLANNING
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82 223497

COMMUNITY VALUES: A STRATEGY FOR PROJECT PLANNING

MANHEIM ML
SUHRBIER JHHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 380 PP 37-47
3 REF

*URBAN COMMUNITY VALUES PUBLIC OPINION SOCIOLOGICAL ASPECTS NETWORK ANALYZERS	COMMUNITY VALUES TRANSPORTATION PLANNING ENVIRONMENTAL EFFECTS HIGHWAY LOCATION
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AREA 82 URBAN COMMUNITY VALUES

82 226016

USER AND COMMUNITY BENEFITS IN INTERCITY FREEWAY CORRIDOR EVALUATION

HALL G
BREVER RHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 27-39
3 FIG 3 TAB 7 REF

*URBAN COMMUNITY VALUES FREEWAYS EVALUATION QUANTITATIVE ANALYSIS BENEFIT COST ANALYSIS	INTERCITY TRANSPORTATION TRAFFIC CORRIDORS HIGHWAY USER BENEFITS COMMUNITY CONSEQUENCES SOCIOLOGICAL ASPECTS
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82 228195

AN EVALUATION OF THE FEASIBILITY OF SOCIAL DIAGNOSTIC TECHNIQUES IN THE TRANSPORTATION PLANNING PROCESS

RYAN CR
NEDWEK BP
BEIMBORN EAHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 410 PP 8-23
8 FIG 13 TAB 8 REF

*URBAN COMMUNITY VALUES TRANSPORTATION PLANNING DEMOGRAPHIC INFORMATION COMMUNITY VALUES	FREEWAYS FEASIBILITY SOCIAL VALUES ATTITUDES /MENTAL/
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82 228196

FRAMEWORK FOR USING SOCIAL INDICATORS TO MONITOR, EVALUATE, AND IMPROVE A PUBLIC TRANSPORTATION SYSTEM

LEE JW
COVAULT DO
WILLEKE GEHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 410 PP 24-36
6 REF

*URBAN COMMUNITY VALUES SOCIAL VALUES COMFORT SAFETY	PUBLIC TRANSIT IMPROVEMENT ECONOMIC ANALYSIS SPEED
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82 228199

ADEQUACY OF THE SPATIAL ORGANIZATION OF RESIDENTIAL NEIGHBORHOODS: THE RESIDENTS' POINT OF VIEW (ABRIDGEMENT)

REDDING MJ
PETERSON GLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 410 PP 64-5
3 REF

*URBAN COMMUNITY VALUES DISTANCE HIGHWAY PLANNING ATTITUDES /MENTAL/ NEIGHBORHOODS	ACCESS HIGHWAY LOCATION LAND USE PLANNING MODELS
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AREA 82 URBAN COMMUNITY VALUES

82 228206

BUILDING THE EAST RIVER DRIVE: LIFE WAS SIMPLER 30 YEARS AGO

HIGHWAY RESEARCH NEWS, HWY RES BOARD 72
NO 49 PP 17-9*URBAN COMMUNITY VALUES HIGHWAY HISTCRY
PARKWAYS

AREA 83 URBAN LAND USE

83 206101

GEOLOGY, CITIES, AND SURFACE MOVEMENT

CLOUD PE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 271, PP 1-9, 29 REF*URBAN LAND USE GEOLOGY
TRANSPORTATION PLANNING URBAN PLANNING
URBAN TRANSPORTATION PLANNING
HIGHWAY ENGINEERING

83 206102

RESOURCE CONSERVATION AND THE URBAN TRANSPORTATION PLANNING
PROCESS

BAUER KW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 271 PP 10-6
1 FIG*URBAN LAND USE
URBAN TRANSPORTATION PLANNING
GEOLOGY CONSERVATION
RELATIONSHIPS NATURAL RESOURCES
LAND AIR
WATER MINERALS
WILDLIFE SLOPE STABILITY
FLOODING TIMBERS
GRAVELS

83 206103

WATER AS A RESOURCE AND AS A NUISANCE

THOMAS HE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 271, PP 17-28, 17 REF*URBAN LAND USE WATER RESOURCES
WATER STORAGE MINING
AGRICULTURE FLOOD PROTECTION
DRAINAGE WATER POLLUTION
HIGHWAYS URBAN AREAS

AREA 83 URBAN LAND USE

83 206104

URBANIZATION AND ITS EFFECT ON MINERAL RESOURCE AVAILABILITY

VOGELY WA
SERVICE ALHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 271, PP 29-37, 20 FIG*URBAN LAND USE URBAN AREAS
MINERAL DEPOSIT AVAILABILITY
LAND RECLAMATION LAND USE
CONFLICT MINING
SUBSIDENCE /SGIL/ WATER POLLUTION
AIR POLLUTION POPULATION GROWTH

83 206105

GEOLOGY AND CONCERN FOR THE ENVIRONMENT

HILPMAN PL
STEWART GFHIGHWAY RESEARCH RECORD, HWY RES BOARD 65
NO 271, PP 38-47, 11 FIG, 2 TAB, 6 REF*URBAN LAND USE GEOLOGY
LAND USE PLANNING GEOLOGICAL SURVEYING
NATURAL RESOURCES DATA ACQUISITION
INVENTORIES

83 208693

THE ACCESS AND DEVELOPMENT PROTOTYPE PROJECT

SCHNEIDER M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 147-154, 2 REF*URBAN LAND USE LAND DEVELOPMENT
ACCESS PROTOTYPES
COMPUTER PROGRAMS TRAVEL TIME
TRANSPORTATION ECONOMICS MATHEMATICAL ANALYSIS
ALGORITHMS

83 211626

IMPACT OF THE BART SYSTEM ON METROPOLITAN LAND USES

HARRIS B

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, PP 6-12*URBAN LAND USE TRANSPORTATION SYSTEMS
URBAN TRANSPORTATION URBAN LAND USE
ECONOMIC IMPACT TRAVEL PATTERNS
POPULATION EMPLOYMENT
CENSUS BEFORE AND AFTER STUDIES
REAL PROPERTY LAND APPRAISAL
SOCIOLOGICAL ASPECTS
URBAN TRANSPORTATION PLANNING

AREA 83 URBAN LAND USE

83 211631

PANEL 1: LAND USE IMPACTS

HARRIS B

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NC 111, PP 45-46

*URBAN LAND USE	LAND USE EFFECTS
LAND VALUES	URBAN LAND USE
DATA ACQUISITION	RAPID TRANSIT SYSTEMS
ECONOMIC IMPACT	CENTRAL BUSINESS DISTRICT
ECONOMIC IMPACT	

83 212143

THE EFFECT OF LAND USE PLANNING AND TRANSPORT PRICING
POLICIES IN EXPRESS TRANSIT PLANNINGGOLEBERG M
KEITH RHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 140-155, 11 FIG, 5 TAB, 7 REF

*URBAN LAND USE	RAPID TRANSIT SYSTEMS
LAND USE PLANNING	LAND USE FORECASTING
HIGHWAY TRANSPORTATION	TRANSPORTATION ECONOMICS
MODAL SELECTION	TRAVEL PATTERNS
LAND DEVELOPMENT	EMPLOYMENT
URBAN LAND USE	

83 212144

PLAN DESIGN MODEL FOR URBAN AREA USE ALLOCATIONS

STEWART WD
GRECCO WLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 156-171, 3 FIG

*URBAN LAND USE	URBAN AREAS
URBAN LAND USE	COMMUNITY VALUES
COMPUTER PROGRAMS	MATHEMATICAL MODELS
TRANSPORTATION ECONOMICS	

83 212145

IMPACT OF TRANSPORTATION FACILITIES ON LAND DEVELOPMENT

HAMBURG JR
BROWN GJ
SCHNEIDER MHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 172-178, 16 FIG, 1 TAB, 3 REF

*URBAN LAND USE	TRANSPORTATION MODELS
LAND USE	LAND DEVELOPMENT
URBAN TRANSPORTATION PLANNING	
TRANSPORTATION SYSTEMS	

83 214633

REPORT OF RESEARCH NEEDS LAND USE EVALUATION COMMITTEE

HARRIS B

HIGHWAY RES CIRCULAR, HWY RES BOARD OCT70
NO 113, 13 PP

*URBAN LAND USE	RESEARCH
REQUIREMENTS	LAND USE
FEASIBILITY STUDIES	ROUTES
SYSTEMS ENGINEERING	IMPACT
TRANSPORTATION	METROPOLITAN AREAS
TRANSPORTATION PLANNING	COMPUTERS

AREA 83 URBAN LAND USE

83 226019

PROPOSED LOGIC SEQUENCE FOR DESIGNING PRELIMINARY URBAN
LAND USE PLANS

COCKFIELD RW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 62-70 6 REF
2 FIG

*URBAN LAND USE	URBAN LAND USE
URBAN PLANNING	LOGIC DESIGN
COMPUTER PROGRAMS	AGGREGATION
DESIGN FEATURES	ENVIRONMENTAL EFFECTS
GRAPHICAL ANALYSIS	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 206203

PLANNING GROUND TRANSPORTATION FACILITIES FOR AIRPORTS

WHITLOCK EM
CLEARY EFHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 274, PP 1-13, 8 FIG, 5 TAB, 28 REF

*URBAN TRANSPORTATION SYSTEMS	TRANSPORTATION PLANNING
GROUND TRANSPORTATION	PASSENGERS
AIRPORTS	
PARKING DEMAND	

84 206204

A PRELIMINARY LOOK AT GROUND ACCESS TO AIRPORTS

SILENCE SM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 274, PP 14-20, 7 FIG, 6 TAB

*URBAN TRANSPORTATION SYSTEMS	ACCESS
AIRPORTS	TRAFFIC OPERATIONS
HIGHWAY TRANSPORTATION	DISTANCE
QUESTIONNAIRES	TRAVEL TIME
CENTRAL BUSINESS DISTRICT	MASS TRANSIT
PEAK HOUR TRAFFIC	GROUND TRANSPORTATION
DATA ACQUISITION	
SYSTEMS ANALYSIS	

84 206205

IMPACT OF PROJECTED AIR TRAVEL DEMAND ON AIRPORT ACCESS

LARDIERE SG
JAREMA FEHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 274, PP 21-34, 7 FIG, 9 TAB, 6 REF

*URBAN TRANSPORTATION SYSTEMS	ACCESS
AIRPORTS	DEMAND
AIR TRANSPORTATION	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 206206

IN-FLIGHT ORIGIN-DESTINATION STUDY AT PHILADELPHIA
INTERNATIONAL AIRPORTCORRADING JC
FERRERI MGHIGHWAY RESEARCH RECORD, HWY RES BOARD 65
NO 274, PP 35-43, 5 FIG, 6 TAB

*URBAN TRANSPORTATION SYSTEMS	
ORIGIN & DESTINATION STUDIES	
AIRPORTS	SURVEYS /DATA COLLECTION/
AIR TRANSPORTATION	TRAVEL PATTERNS
DATA ANALYSIS	

84 207130

SHORTCUT MODAL SPLIT FORMULA

WYNN FH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 65
NO 263, PP 48-56, 4 FIG, 2 TAB, 4 REF

*URBAN TRANSPORTATION SYSTEMS	
MODAL SPLIT	FORMULAS
DRIVERS /VEHICLE/	PUBLIC TRANSIT
TRAVEL TIME	FARES
CENTRAL BUSINESS DISTRICT	AUTOMOBILES
OWNERSHIP	WORK TRIPS

84 207131

A PROBABILITY MODEL OF TRAVEL MODE CHOICE FOR THE WORK
JOURNEY

STOPHER PR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 283, PP 57-65, 2 FIG, 4 TAB, 8 REF

*URBAN TRANSPORTATION SYSTEMS	
WORK TRIPS	PROBABILITY THEORY
MATHEMATICAL MODELS	MODAL SELECTION
COSTS	TRAVEL TIME
REGRESSION ANALYSIS	INCOME
MODEL TESTS	

84 207561

NATIONAL SURVEY OF TRANSPORTATION ATTITUDES AND BEHAVIOR-
PHASE II ANALYSIS REPORTHIGHWAY RESEARCH BOARD NCHRP DIGEST SEP69
NO 9, 4 PP, 4 FIG

*URBAN TRANSPORTATION SYSTEMS	
ATTITUDES /MENTAL/	PUBLIC OPINION
TRANSPORTATION SYSTEMS	URBAN TRANSPORTATION
STATISTICAL ANALYSIS	TRANSPORTATION FINANCE
PUBLIC TRANSIT	HIGHWAY TRANSPORTATION
QUESTIONNAIRES	STATISTICAL METHODS
RESOURCES	ALLOCATIONS
DECISION MAKING	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 208682

EVALUATING ALTERNATIVE STRATEGIES FOR CENTRAL-CITY
DISTRIBUTION

HCEL LA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 65
NO 293, PP 1-13, 10 FIG, 2 TAB, 5 REF

*URBAN TRANSPORTATION SYSTEMS	
CENTRAL BUSINESS DISTRICT	
REGIONAL PLANNING /TRANSPORTATION/	
DISTRIBUTION SYSTEMS	DISTRIBUTORS
TRANSPORTATION SYSTEMS	TRANSPORTATION EFFECTS
LEVEL OF SERVICE	COMMUNITY CONSEQUENCES
TRAVEL TIME	TRANSPORTATION MODELS

84 208683

TOWARD AN EVALUATION OF SUBAREA TRANSPORTATION SYSTEMS

BELLOMO SJ
PROVOST SC
MACKIN GU

DISCUSSEUR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 14-32, 11 FIG, 7 TAB, 16 REF, 1 APP

*URBAN TRANSPORTATION SYSTEMS	
REGIONAL PLANNING /TRANSPORTATION/	
TRANSPORTATION SYSTEMS	COMMUNITY CONSEQUENCES
COMMUNITY PLANNING	METROPOLITAN AREAS
DECISION MAKING	EMPLOYMENT
EMERGENCY SERVICES	ECONOMIC IMPACT

84 208684

RELATIVE COSTS OF BUS AND RAIL TRANSIT SYSTEMS

DEEN TB
JAMES OHHIGHWAY RESEARCH RECORD, HWY RES BOARD 65
NO 293, PP 33-53, 9 FIG, 7 TAB

*URBAN TRANSPORTATION SYSTEMS	
COSTS	RAPID TRANSIT
COMPARISONS	RAIL TRANSPORTATION
BUS TRANSPORTATION	TRANSPORTATION SYSTEMS
TRANSPORTATION SYSTEM ANALYSIS	
PEAK HOUR	PUBLIC TRANSIT

84 208685

SEARCH AND CHOICE IN TRANSPORT SYSTEMS ANALYSIS

MANHEIM ML
GERDUN SL

DISCUSSEUR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 54-82, 13 FIG, 69 REF

*URBAN TRANSPORTATION SYSTEMS	
TRANSPORTATION SYSTEM ANALYSIS	
TRANSPORTATION MODELS	DECISION MAKING
MODAL SELECTION	TRANSPORTATION PLANNING
TRANSPORTATION SYSTEMS	PROTOTYPES

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 208688

FREEWAY CORRIDOR PLANNING - ABRIDGMENT

STUART DG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 103

*URBAN TRANSPORTATION SYSTEMS	FREEWAY PLANNING
TRAFFIC CORRIDORS	LAND DEVELOPMENT
LAND USE	URBAN AREAS
RECREATION	MULTIPLE USE
JOINT DEVELOPMENT	PUBLIC TRANSIT
RIGHT-OF-WAY	CAR POOLS
PARKING	

84 208690

SENSITIVITY TO VARIOUS PARAMETERS OF A DEMAND-SCHEDULED BUS SYSTEM COMPUTER SIMULATION MODEL

BRUGGEMAN JM
HEATHINGTON KWHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 117-125, 6 FIG, 6 REF, 1 APP

*URBAN TRANSPORTATION SYSTEMS	SIMULATIONS
TRANSPORTATION MODELS	COMPUTER APPLICATIONS
BUS TRANSPORTATION	COSTS
TRAVEL TIME	OPERATING COSTS
WAITING TIME	PUBLIC TRANSIT
CAPACITY	

84 208692

AN ANALYTICAL ESTIMATION OF HIGHWAY IMPEDANCES WITHIN URBAN AREAS

RASSAM PR
ELLIS RHHIGHWAY RESEARCH RECORD, HWY RES BOARD 69
NO 293, PP 138-146, 2 TAB, 5 FIG, 11 REF

*URBAN TRANSPORTATION SYSTEMS	IMPEODANCE
HIGHWAYS	MATHEMATICAL MODELS
URBAN AREAS	TRAVEL TIME
ROADNET	COSTS
DISTANCE	SPEED
CALIBRATIONS	URBAN LAND USE
DISTRIBUTIUN	

84 211624

TRANSPORTATION AND THE URBAN ENVIRONMENT

CAREY WN

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, PP 1-2

*URBAN TRANSPORTATION SYSTEMS	RAPID TRANSIT SYSTEMS
URBAN TRANSPORTATION	PEAK HOUR TRAFFIC
URBAN TRANSPORTATION PLANNING	ECONOMIC IMPACT
RAIL TRANSPORTATION	ECOLGY
TRAFFIC CONGESTION	
TRAVEL TIME	
SOCIOLOGICAL ASPECTS	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 211625

BAY AREA RAPID TRANSIT

STOKES BR

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, PP 3-5

*URBAN TRANSPORTATION SYSTEMS	RAIL TRANSPORTATION
RAPID TRANSIT SYSTEMS	DIRECT CURRENT
ELECTRIC RAILROADS	COMPUTER APPLICATIONS
AUTOMATIC CONTROL	COMFORT
FARES	TRAVEL TIME
COSTS	

84 211635

GENERAL DISCUSSION OF THE IMPACT OF THE BAY AREA RAPID TRANSIT SYSTEM ON THE SAN FRANCISCO METROPOLITAN REGION

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 70
NO 111, PP 50-53

*URBAN TRANSPORTATION SYSTEMS	HOUSING
TRANSPORTATION MODELS	LAND VALUES
DECISION MAKING	FORECASTING
RATE OF RETURN	RAPID TRANSIT SYSTEMS
SIMULATIONS	
URBAN TRANSPORTATION	
URBAN TRANSPORTATION PLANNING	BENEFIT COST ANALYSIS
TERMINALS /TRANSPORTATION/	DATA ACQUISITION
OPERATING COSTS	

84 212134

TRANSPORTATION 1983: THE MINNESOTA EXPERIMENTAL CITY

LARSON RE
REID RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 305, PP 53-62, 16 REF

*URBAN TRANSPORTATION SYSTEMS	CITIES
EXPERIMENTATION	SOCIOLOGICAL ASPECTS
ECONOMIC FACTORS	
URBAN TRANSPORTATION PLANNING	COMMUNITY VALUES
TRANSPORTATION SYSTEMS	
URBAN PLANNING	

84 212994

TRANSPORT PLANNING MODELS: THE LONDON EXPERIENCE

MARTIN BV

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 309, PP 1-7, 4 REF

*URBAN TRANSPORTATION SYSTEMS	TRANSPORTATION PLANNING
*TRAFFIC MEASUREMENTS	INTERVIEWS
TRAFFIC SURVEYS	
HOUSEHOLDS	
TRAFFIC FLOW CHARACTERISTICS	TRAFFIC PLANNING
TRAFFIC FORECASTING	TRAFFIC ASSIGNMENT
TRANSPORTATION MODELS	TRIP GENERATION
MODAL SPLIT	SOCIOLOGICAL ASPECTS
ECONOMIC ANALYSIS	INCOME
EMPLOYMENT	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 212995

ON IMPROVING THE TRANSPORTATION PLANNING PROCESS

KOCHANOWSKI R
WICKSTROM GVHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 309, PP 8-12, 1 REF

*URBAN TRANSPORTATION SYSTEMS	
REGIONAL PLANNING /TRANSPORTATION/	
TRANSPORTATION PLANNING	LAND USE PLANNING
TRAFFIC FLOW SIMULATION	
URBAN TRANSPORTATION PLANNING	
DECISION MAKING	ECONOMIC CONSIDERATIONS
SOCIAL VALUES	TRANSPORTATION MODELS

84 212996

THE URBAN TRANSPORTATION PLANNING PROCESS: IN SEARCH OF IMPROVED STRATEGY

ORSKI CK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 309, PP 13-23

*URBAN TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION PLANNING	
DECISION MAKING	SOCIAL VALUES
ECONOMIC CONSIDERATIONS	COMMUNITY VALUES
COMMUNITY PLANNING	TRANSPORTATION MODELS
LAND USE EFFECTS	

84 212997

CHANGE AND EQUILIBRIUM IN THE URBAN SYSTEM

HARRIS B

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 309, PP 24-33, 6 REF

*URBAN TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION PLANNING	
TRANSPORTATION MODELS	URBAN RENEWAL
TRAVEL PATTERNS	TRANSPORTATION SYSTEMS
GRAVITY MODEL	POPULATION
RESIDENTIAL AREAS LOCATION	LINEAR PROGRAMMING
REGIONAL SHOPPING CENTERS	RETAIL TRADE
DYNAMICS	URBAN PLANNING

84 212998

MODEL SYSTEMS FOR URBAN TRANSPORTATION PLANNING: WHERE DO WE GO FROM HERE?

ROBERTS PO

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 309, PP 34-44, 3 FIG, 16 REF

*URBAN TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION PLANNING	
TRANSPORTATION MODELS	URBAN LAND USE
TRANSPORTATION SYSTEMS	ALTERNATE SYSTEM
LOCATIONS	TRAFFIC FLOW
BENEFIT COST ANALYSIS	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 213003

STRATEGIES FOR THE EVALUATION OF ALTERNATIVE TRANSPORTATION PLANS

THOMAS EN
SCHÜFER JLHIGHWAY RESEARCH BOARD NCHRP REPORTS 70
NO 96, NCHRP PROJECT 8-4, 111 PP, 40 FIG, 19 TAB, 255 REF

*URBAN TRANSPORTATION SYSTEMS	
TRANSPORTATION PLANNING	COMMUNITY VALUES
REVIEWS	SYSTEMS ANALYSIS
TRANSPORTATION MODELS	DECISION MAKING
INVESTMENTS	

84 213952

VEHICLE CHARACTERISTICS OF FUEL AND TRAVEL TIME ON URBAN ARTERIALS AND FREEWAYS

SAWHILL RB
MATTESON JH
HALL JWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 41-59, 3 FIG, 12 TAB, 7 REF

*URBAN TRANSPORTATION SYSTEMS	
FUEL CONSUMPTION	TRAVEL TIME
URBAN HIGHWAYS	VEHICLE OPERATING COST
BEFORE AND AFTER STUDIES	PARALLEL ROUTES
DIESEL ENGINES	

84 213957

EVALUATION OF A BUS TRANSIT SYSTEM IN A SELECTED URBAN AREA

GOODMAN JM
MACDORMAN LC
WEINER EHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 114-122, 1 FIG, 1 TAB

*URBAN TRANSPORTATION SYSTEMS	
BUS TRANSPORTATION /INTRACITY/	
PEAK HOUR TRAFFIC	MODAL SPLIT
HIGHWAY TRANSPORTATION	PRIVATE TRANSPORTATION
URBAN HIGHWAYS	

84 213958

A MODEL FOR HIGHWAY NEEDS EVALUATION

KOPPELMAN FS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 123-134, 8 FIG, 4 TAB, 10 REF

*URBAN TRANSPORTATION SYSTEMS	
HIGHWAY NEEDS	HIGHWAY NEEDS
REGRESSION ANALYSIS	SENSITIVITY
HIGHWAY USER BENEFITS	INVESTMENTS
TRANSPORTATION ECONOMICS	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 213959

ODOTRANS I: A DECISION-ORIENTED COMPUTER LANGUAGE FOR ANALYSIS OF MULTIMODE TRANSPORTATION SYSTEMS

MANHEIM ML
RUITER ERHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 135-163, 4 FIG, 29 REF

*URBAN TRANSPORTATION SYSTEMS	TRANSPORTATION SYSTEMS
MULTIPLE USE	DECISION MAKING
COMPUTER PROGRAMS	MATHEMATICAL MODELS
INVESTMENTS	
HIGHWAY TRANSPORTATION	

84 213960

A PROPOSED METHOD OF REGULATING VEHICLE WEIGHTS IN ONTARIO

ARMSTRONG MD
JUNG FW
PHANG WAHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 314, PP 164-182, 16 FIG, 2 TAB, 5 REF, 2 APP

*URBAN TRANSPORTATION SYSTEMS	AXLE LOAD
WEIGHT MEASUREMENT	HIGHWAY BRIDGES
BRIDGE DESIGN	
MATHEMATICAL ANALYSIS	

84 214602

MASS TRANSPORTATION RESEARCH: THE BASIC ISSUES

DEEN TB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 318, PP 1-11, 3 FIG, 1 REF

*URBAN TRANSPORTATION SYSTEMS	RAPID TRANSIT
MASS TRANSIT	URBAN TRANSPORTATION
TRANSPORTATION PLANNING	

84 214603

MASS TRANSPORTATION: FUTURE RESEARCH NEEDS

GCEHLER GF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 318, PP 12-15

*URBAN TRANSPORTATION SYSTEMS	MASS TRANSIT
BUS TRANSPORTATION	DEMAND
RAPID TRANSIT	BUS LANES
TRAFFIC CAPACITY	

84 214604

MARKETING URBAN TRANSIT

SCHNEIDER LM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 318, PP 16-19, 1 FIG, 7 REF

*URBAN TRANSPORTATION SYSTEMS	DEMAND
MARKET RESEARCH	MASS TRANSIT
URBAN TRANSPORTATION	
TRANSPORTATION ECONOMICS	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 214605

MASS TRANSPORTATION: THE HARDWARE

FERRERI MG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 318, PP 20-26, 16 FIG

*URBAN TRANSPORTATION SYSTEMS	HARDWARE
MASS TRANSIT	URBAN TRANSPORTATION
TRANSPORTATION ECONOMICS	
ITERATION	

84 214606

MINICAR TRANSIT SYSTEM - DESCRIPTION AND EVALUATION OF A NEW CONCEPT

VUCHIC VR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 318, PP 27-39, 6 FIG, 2 TAB, 7 REF

*URBAN TRANSPORTATION SYSTEMS	AUTOMOBILES
CENTRAL BUSINESS DISTRICT	LAND USE
DEMAND	PARKING CAPACITY
TRAFFIC FLOW	URBAN TRANSPORTATION
FUTURE CONCEPTS	ELECTRIC MOTORS
RESEARCH AND DEVELOPMENT	MINICAR TRANSIT SYSTEM
RAPID TRANSIT	

84 214607

ALGORITHMS FOR ROUTING AND SCHEDULING IN DEMAND-RESPONSIVE TRANSPORTATION SYSTEMS

HOWSON LL
HEATHINGTON KWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 318, PP 40-49, 5 REF, 1 APP

*URBAN TRANSPORTATION SYSTEMS	SCHEDULING
ROUTING	ALGORITHMS
DEMAND	SIMULATION
COMPUTER APPLICATIONS	
FUTURE CONCEPTS	
DEMAND-RESPONSIVE TRANSPORTATION	
MASS TRANSIT	

84 214608

DETERMINING THE IMPORTANCE OF USER RELATED ATTRIBUTES FOR A DEMAND-RESPONSIVE TRANSPORTATION SYSTEM

VITT JE
BAUER HJ
CANTY ET
GLOBB TF
HEATHINGTON KWHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 318, PP 50-65, 6 FIG, 38 REF

*URBAN TRANSPORTATION SYSTEMS	QUESTIONNAIRES
MASS TRANSIT	SCALING
URBAN TRANSPORTATION PLANNING	COMMUNITY VALUES
MARKET RESEARCH	PAIRED COMPARISONS
PUBLIC OPINION	PSYCHOLOGICAL SCALING
SURVEYS /DATA COLLECTION/	
PSYCHOMETRICS	
STATISTICAL METHODS	
INTERVIEWS	
DEMAND-RESPONSIVE TRANSPORTATION	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 214609

SIMULATION OF A COMPUTER-AIDED ROUTING SYSTEMS (CARS)

WILSON NH
SUSSMAN JM
HIGONNET BT
GOODMAN LAHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 318, PP 66-76, 15 FIG, 12 REF

*URBAN TRANSPORTATION SYSTEMS	DEMAND
MASS TRANSIT	ALGORITHMS
ROUTING	FUTURE CONCEPTS
COMPUTER APPLICATIONS	MATHEMATICAL MODELS
SIMULATION	CARS
TAXICABS	DEMAND-RESPONSIVE TRANSPORTATION
FORTRAN	TRANSPORTATION MODELS

84 214934

MOTOR CARRIER DATA AND FREIGHT MODAL SPLIT

CUEKER KJ
ZUELSDORF RJHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 322, PP 1-12, 3 TABS, 5 REFS

*URBAN TRANSPORTATION SYSTEMS	COMMODITY FLOW
*TRAFFIC MEASUREMENTS	MODAL SPLIT
MATHEMATICAL MODELS	DATA ACQUISITION
FREIGHT	TRANSPORTATION PLANNING
LOGOMETER	SHIPPERS
MOTOR CARRIERS	
FREIGHT TRANSPORTATION	

84 214935

PASSENGER TERMINAL IMPEOANCES

BRUGGEMAN JM
WORRALL RDHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 322, PP 13-29, 8 FIGS, 7 TABS, 6 REFS

*URBAN TRANSPORTATION SYSTEMS	TERMINALS /TRANSPORTATION/
*TRAFFIC MEASUREMENTS	MODAL SPLIT
PASSENGERS	LINK IMPEDANCE
INTERCITY TRANSPORTATION	AIRPORTS
ACCESS	NORTHEAST CORRIDOR
RAILROAD TERMINALS	BAGGAGE HANDLING
BUS TERMINALS	SERVICE TIME
QUEUEING THEORY	IMPEDANCE
BOTTLENECKS	

84 214937

A UTILITARIAN THEORY OF TRAVEL MODE CHOICE

PRATT RH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 322, PP 40-53, 10 FIG, 9 REF

*URBAN TRANSPORTATION SYSTEMS	MODAL SPLIT
MODAL SELECTION	TRIP GENERATION
TRAVEL PATTERNS	PUBLIC TRANSIT
UTILITY	AUTOMOBILES
PRIVATE TRANSPORTATION	FORECASTING
TIME	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 214938

RIVER CROSSING TRAVEL CHOICE: THE HUDSON RIVER EXPERIENCE

LESSIEU EJ
ZUPAN JMHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 322, PP 54-67, 4 FIG, 8 TAB, 7 REF

*URBAN TRANSPORTATION SYSTEMS	MATHEMATICAL MODELS
TRANSPORTATION MODELS	MODAL SELECTION
RIVERS	BUS TRANSPORTATION
RAIL TRANSPORTATION	PUBLIC TRANSIT
AUTOMOBILES	MULTIPLE REGRESSION
PRIVATE TRANSPORTATION	PEAK HOUR TRAFFIC
ALLOCATION MODELS	TRAVEL TIME
DEMAND	
FORECASTING	

84 214939

A TECHNIQUE TO CALIBRATE CHOICE MODELS

NAVIN FP
SCHULTZ GWHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 322, PP 68-76, 4 FIG, 1 TAB, 5 REF

*URBAN TRANSPORTATION SYSTEMS	FORECASTING
TRANSPORTATION MODELS	COMPUTER APPLICATIONS
MODAL SELECTION	URBAN TRANSPORTATION
CALIBRATIONS	MATHEMATICAL MODELS
STRATIFICATION	
MODAL SPLIT	

84 214942

TRANSPORTATION : THE LINK BETWEEN PEOPLE AND JOBS

KASSOFF H
DEUTSCHMAN HDHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 322, PP 96-120, 19 FIG, 16 TAB, REF, APP

*URBAN TRANSPORTATION SYSTEMS	WORK TRIPS
SOCIOLOGICAL ASPECTS	MODAL SELECTION
TRAVEL PATTERNS	POVERTY
INCOME	UNEMPLOYMENT
EMPLOYMENT	TRANSPORTATION
HOUSEHOLDS	CORE DENSITY
ECONOMIC FACTORS	

84 214943

URBAN TRAVEL AND CITY STRUCTURE

VORHEES AM
BELLUMG SJHIGHWAY RESEARCH RECORD, HWY RES BOARD 7C
NO 322, PP 121-135, 13 FIG, 2 TAB, 4 REF

*URBAN TRANSPORTATION SYSTEMS	TRAVEL DISTANCE
TRAVEL TIME	DISTANCE
WORK TRIPS	POPULATION MOVEMENTS
MOBILITY	RESIDENTIAL AREAS
URBAN AREAS	TRANSPORTATION SYSTEMS
DENSITY	URBAN LAND USE
URBAN TRANSPORTATION	URBAN PLANNING
CORE DENSITY	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 214944

ACTION SPACE FORMATION: A BEHAVIORAL APPROACH TO PREDICTING URBAN TRAVEL BEHAVIOR

HURTON FE
REYNOLDS URHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 136-148, 6 FIG, 4 TAB, 13 REF

*URBAN TRANSPORTATION SYSTEMS	
TRAVEL PATTERNS	BEHAVIOR
URBAN AREAS	URBAN TRANSPORTATION
ROUTE SELECTION	TRANSPORTATION MODELS

84 214945

MICRO-ASSIGNMENT: A NEW TOOL FOR SMALL-AREA PLANNING

BROWN GJ
SCOTT RSHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 149-161, 4 FIG, 5 TAB, 4 REF

*URBAN TRANSPORTATION SYSTEMS	
TRAFFIC ASSIGNMENT	TRAFFIC FORECASTING
TRANSPORTATION MODELS	MATHEMATICAL MODELS
LINK VOLUME	CENTRAL BUSINESS DISTRICT
AIRPORTS	INSTITUTIONS
SIMULATIONS	TRAFFIC FLOW
PEAK HOUR TRAFFIC	TRAFFIC DELAY
INTERSECTIONS	COMPUTER APPLICATIONS

84 214946

INTRODUCING THE IDEA OF THE "K DISTRIBUTION" TO TRANSPORTATION PATTERNS

ZAHAVI Y

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 162-170, 5 FIG, 2 TAB, 4 REF

*URBAN TRANSPORTATION SYSTEMS	
TRANSPORTATION	TRAFFIC ANALYSIS
STATISTICAL ANALYSIS	TRAFFIC CONGESTION
K DISTRIBUTION	TRAFFIC FLOW PATTERN
TRANSPORTATION PLANNING	URBAN TRANSPORTATION
URBAN TRANSPORTATION PLANNING	

84 214947

AN OPERATIONAL PLANNING INFORMATION SYSTEM FOR SMALL COMMUNITIES

MAXMAN RL
GRECCO WLHIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 171-82, 4 FIG, 18 REF

*URBAN TRANSPORTATION SYSTEMS	
URBAN PLANNING	COMPUTER APPLICATIONS
DATA PROCESSING	INFORMATION SYSTEMS
REGIONAL PLANNING	ENVIRONMENTAL DATA
URBAN DATA BANKS	LAND USE
URBAN LAND USE	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 214948

A METHODOLOGY FOR FORECASTING PEAK AND OFF-PEAK TRAVEL VOLUMES

WOHL M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 183-219, 19 FIG, 4 TAB, 6 REF, 1 APP

*URBAN TRANSPORTATION SYSTEMS	
TRAFFIC FORECASTING	PEAK HOUR TRAFFIC
TRAFFIC VOLUME	TRANSPORTATION SYSTEMS
MODAL SELECTION	MODAL SPLIT
DEMAND	OFF-PEAK TRAFFIC
TRAFFIC	NORMAL TIME
TRANSPORTATION MODELS	MATHEMATICAL MODELS
COSTS	SOCIOLOGICAL ASPECTS
ECONOMIC FACTORS	URBAN LAND USE
URBAN TRANSPORTATION PLANNING	
TRAVEL PATTERNS	

84 214950

CHARACTERISTICS OF URBAN ACTIVITY PATTERNS

LATHROP GT

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 322, PP 232-244, 7 FIG, 4 TAB, 6 REF

*URBAN TRANSPORTATION SYSTEMS	
*TRAFFIC MEASUREMENTS	CITIES
ACTIVITY MODELS	URBAN LAND USE
TRIP GENERATION	SOCIOLOGICAL ASPECTS
ECONOMIC FACTORS	INCOME
RACE	LOCATIONS
HOUSING	TRAVEL PATTERNS
FAMILY SIZE	URBAN TRANSPORTATION
INTERVIEWS	FAMILIES
BEHAVIOR	

84 215358

MASS TRANSIT TO AIRPORTS-AN OVERVIEW

COCK KE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 330, PP 1-4, 1 REF

*URBAN TRANSPORTATION SYSTEMS	
AIRPORT ACCESS	AIRPORTS
MASS TRANSIT	PUBLIC TRANSIT
TRAFFIC VOLUME	
ORIGIN & DESTINATION STUDIES	
FREEWAYS	CONTROLLED ACCESS HIGHWAYS
TAXICABS	RAIL TRANSPORTATION
BUS TRANSPORTATION	DELAY TIME
TRAVEL TIME	ACCESS

84 215359

THE AIRPORT ACCESS PROBLEM IN TOKYO

AKIYAMA T

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 330, PP 5-12, 5 FIG, 2 TAB

*URBAN TRANSPORTATION SYSTEMS	
AIRPORT ACCESS	AIRPORTS
ACCESS	FREEWAYS
TERMINALS /TRANSPORTATION/	BUS TRANSPORTATION
RAIL TRANSPORTATION	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 215360

AIRPORT ACCESS TO HEATHROW AIRPORT, LONDON

HGLE G

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 330, PP 13-15

*URBAN TRANSPORTATION SYSTEMS	
AIRPORT ACCESS	AIRPORTS
ACCESS	PUBLIC TRANSIT
RAIL TRANSPORTATION	

84 215361

PROVIDING GROUND ACCESS TO THE KANSAS CITY AIRPORT

ICENGLE W

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 330, PP 16-20, 4 PHOT

*URBAN TRANSPORTATION SYSTEMS	
AIRPORT ACCESS	ACCESS
AIRPORTS	RAPID TRANSIT
BUS LANES	FREEWAYS
BUS TRANSPORTATION	TERMINALS /TRANSPORTATION/

84 215362

CLEVELAND RAIL TRANSIT AIRPORT SERVICE

WIGGERS GF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 330, PP 21-24

*URBAN TRANSPORTATION SYSTEMS	
AIRPORT ACCESS	ACCESS
AIRPORTS	RAPID TRANSIT
RAIL TRANSPORTATION	

84 215363

AIRPORT ACCESS PLANS FOR BOSTON

MUEHLBERGER R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 70
NO 330, PP 25-29, 1 TAB, 3 REF

*URBAN TRANSPORTATION SYSTEMS	
AIRPORT ACCESS	ACCESS
AIRPORTS	

84 217817

HIGHWAY AND URBAN TRANSPORTATION IN THE 1970'S AND 1980'S

TURNER FC

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN71
NO 122, PP 2-8, CLOSURE PP 18-19

*URBAN TRANSPORTATION SYSTEMS	
FUTURE CONCEPTS	TRANSPORTATION PLANNING
POPULATION FORECASTING	POPULATION MOVEMENTS
URBAN AREAS	URBAN HIGHWAYS
PUBLIC TRANSIT	BUS TRANSPORTATION

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 217818

HIGHWAY AND URBAN TRANSPORTATION IN THE 1970'S AND 1980'S

YLVISAKER P

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN71
NO 122, 9-13, CLOSURE PP 19-20

*URBAN TRANSPORTATION SYSTEMS	
FUTURE CONCEPTS	TRANSPORTATION PLANNING
TRANSPORTATION FORECASTING	URBAN AREAS
PUBLIC TRANSIT	ECONOMICS
HOUSING	PUBLIC OPINION
ENVIRONMENTAL EFFECTS	

84 217819

HIGHWAY AND URBAN TRANSPORTATION IN THE 1970'S AND 1980'S

ZWICK C

HIGHWAY RESEARCH BOARD SPECIAL REPORTS JAN71
NO 122, PP 14-17

*URBAN TRANSPORTATION SYSTEMS	
FUTURE CONCEPTS	TRANSPORTATION PLANNING
TRANSPORTATION FORECASTING	ENVIRONMENTAL EFFECTS
TRANSPORTATION ECONOMICS	TRANSPORTATION FINANCE
TECHNOLOGY	SOCIAL VALUES

84 218973

THE GCARS SYSTEM: A COMPUTER-ASSISTED METHOD OF REGIONAL
ROUTE LOCATIONTURNER AK
MILES ROHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 1-15, 25 FIG, 15 REF

*URBAN TRANSPORTATION SYSTEMS	
COMPUTER APPLICATIONS	ROUTE SELECTION
REGIONAL PLANNING /TRANSPORTATION/	
RANKING	BYPASS ROUTES
HIGHWAY LOCATION	HIGHWAY PLANNING
COMPUTER PLANNING SYSTEMS	EARTHWORK CALCULATION
PAVEMENT CONSTRUCTION	RIGHT-OF-WAY ACQUISITION

HRIS 218978

84 218974

IMPLEMENTATION OF URBAN TRANSPORTATION DECISIONS: A
SIMULTANEOUS CATEGORY MODELDICKEY JW
STUART RCHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 16-34, 4 FIG, 12 TAB, 8 REF

*URBAN TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION PLANNING	
PREDICTIONS	DECISION MAKING
STATISTICAL ANALYSIS	QUESTIONNAIRES
SIMULTANEOUS SYSTEMS	SURVEYS /DATA COLLECTION/

HRIS 218978

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 218976

RATIONAL LOCATION OF A HIGHWAY CORRIDOR: A PROBABILISTIC APPROACH

SMITH WL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 42-60, 9 FIG, 2 TAB, 13 REF

*URBAN TRANSPORTATION SYSTEMS	
MODELS	HIGHWAY LOCATION
RURAL AREAS	URBAN AREAS
SOCIOLOGICAL ASPECTS	RESOURCES
SUPPLY AND DEMAND	PREDICTIONS
HIGHWAY PLANNING	DECISION MAKING

HRIS 218978

84 218977

CONSISTENCY IN TRANSPORTATION MODAL-SPLIT AND EVALUATION MODELS

HANEY DG

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 61-72, 5 FIG, 7 REF

*URBAN TRANSPORTATION SYSTEMS	
TRAVELER BENEFITS	ALTERNATE SYSTEM
TRANSPORTATION PLANNING	MODELS
TRAVEL PATTERNS	MODAL SPLIT
EVALUATION	LINEAR SYSTEMS
LOGIT MODELS	STATISTICAL ANALYSIS
BENEFITS	PROBABILITY THEORY
DEMAND	

HRIS 218978

84 218978

DISCUSSION

BOUCHARD RJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 73-75

*URBAN TRANSPORTATION SYSTEMS	
TRANSPORTATION PLANNING	MODELS
DECISION MAKING	OFFICIALS
DESIGN CONCEPT TEAMS	REQUIREMENTS
PRIORITIES	TRANSPORTATION POLICY
CITIZEN PARTICIPATION	

HRIS 218976

HRIS 218977

HRIS-218973

HRIS-218974

HRIS-218975

84 218979

AN APPROACH TO MULTIREGIONAL URBAN TRANSPORTATION POLICY PLANNING

KASSOFF H
GENOELL DSHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 76-93, 23 FIG, 7 TAB, 1 REF

*URBAN TRANSPORTATION SYSTEMS	
RESEARCH AND DEVELOPMENT	MULTIVARIATE ANALYSIS
URBAN TRANSPORTATION PLANNING	
URBAN AREAS	ECONOMIC EVALUATIONS
TRANSPORTATION POLICY	AIR POLLUTION
DISPLACEMENT	NOISE /SOUND/
TRANSPORTATION EFFECTS	MODELS

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 218980

OPTIMIZATION OF URBAN TRANSPORTATION TERMINAL NETWORK

YU JC

WILHELM WE

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 94-108, 5 FIG, 4 TAB, 24 REF

*URBAN TRANSPORTATION SYSTEMS	
TRANSPORTATION SYSTEMS	URBAN AREAS
TERMINALS /TRANSPORTATION/	DISTRIBUTION SYSTEMS
COMPUTER APPLICATIONS	ECONOMIC ANALYSIS
LOCATIONS	CAPACITY
EVALUATION	TOTAL ANALYSIS
PUBLIC TRANSIT	SIMULATIONS

84 218984

EMPLOYMENT, MOBILITY, AND PUBLIC TRANSPORTATION IN CHICAGO: A SURVEY OF ATTITUDES AND BEHAVIOR

WACHS M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 142-151, 8 TAB, 2 REF

*URBAN TRANSPORTATION SYSTEMS	
EMPLOYMENT	MOBILITY
PUBLIC TRANSIT	ACCESS
UNEMPLOYED	TRAVEL PATTERNS
QUALITY	SURVEYS
STATISTICAL ANALYSIS	

84 218985

STAGGERED WORK-HOUR PROJECT IN LOWER MANHATTAN

OPALLEY B

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 152-165, 7 FIG, 1 TAB

*URBAN TRANSPORTATION SYSTEMS	
STAGGERED HOURS	PEAK HOUR TRAFFIC
CENTRAL BUSINESS DISTRICT	COMMUTERS
TRANSPORTATION PLANNING	

84 218987

AUTOMOBILE AND PUBLIC TRANSPORTATION FOR RETIRED PEOPLE

CARP FM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 182-191, 19 REF

*URBAN TRANSPORTATION SYSTEMS	
RETIREMENT	AUTOMOBILE DRIVERS
AUTOMOBILES	ELDERLY
DRIVER PERFORMANCE	PUBLIC TRANSIT
TRANSPORTATION PROBLEMS	OWNERSHIP
HEALTH	SURVEYS /DATA COLLECTION/

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 218988

A SURVEY OF THE NEW YORK CITY AIRPORT
LIMOUSINE SERVICE: A DEMAND ANALYSISDE NEUFVILLE R
KOLLEK F
SKINNER KHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 192-201, 7 FIG, 4 TAB, 20 REF

*URBAN TRANSPORTATION SYSTEMS	DEMAND
SURVEYS	AIRPORTS
TAXICABS	MODAL SPLIT
SOCIO-ECONOMIC FACTORS	DELAY TIME
COST COMPARISON	STATISTICAL ANALYSIS
QUESTIONNAIRES	DEMOGRAPHIC STUDIES
AIRPORT ACCESS SURVEYS	MODELS
ACCESS	

84 218989

PLANNING FOR TRANSPORTATION CENTERS

WHITLOCK EM
FESKE CDHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 348, PP 202-210, 7 FIG, 3 TAB, 23 REF

*URBAN TRANSPORTATION SYSTEMS	TRANSPORTATION PLANNING
TRANSPORTATION SYSTEMS	INTEGRATION
TERMINALS /TRANSPORTATION/	OPERATING COSTS
OPERATING REVENUES	
COMPARATIVE ANALYSIS	
URBAN TRANSPORTATION PATTERNS	
TRENDS	

84 219555

GENERAL CONCLUSIONS

HEATHINGTON KW

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 1-4

*URBAN TRANSPORTATION SYSTEMS	TRANSPORTATION SYSTEMS
DEMAND ACTUATED TRANSPORTATION	DEMONSTRATION PROJECT
FUTURE CONCEPTS	TECHNOLOGY
RESEARCH	
BUS TRANSPORTATION /INTRACITY/	
PUBLIC TRANSIT	

84 219556

WELCOMING REMARKS

GROSH RJ

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, P 5

*URBAN TRANSPORTATION SYSTEMS	TECHNOLOGY
PUBLIC TRANSIT	
FINANCING	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 219557

DEMAND BUS FOR A NEW TOWN

STEVENS RD
SMITH RLHIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 6-13, 4 FIG, 3 TAB

*URBAN TRANSPORTATION SYSTEMS	
NEW TOWNS	
DEMAND ACTUATED TRANSPORTATION	
PUBLIC TRANSIT	
BUS TRANSPORTATION /INTRACITY/	COMPUTERS
SCHEDULING	COSTS
RIDERSHIP	PATRONAGE
REVENUE	FUTURE CONCEPTS
PASSENGERS	DEMAND
MODAL SPLIT	

84 219558

CASE STUDY OF A DEMAND-RESPONSIVE TRANSPORTATION SYSTEM

BAUER HJ

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 14-39, 16 FIG, 8 TAB, 16 REF

*URBAN TRANSPORTATION SYSTEMS	
PUBLIC TRANSIT	
DEMAND ACTUATED TRANSPORTATION	
FEASIBILITY STUDIES	SYSTEMS ANALYSIS
FUTURE CONCEPTS	TRIP GENERATION
TRIP DIVERSION	DESIGN
BUS TRANSPORTATION /INTRACITY/	
FINANCING	SOCIO-ECONOMIC FACTORS
COSTS	FARES
TRAVEL TIME	RIDERSHIP
DIAL-A-RIDE	WAITING TIME
MODAL SPLIT	DEMAND
COMPUTER SIMULATIONS	PAIRED COMPARISONS
SURVEYS /DATA COLLECTION/	INTERVIEWS

84 219559

DIAL-A-BUS SYSTEM FEASIBILITY

RUDS D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 40-49, 4 FIG, 1 TAB, 14 REF

*URBAN TRANSPORTATION SYSTEMS	
DEMAND ACTUATED TRANSPORTATION	
DIAL-A-BUS	DIAL-A-RIDE
FEASIBILITY STUDIES	
BUS TRANSPORTATION /INTRACITY/	SCHEDULING
ALGORITHMS	COSTS
DESIGN	PUBLIC TRANSIT
DEMAND	COMPUTERS
FUTURE CONCEPTS	

84 219560

INCREMENTAL IMPLEMENTATION OF DIAL-A-RIDE SYSTEMS

GUENTHER K

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 50-56, 4 FIG, 1 TAB, 12 REF

*URBAN TRANSPORTATION SYSTEMS	
FUTURE CONCEPTS	DIAL-A-RIDE
DEMAND ACTUATED TRANSPORTATION	
BUS TRANSPORTATION /INTRACITY/	COMPUTERS
SCHEDULING	COSTS
FINANCING	FEASIBILITY STUDIES
PUBLIC TRANSIT	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 219561

SEMINAR OF DEMAND MODELING AND ESTIMATION OF DEMAND

ELLIS RH
STAFFORD JH
GUSTAFSON RL
GUENTHER K
HOWARD WT
HEATHINGTON KW
TUMMINIA F
SCHWARTZ A
BAUER HJ

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 57-68

*URBAN TRANSPORTATION SYSTEMS
DEMAND MODELS
MODAL SPLIT
DEMAND ACTUATED TRANSPORTATION
FUTURE CONCEPTS

84 219562

SEMINAR ON SYSTEMS ATTRIBUTES AND PERFORMANCE

BRAND D
SLOMON RJ
HEATHINGTON KW
BAUER HJ
CURD HN
KETOLA HN
SCHWARTZ A
MGRILL DO
VENTURA FL

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 69-87, 1 FIG, 1 REF

*URBAN TRANSPORTATION SYSTEMS
DEMAND ACTUATED TRANSPORTATION
PUBLIC TRANSIT IMPACT
REGULATIONS COMMUNITY VALUES
ACCEPTANCE

84 219563

SEMINAR ON SIMULATION

NUNAMAKER JF
HOWSON L
GUENTHER K
CANTY ET
HEATHINGTON KW
WILSON N
STAFFORD JH
RODS D

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 88-100, 1 FIG, 8 REF

*URBAN TRANSPORTATION SYSTEMS
DEMAND ACTUATED TRANSPORTATION
TRANSPORTATION SYSTEMS SCHEDULING
ALGORITHMS AUTOMATIC CONTROL
COMPUTERS COMPUTER SIMULATION MODELS
MODELS COMPUTER PROGRAMS

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 219565

SEMINAR ON SYSTEM EVALUATION

HENDERSON C

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 105-108

*URBAN TRANSPORTATION SYSTEMS
DEMAND ACTUATED TRANSPORTATION
DIAL-A-BUS DEMONSTRATION PROJECT
OWNERSHIP RIDERSHIP
TRANSPORTATION SYSTEMS COSTS
FARES LABOR UNIONS
PATRONAGE

84 219566

FUTURE DEMONSTRATION PROJECTS

HIGHWAY RESEARCH BOARD SPECIAL REPORTS 71
NO 124, PP 109-118

*URBAN TRANSPORTATION SYSTEMS
DEMAND ACTUATED TRANSPORTATION
DEMONSTRATION PROJECT

84 221537

NEW SYSTEMS TECHNOLOGY AND TRANSPORT POLICY

CLE LM

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 1-8, 4 REF

*URBAN TRANSPORTATION SYSTEMS
FUTURE CONCEPTS POLICY
PLANNING
URBAN TRANSPORTATION PLANNING
DEMAND ACTUATED TRANSPORTATION
PERSONALIZED RAPID TRANSIT AUTOMATIC HIGHWAY SYSTEMS
TRENDS MASS TRANSIT
TRANSPORTATION POLICY HIGHWAYS
SOCIOLOGICAL ASPECTS COMMUNITY VALUES
ECONOMIC FACTORS

84 221538

TRANSPORTATION FOR A NEW TOWN

STEVENS RD
BACALIS GJ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 9-10, 6 FIG, 4 TAB, 1 REF

*URBAN TRANSPORTATION SYSTEMS
NEW TOWNS EVALUATION
ECONOMIC EVALUATIONS CRITERIA
TECHNOLOGY FORECASTING
REQUIREMENTS MODAL SELECTION
CONCEPTS GRAVITY MODEL
TRANSPORTATION PLANNING DEMAND
PUBLIC TRANSIT

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 221539

EVALUATION OF NEW URBAN TRANSPORTATION SYSTEMS

AYRES RU
MCKENNA R
WALKER MLHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 17-30, 7 FIG, 6 TAB, 4 REF

*URBAN TRANSPORTATION SYSTEMS	
EVALUATION	ECONOMIC EVALUATION
TRANSPORTATION SYSTEMS	COSTS
REQUIREMENTS	CAPACITY
URBAN TRANSPORTATION	
DEMAND ACTUATED TRANSPORTATION	

84 221540

USER PREFERENCES FOR A DEMAND-RESPONSIVE TRANSPORTATION SYSTEM: A CASE STUDY REPORT

GUSTAFSON RL
CURD HN
GOLOB TFHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 31-45, 6 FIG, 16 REF

*URBAN TRANSPORTATION SYSTEMS	
URBAN TRANSPORTATION	
DEMAND-RESPONSIVE TRANSPORTATION	
OPINIONS	SURVEYS /DATA COLLECTION/
DATA ANALYSIS	MARKET RESEARCH
VALUES	VEHICLE CHARACTERISTICS
PAIRED COMPARISONS	

84 221541

ANALYSIS OF DUAL-MODE TRANSPORT

FIGHTER O

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 46-57, 9 FIG, 3 TAB, 2 REF

*URBAN TRANSPORTATION SYSTEMS	
DUAL MODE	URBMOBILE
URBAN TRANSPORTATION	FEASIBILITY STUDIES
AVAILABILITY	UTILIZATION
ECONOMIC EVALUATION	RAPIO TRANSIT SYSTEMS
INTERMODAL	MASS TRANSIT PATRONAGE
JITNEY	

84 221542

A NOVEL SYSTEM FOR IMPROVING URBAN TRANSPORTATION

HARMATHY TZ

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NG 367, PP 58-69, 7 FIG, 13 REF

*URBAN TRANSPORTATION SYSTEMS	
FUTURE CONCEPTS	RAPID TRANSIT
SAFETY FACTORS	TRANSFERRING
RAIL TRANSPORTATION	PHYSIOLOGGICAL ASPECTS
AUTOMATIC CONTROL	TRANSPORTATION SYSTEMS
TRANSIT MIXERS	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 221543

THE CASE FOR PERSONAL RAPID TRANSIT

SCBEY AJ
CONE JWHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 70-90, 1 FIG, 7 TAB, 28 REF

*URBAN TRANSPORTATION SYSTEMS	
FUTURE CONCEPTS	PRIVATE TRANSPORTATION
PUBLIC TRANSIT	PERSONAL TRANSIT
RAPID TRANSIT	COMPARISONS
TRANSPORTATION	

84 221544

A PLANNING MODEL FOR TRANSPORTATION IN URBAN ACTIVITY CENTERS

STERN MU

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 91-106, 1 FIG, 2 TAB, 28 REF

*URBAN TRANSPORTATION SYSTEMS	
CENTRAL BUSINESS DISTRICT	
URBAN TRANSPORTATION PLANNING	
TRANSPORTATION SYSTEM ANALYSIS	
MODELS	STATISTICAL ANALYSIS
FORECASTING	ACCESS
CHANGES	ECONOMIC ACTIVITY
URBAN LAND USE	ALGORITHMS
TRIP GENERATION	PLANNING
GRAVITY MODEL	GEOGRAPHY
LAND USE	ACTIVITY CENTERS

84 221545

BALANCE AND INNOVATION IN URBAN TRANSPORTATION

HAMILTON WF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 107-113, 3 FIG, 1 TAB, 10 REF

*URBAN TRANSPORTATION SYSTEMS	
BENEFIT COST ANALYSIS	PROGRAMS
TRANSPORTATION SYSTEMS	RESEARCH AND DEVELOPMENT
ECONOMIC PLANNING	ECONOMIC EVALUATIONS
PLANNING	INNOVATION
FUTURE CONCEPTS	TRANSPORTATION SYSTEMS
FUND ALLOCATIONS	FINANCING

84 221547

PARAMETRIC STUDY OF ACTIVITY CENTER TRANSPORTATION SYSTEMS

MAUND DH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NUMBER 367, PP 128-140, 6 FIG, 1 TAB, 6 REF, 1 APP

*URBAN TRANSPORTATION SYSTEMS	
TRANSPORTATION SYSTEMS	RAIL TRANSPORTATION
GUIDEWAYS	TRAFFIC ASSIGNMENT
PARAMETERS	ECONOMIC EVALUATIONS
URBAN AREAS	ACTIVITY CENTERS
ECONOMIC ACTIVITY	COSTS

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 221548

POTENTIAL DEMAND FOR DEMAND-SCHEDULED BUS SERVICES

ARCHER E
SHORTREEO JHHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 367, PP 141-51, 6 FIG, 7 TAB, 18 REF

*URBAN TRANSPORTATION SYSTEMS	
DEMAND-RESPONSIVE TRANSPORTATION	
FUTURE CONCEPTS	BENEFIT COST ANALYSIS
GRAVITY MODEL	FEASIBILITY
DEMAND	MODELS
WORK TRIPS	TRAVEL TIME
BUS TRANSPORTATION	

84 222082

INVESTIGATIONS OF THE EFFECT OF TRAVELER ATTITUDES IN A MODEL OF MODE-CHOICE BEHAVIOR

HARTGEN DT
TANNER GHHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 1-14, 2 FIG, 8 TAB, 12 REF

*URBAN TRANSPORTATION SYSTEMS	
TRAVEL	MODAL SELECTION
ATTITUDES /MENTAL/	MODELS
TRANSPORTATION SYSTEMS	AUTOMOBILES
MASS TRANSIT	SOCIO-ECONOMIC FACTORS

84 222083

DIVERSION MODEL FOR ESTIMATING HIGH SPEED RAIL USE

DIRENZO JF
ROSSI LPHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 15-25, 5 FIG, 3 TAB, 8 REF

*URBAN TRANSPORTATION SYSTEMS	
HIGH SPEED	RAIL TRANSPORTATION
RAPID TRANSIT USAGE	PATRONAGE
INTERCITY TRANSPORTATION	MODELS
MARKET RESEARCH	

84 222085

ESTIMATING MULTIMODE TRANSIT USE IN A CORRIDOR ANALYSIS

SCHULTZ GW
PRATT RHHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 39-46, 4 FIG, 1 TAB, 6 REF

*URBAN TRANSPORTATION SYSTEMS	
CORRIDORS	MODAL SELECTION
MULTIMODAL SYSTEMS	MODELS
MODEL TESTS	MASS TRANSIT
SURVEYS /DATA COLLECTION/	RAIL TRANSPORTATION
BUS TRANSPORTATION	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 222087

EFFECTS OF RESTRAINED HIGHWAY SPEEDS ON PROJECTIONS OF TRAVEL PATTERNS AND MODAL CHOICE

TOMAZINIS AR
GAUSH GJHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 65-79, 1 FIG, 8 TAB, 7 REF

*URBAN TRANSPORTATION SYSTEMS	
TRAVEL PATTERNS	MODAL SELECTION
SPEED LIMITS	SPEED CONTRCL
SIMULATIONS	SPEED
RAPID TRANSIT USAGE	

84 222088

CHOICE AND CAPTIVE MODAL-SPLIT MODELS

FERRERI MG
CHERWONY WHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 80-90, 4 FIG, 5 TAB, 4 REF

*URBAN TRANSPORTATION SYSTEMS	
MODAL SPLIT	MODELS
TRIP GENERATION	SERVICES
MASS TRANSIT PATRONAGE	MASS TRANSIT
DEMAND	STATISTICAL ANALYSIS

84 222089

DISAGGREGATE STOCHASTIC MODELS OF TRAVEL-MODE CHOICE

REICHMAN S
STOPHER PRHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 91-103, 2 FIG, 48 REF, 1 APP

*URBAN TRANSPORTATION SYSTEMS	
MODAL SELECTION	STOCHASTIC PROCESSES
MODELS	TRANSPORTATION SYSTEMS
TRAVEL	DEMAND
BEHAVIOR	STATE OF THE ART STUDIES
USER CHARACTERISTICS	RESEARCH AND DEVELOPMENT

84 222090

VALUE OF TIME SAVED BY TRIP PURPOSE WITH DISCUSSION AND CLOSURE

THOMAS TC
THOMPSON GI
REICHMAN SHIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 104-117, 2 FIG, 7 TAB, 5 REF, 1 APP

*URBAN TRANSPORTATION SYSTEMS	
TRAVEL TIME	ROUTE SELECTION
MODELS	DRIVER CHARACTERISTICS
VALUES	TIME FACTOR

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 222092

THE N-DIMENSIONAL LOGIT MODEL: DEVELOPMENT AND APPLICATION

RASSAM PR
ELLIS RH
BENNETT JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 135-147, 2 FIG, 6 TAB, 5 REF

*URBAN TRANSPORTATION SYSTEMS
LOGIT MODELS MODELS
MODAL SPLIT TRANSPORTATION
MODEL TESTS TRAVEL

84 222093

PROBLEMS ASSOCIATED WITH THE TIME AND COST DATA USED IN TRAVEL CHOICE MODELING AND VALUATION OF TIME

WATSON PL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 148-158, 1 FIG, 7 REF

*URBAN TRANSPORTATION SYSTEMS
TIME FACTOR COST DATA
MODAL SELECTION TRAVEL
MODELS

84 222098

CHOICE OF ROUTES ON URBAN NETWORKS FOR THE JOURNEY TO WORK

UEBERSCHAER MH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 228-238, 4 FIG, 2 TAB, 3 REF

*URBAN TRANSPORTATION SYSTEMS
ROUTE SELECTION URBAN HIGHWAYS
COMMUTERS TRIP DIVERSION
MODELS

84 222100

CONSIDERATION OF INTERMODAL COMPETITION IN THE FORECASTING OF NATIONAL INTERCITY TRAVEL

ELLIS RH
RASSAM PR
BENNETT JC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 71
NO 369, PP 253,261, 2 FIG, 1 TAB, 5 REF

*URBAN TRANSPORTATION SYSTEMS
TRAVEL MODAL SPLIT
DEMAND MODELS
TRANSPORTATION SYSTEMS INTERCITY TRANSPORTATION
COMPETITION TRAVEL DEMAND
AIR TRANSPORTATION TRAVEL PATTERNS
AUTOMOBILES

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 224756

MODAL-CHOICE MODEL FOR RELATING DEMAND TO INVESTMENT

BELLCMO SJ
TURNER CG
JCHASTON DK

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 1-12
13 FIG 1 TAB 12 REF

*URBAN TRANSPORTATION SYSTEMS
MODAL SELECTION PREDICTIONS
MATHEMATICAL MODELS PUBLIC TRANSIT
INVESTMENTS AVAILABILITY
LEVEL OF SERVICE TRIP GENERATION
DEMAND TIME
FARES BUS TRANSPORTATION
RAIL TRANSPORTATION PEAK HOUR TRAFFIC
OFF-PEAK TRAFFIC PARKING COSTS

84 224757

CONSISTENCY IN TRANSPORTATION DEMAND AND EVALUATION MODELS

HANEY DG
HAUER E

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 13-25
3 FIG 4 REF

*URBAN TRANSPORTATION SYSTEMS
TRANSPORTATION SYSTEMS TRANSPORTATION MODELS
TRIP GENERATION TRIP DISTRIBUTION
TRAFFIC ASSIGNMENT MODAL SPLIT
USER BENEFITS DEMAND

84 224759

FORECASTING TRAVEL DEMAND FOR NEW URBAN TRANSPORTATION SYSTEMS

TCMAZINIS AR

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 26-35
3 FIG 1 TAB 7 REF

*URBAN TRANSPORTATION SYSTEMS
DEMAND-RESPONSIVE TRANSPORTATION
MINICARS PRIVATE TRANSPORTATION
DEMAND PREDICTIONS
FUTURE CONCEPTS TRANSPORTATION SYSTEMS
LATENT DEMAND CENTRAL BUSINESS DISTRICT
INCOME LOW INCOME AREAS
FRANGIPANI

84 224760

SEGMENTED, MULTIMODAL, INTERCITY PASSENGER DEMAND MODEL

BILLHEIMER JW

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 392 PP 47-57
1 FIG 5 TAB 9 REF

*URBAN TRANSPORTATION SYSTEMS
MODAL SPLIT INTERCITY TRANSPORTATION
DEMAND MATHEMATICAL MODELS
PREDICTIONS CALIBRATIONS
INCOME TRAVEL TIME
SCHEDULING

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 224765

COMPARISON OF PROBABILISTIC MODAL-CHOICE MODELS: ESTIMATION METHODS AND SYSTEM INPUTS

TALVITIE A

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 392 PP 111-20
 1 FIG 14 TAB 8 REF

*URBAN TRANSPORTATION SYSTEMS
 MATHEMATICAL MODELS MODAL SELECTION
 TRAVEL TRAVEL TIME
 COSTS COMPARISONS

84 224766

APPROACH TO PROBABILITY DISTRIBUTION OF VALUE OF WALKING TIME AND PEDESTRIAN CIRCULATION MODELS

ALLOUCHE JF

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 392 PP 121-33
 4 FIG 13 REF

APPS

*URBAN TRANSPORTATION SYSTEMS
 MODELS VALUES
 TIME PEDESTRIANS
 WALKS

84 224769

USE OF SOCIOECONOMIC INDICATORS IN TRIP ATTRACTION OF LARGE WORK CENTERS

MOUCHAHOIR GE
WRIGHT PH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 392 PP 139-42
 10 REF

*URBAN TRANSPORTATION SYSTEMS
 TRIP GENERATION EMPLOYMENT
 DENSITY CENTERS
 WORK TRIPS

84 224770

ACCESS TO JOBS AND WILLINGNESS TO TRAVEL

NOTESS CB

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 392 PP 143-6
 2 TAB 13 REF

*URBAN TRANSPORTATION SYSTEMS
 EMPLOYMENT SUBURBS
 INNER CITY BUS TRANSPORTATION
 WORK TRIPS GRAVITY MODEL
 ATTITUDES /MENTAL/ TRAVEL TIME
 DISTANCE MODELS

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 224771

STABILITY OF RECREATIONAL DEMAND MODEL

ROBINSON DC
GRECCO WL

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 392 PP 147-56
 6 FIG 2 TAB 9 REF

*URBAN TRANSPORTATION SYSTEMS
 RECREATION RESERVOIRS
 TRAVEL DEMAND
 MODELS TRAFFIC VOLUME
 PREDICTIONS REGRESSION ANALYSIS

84 224772

RELIABILITY ANALYSIS IN LAND USE-TRANSPORTATION PLANNING

SINHA KC

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 392 PP 157-8

*URBAN TRANSPORTATION SYSTEMS
 LAND USE PLANNING TRANSPORTATION PLANNING
 RELIABILITY TRAVEL
 DEMAND HIGHWAY USAGE
 RAPID TRANSIT USAGE PREDICTIONS
 MODELS

84 224812

PEOPLE MOVERS: PLANNING AND POTENTIALS

LEVINSON HS

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 397 PP 1-11
 5 FIG 3 TAB 4 REF

*URBAN TRANSPORTATION SYSTEMS
 PEOPLE MOVERS CENTRAL BUSINESS DISTRICT
 PEDESTRIANS WALKS
 DISTANCE SIDEWALKS
 CAPACITY DENSITY
 HEADWAY TRANSPORTATION
 WIDERSHIP COSTS

84 224813

PRACTICAL REQUIREMENTS FOR ADVANCED PUBLIC TRANSPORTATION SYSTEMS

AVERY WH
HOLDEN WH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
 NO 397 PP 12-25
 8 FIG 3 TAB 10 REF

*URBAN TRANSPORTATION SYSTEMS
 FUTURE CONCEPTS PUBLIC TRANSIT
 BUSES /VEHICLES/ AUTOMATIC CONTROL
 NETWORKS
 DEMAND RESPONSIVE TRANSPORTATION

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 224814

METRO GUIDEWAY: AN INTEGRATED URBAN TRANSPORTATION SYSTEM
CANTY ETHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 397 PP 26-37
4 FIG 28 REF

*URBAN TRANSPORTATION SYSTEMS	
FUTURE CONCEPTS	URBAN TRANSPORTATION
TRANSPORTATION SYSTEMS	DUAL MODES
AUTOMOBILES	AUTOMATIC CONTROL
PERSONALIZED RAPID TRANSIT	PUBLIC TRANSIT
FREIGHT TRANSPORTATION	MARKETS

84 224815

BUXI: DEMAND-RESPONSIVE BUS EXPERIENCE IN THE NETHERLANDS
HUPKES GHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 397 PP 38-41
1 FIG

*URBAN TRANSPORTATION SYSTEMS	
BUS TRANSPORTATION	CITIES
NEW TOWNS	MASS TRANSIT PATRONAGE
ROUTING	SCHEDULING
DEMAND RESPONSIVE TRANSPORTATION	

84 224816

OPERATIONAL EXPERIENCES WITH DEMAND-RESPONSIVE
TRANSPORTATION SYSTEMS

RUOS D

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 397 PP 42-54
15 REF

*URBAN TRANSPORTATION SYSTEMS	
DEMAND RESPONSIVE TRANSPORTATION	
OPERATIONS	VEHICLES
SERVICES	ROUTING
RIDERSHIP	OPERATING COSTS
REVENUE	

84 224817

EXTERNAL COMBUSTION ENGINES: PROSPECTS FOR VEHICULAR
APPLICATION

RENNER RA

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 397 PP 55-62
6 FIG 1 TAB 13 REF

*URBAN TRANSPORTATION SYSTEMS	
EXTERNAL COMBUSTION ENGINES	
PROPULSION SYSTEMS	ENGINES
FUTURE CONCEPTS	STEAM

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 224818

DEFORMABLE MESH MOVING BELT AS AN ACCELERATING-DECELERATING
DEVICEAYRES RU
MALONE RHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 397 PP 63-71
8 FIG 6 REF

*URBAN TRANSPORTATION SYSTEMS	
CONTINUOUS CAPACITY SYSTEMS	
MOVING SIDEWALKS	DESIGN
MESH	ACCELERATION
DECELERATION	

84 226017

PLANNING CRITERIA FOR OFF-STREET SERVICE AREAS

WHITLOCK EM
SCHODD JGHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 399 PP 40-50
5 FIG 6 TAB 2 REF

*URBAN TRANSPORTATION SYSTEMS	
TRUCK LOADING FACILITIES	URBAN PLANNING
URBAN LAND USE	POISSONS DISTRIBUTION
EVALUATION	

84 226116

STATE DEVELOPMENT POLICIES AND PLANNING

HAND I

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 401 PP 1-5
5 REF

*URBAN TRANSPORTATION SYSTEMS	
*TRANSPORTATION ADMINISTRATION	
STATE PLANNING	DEVELOPMENT
TRANSPORTATION PLANNING	INVESTMENTS
POLICY	

84 226118

STATEWIDE COMPREHENSIVE TRANSPORTATION PLANNING

HCEL LA
SAUERLENDER OHHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 401 PP 10-20
3 FIG 6 REF

*URBAN TRANSPORTATION SYSTEMS	
*TRANSPORTATION ADMINISTRATION	
STATE PLANNING	TRANSPORTATION PLANNING
MODELS	FREIGHT
INTERMODAL	PRIORITIES
DECISION MAKING	POLICY
DATA ACQUISITION	DEMAND
TRAVEL	FORECASTING
MODAL SPLIT	

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 226119

CURRENT STATE OF THE ART IN STATEWIDE TRANSPORTATION PLANNING

CREIGHTON RL
HAMBURG JRHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 401 PP 21-27
1 TAB 14 REF

*URBAN TRANSPORTATION SYSTEMS	
*TRANSPORTATION ADMINISTRATION	
STATE PLANNING	TRANSPORTATION PLANNING
TRANSPORTATION MODELS	INTERMODAL
MODE	DECISION MAKING
SIMULATIONS	TRAFFIC ASSIGNMENT
ALTERNATE SYSTEM	EVALUATION

84 226120

RELATION OF NATIONAL TRANSPORTATION PLANNING AND STATE TRANSPORTATION PLANNING

MONGINI A

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NO 401 PP 28-35

*URBAN TRANSPORTATION SYSTEMS	
*TRANSPORTATION ADMINISTRATION	
TRANSPORTATION PLANNING	UNITED STATES GOVERNMENT
TRANSPORTATION NEEDS STUDY	STATE PLANNING
INFORMATION	COSTS
REVENUE	

84 226121

NEW YORK STATEWIDE PLANNING PROGRAM: ACHIEVEMENTS AND PROSPECTS

BREUER R

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 401 PP 36-38

*URBAN TRANSPORTATION SYSTEMS	
TRANSPORTATION PLANNING	STATE PLANNING

84 226122

A COMPARATIVE ANALYSIS OF STATEWIDE TRANSPORTATION STUDIES

HAZEN PI

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2 TAB 19 REF

*URBAN TRANSPORTATION SYSTEMS	
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ALTERNATE SYSTEM	EVALUATION

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 226287

TAXICAB USAGE IN NEW YORK CITY POVERTY AREAS

LEE B
FALCOCCHIO JC
CANTILLI EJHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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5 FIG 3 REF

*URBAN TRANSPORTATION SYSTEMS	
TAXICABS	PUBLIC TRANSIT
DEMAND	MODEL CITIES
POOR PEOPLE	TRAVEL PATTERNS
INCOME	MODAL SELECTION
INNER CITIES	

84 226288

MODAL CHOICES AND TRAVEL ATTRIBUTES OF INNER-CITY POOR

FALCOCCHIO JC
PIGNATAKO LJ
CANTILLI EJHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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15 FIG 1 TAB

*URBAN TRANSPORTATION SYSTEMS	
MODAL SELECTION	TRIP PURPOSE
INNER CITIES	POOR PEOPLE
TRAVEL PATTERNS	MASS TRANSIT PATRONAGE
TRIP DISTRIBUTION	PEAK HOUR
PUBLIC TRANSIT	WORK TRIPS
DISTANCE	TRIP
LENGTH	INCOME

84 226289

THE OLDER PEDESTRIAN IN SAN FRANCISCO

CARP FM

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14 REF

*URBAN TRANSPORTATION SYSTEMS	
ELDERLY	TRANSPORTATION
WALKS	SLOPE
WEATHER	INTERVIEWS
PEDESTRIANS	

84 226290

RELATION BETWEEN TRANSIT RIDERSHIP AND WALKING DISTANCES IN A LOW-DENSITY FLORIDA RETIREMENT AREA

NEILSON GK
FCWLER WKHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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10 FIG 3 TAB 1 REF

*URBAN TRANSPORTATION SYSTEMS	
AGE	ELDERLY
BUS STOPS	PUBLIC TRANSIT
WALKS	DISTANCE
TRANSPORTATION	CAPTIVE RIDERS
MODAL SPLIT	TRIP PURPOSE

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 226291

DATA REQUIREMENTS IN TRANSPORTATION PLANNING FOR URBAN
DISADVANTAGEDBENSON DE
MAHONEY MJHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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6 FIG 1 TAB 14 REF

*URBAN TRANSPORTATION SYSTEMS	
HANDICAPPED INDIVIDUALS	LATENT DEMAND
TRANSPORTATION PLANNING	DATA
DATA ACQUISITION	SOURCES
DEMAND	

84 226292

PROVIDING TRANSPORTATION FOR PERSONS WITH LIMITED MOBILITY
IN SUBURBAN AREAS

CURRY JP

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2 REF

*URBAN TRANSPORTATION SYSTEMS	
MOBILITY	SUBURBS
PUBLIC TRANSIT	
DEMAND RESPONSIVE TRANSPORTATION	
LATENT DEMAND	TRIP DISTRIBUTION
SCHEDULING	

84 226293

TRAVEL IN THE BLACK GHETTO

NCTESS CB

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2 REF

*URBAN TRANSPORTATION SYSTEMS	
NEGROES	INNER CITIES
REVERSE COMMUTING	EMPLOYMENT
TRANSPORTATION	SUBURBS
ACCESS	PUBLIC TRANSIT
AUTOMOBILES	OWNERSHIP
BUS TRANSPORTATION	TRAVEL PATTERNS
WORK TRIPS	

84 226294

PEDESTRIAN NEEDS: INSIGHTS FROM A PILOT SURVEY OF BLIND AND
DEAF INDIVIDUALS

ROBERTS OC

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*URBAN TRANSPORTATION SYSTEMS	
HANDICAPPED INDIVIDUALS	BLINDNESS
DEAFNESS	PEDESTRIANS
FACILITIES	INTERVIEWS
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AREA 84 URBAN TRANSPORTATION SYSTEMS

84 228194

TECHNIQUES FOR CONSIDERING SOCIAL, ECONOMIC, AND
ENVIRONMENTAL FACTORS IN PLANNING TRANSPORTATION SYSTEMSBOUCHARD RJ
LEHR EL
REDDING MJ
THOMAS GRHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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1 FIG 1 TAB

*URBAN TRANSPORTATION SYSTEMS	
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TRANSPORTATION SYSTEM ANALYSIS	
SOCIAL VALUES	COMMUNITY VALUES
ECONOMIC FACTORS	ENVIRONMENTAL EFFECTS
NOISE /SOUND/	AESTHETICS
LAND USE	

84 228200

THE END OF THE ROAD?

VOLLMER AH

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NU 410 PP 66-8

*URBAN TRANSPORTATION SYSTEMS	
*HIGHWAY DESIGN	AESTHETICS
HIGHWAY DESIGN	FUNCTIONS
HIGHWAYS	WORK TRIPS
LINEHAUL	MULTILANE HIGHWAY
THROUGH TRAFFIC	

84 228540

GO TRANSIT: A NEW APPROACH TO URBAN TRANSPORTATION

HOWARD WT

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*URBAN TRANSPORTATION SYSTEMS	
RAPID TRANSIT SYSTEMS	RAIL TRANSPORTATION
RAILROADS	RIGHT-OF-WAY
MASS TRANSIT PATRONAGE	COMMUTER TRANSPORTATION
URBAN TRANSPORTATION PLANNING	
MASS TRANSIT ADMINISTRATION	
FEEDER BUSES	BIKE-A-RIDE
DEMAND-RESPONSIVE TRANSPORTATION	
RAILROAD CARS	EXPRESS BUSES
MASS TRANSIT	LAND DEVELOPMENT
RESIDENTIAL AREAS LOCATION	LINEHAUL
PARK AND RIDE	MARKETING

84 228541

DUAL-MODE TRANSPORTATION: A CASE STUDY OF MILWAUKEE

GURSKI PS
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NU 415 PP 4-19
4 FIG 3 TAB 17 REF

*URBAN TRANSPORTATION SYSTEMS	
DUAL MODE	MASS TRANSIT
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SOCIOECONOMIC ASPECTS	URBAN TRANSPORTATION

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 228542

I-35W URBAN CORRIDOR DEMONSTRATION PROJECT: BUS-METERED
FREEWAY SYSTEM

HOFFMAN RG

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8 FIG 1 REF

*URBAN TRANSPORTATION SYSTEMS	
CENTRAL BUSINESS DISTRICT	FREEWAYS
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PAK AND RIDE SYSTEMS	BUS PRIORITY
RAMP METERING	FREEWAY RAMPS
THROUGH TRAFFIC	RUSH HOUR
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84 228543

SHIRLEY HIGHWAY EXPRESS BUS ON FREEWAY DEMONSTRATION PROJECT

FISHER RJ

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NO 415 PP 25-37
12 FIG 9 TAB

*URBAN TRANSPORTATION SYSTEMS	
BUS TRANSPORTATION	EXPRESS BUSES
BUS PRIORITY	SURVEYS /DATA COLLECTION/
ECONOMICS	BUS LANES
RIDERSHIP	

84 228544

THE EXCLUSIVE BUS LANE ON THE NEW JERSEY APPROACH TO THE
LINCOLN TUNNELGOODMAN L
SELINGER CSHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 415 PP 38-48
5 FIG

*URBAN TRANSPORTATION SYSTEMS	
BUS LANES	ECONOMICS
SURVEYS /DATA COLLECTION/	BUS TRANSPORTATION

84 228545

TRANSIT SYSTEM PLANNING: A MAN-COMPUTER INTERACTIVE GRAPHIC
APPROACH

RAPP MH

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17 FIG 13 REF

*URBAN TRANSPORTATION SYSTEMS	
COMPUTERS	MASS TRANSIT
TRANSPORTATION PLANNING	GRAPHIC METHODS
MODAL SPLIT	SIMULATIONS

AREA 84 URBAN TRANSPORTATION SYSTEMS

84 228553

PUBLIC TRANSPORTATION FOR SMALL URBAN AREAS

FEATHINGTON KW
SATTERLY GT
GRECCO WLHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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2 FIG 3 TAB 5 REF

*URBAN TRANSPORTATION SYSTEMS	
SMALL CITIES	PUBLIC TRANSIT
TRANSPORTATION PLANNING	URBAN AREAS
URBAN TRANSPORTATION PLANNING	
COSTS	ATTITUDES /MENTAL/

84 228554

MASS TRANSPORTATION DEMANDS OF SCOTLANDVILLE RESIDENTS

STEPHIE R
POISTER THIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 419 PP 16-26
1 FIG 5 REF

*URBAN TRANSPORTATION SYSTEMS	
COSTS	
URBAN TRANSPORTATION PLANNING	
PUBLIC TRANSIT	SMALL CITIES
ORIGIN & DESTINATION STUDIES	
TRIP GENERATION	

84 228555

EXAMINATION OF IMPROVED TRANSIT SERVICE

DUECKER KJ
STONER JHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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1 FIG 3 TAB 5 REF

*URBAN TRANSPORTATION SYSTEMS	
MASS TRANSIT	SERVICE
BEFORE AND AFTER STUDIES	POPULATION
ROUTES	SUBSIDIES
MASS TRANSIT PATRONAGE	PEAK HOUR
POLICY	

84 228556

A SYSTEMS APPROACH TO SUBAREA TRANSIT SERVICE DESIGN

PRATT RH
SCHULTZ GWHIGHWAY RESEARCH RECORD, HWY RES BOARD 72
NO 419 PP 37-47
7 FIG 1 TAB 5 REF

*URBAN TRANSPORTATION SYSTEMS	
SMALL CITIES	PUBLIC TRANSIT
URBAN AREAS	BUS TRANSPORTATION
SUBURBS	ROUTES
SYSTEMS ENGINEERING	FARES
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AREA 84 URBAN TRANSPORTATION SYSTEMS

84 228579

ANALYSIS AND EVALUATION OF THE RAPID TRANSIT EXTENSION TO CLEVELAND'S AIRPORT

WCHL M

HIGHWAY RESEARCH RECORD, HWY RES BOARD 72
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 2 FIG 3 TAB 12 REF

*URBAN TRANSPORTATION SYSTEMS
 AIRPORTS RAPID TRANSIT SYSTEMS
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84 228580

ANALYSIS OF USER PREFERENCES FOR SYSTEM CHARACTERISTICS TO CAUSE A MODAL SHIFT

BROWN GR

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 2 FIG 5 TAB 15 REF

*URBAN TRANSPORTATION SYSTEMS
 MODAL SELECTION COSTS
 TRAVEL TIME MASS TRANSIT PATRONAGE
 MODAL DIVERSION

84 228581

SPECIFICATION AND EVALUATION OF ALTERNATIVE FEEDER AND LOCAL TRANSIT SYSTEMS IN A SUBURBAN AREA

SCHMIDT JW
ARNOLD RK
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 2 FIG 2 TAB 2 REF

*URBAN TRANSPORTATION SYSTEMS
 SUBURBS LOCAL TRANSIT
 FEEDER TRANSPORTATION PUBLIC TRANSIT
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84 228582

DESIGNING URBAN TRANSIT SYSTEMS: AN APPROACH TO THE ROUTE-TECHNOLOGY SELECTION PROBLEM

REA JC

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*URBAN TRANSPORTATION SYSTEMS
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84 230122

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90 204578

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90 204711

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90 206146

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90 206147

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90 206148

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90 207071

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90 209287

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90 209567

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90 210042

IS YOUR HIGHWAY RESEARCH BEING IMPLEMENTED?

BEATON JL

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*HIGHWAY RESEARCH /GENERAL/ HIGHWAY RESEARCH APPLICATIONS OBJECTIVES FIELD STUDIES	IMPLEMENTATION RESEARCH LABORATORY STUDIES
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90 215030

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*HIGHWAY RESEARCH /GENERAL/ HIGHWAY RESEARCH DIRECTORIES	PERSONNEL
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TRANSPORTATION PICTURE IN CANADA COMPARES TO THAT IN UNITED STATES, BUT NOT ENTIRELY

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Authorized Term Index

The index includes terms in the HRIS thesaurus list that have been assigned to the references listed in this issue. A term may consist of two or more words and a number of terms may be followed by qualifying terms set off by slashes. Authorized index terms are arranged alphabetically. Under each term are posted the accession numbers of papers to which this term has been assigned. The accession number consists of two digits for the subject area and six digits for order within subject area. When postings are read from left to right and from line to line, the reference numbers are in the same order as in the main body of this publication.

It is often useful to coordinate two or more terms in the search for references. If one is interested in reports dealing with community consequences of highway location, for example, he should determine which report numbers are posted under the term COMMUNITY CONSEQUENCES and under the term HIGHWAY LOCATION. The answer in this case is reference 15 210739. The coordination process can be extended to more than two terms and to the other indexes of this book, but it will often be more convenient to use computer retrieval for complicated coordinations.

Certain thesaurus terms are not useful retrieval terms unless coupled or coordinated with other terms. Examples might include DESIGN or EVALUATION. It is likely that references listed under both DESIGN and STRAIN GAGES, say, are of a different nature from references listed under both EVALUATION and STRAIN GAGES.

Other thesaurus authorized index terms which may have been used to store reports in the HRIS are very broad and have been used as index terms on a large number of references. Some typical terms are DATA, METHODS, STUDIES, and TESTING. Such terms have been omitted from this authorized term index since it was judged that terms of this nature would be of little value to the users of this publication.

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22 212146	53 228110	55 222099	83 208693	82 207079			
84 214607	84 214609	84 219559	84 219563	APPRAISING			
84 221544				13 205331	70 208188	70 216480	70 228027
ALIGNING				APPROACH ANGLE			
53 214931				51 205275			
ALIGNMENTS				APPROACH SPEED			
22 206100	22 212146	22 224329	53 221430	51 223915			
53 221431	53 221553			APPROPRIATIONS			
ALLOCATION MODELS				13 204684	70 204684		
15 207670	53 224650	53 224651	53 224652	APPROXIMATIONS			
55 228102	84 214938			25 216140	63 214911	63 214917	
ALLOCATIONS				AQUIFERS			
14 207785	15 226018	40 209421	84 207561	63 220821			
ALLUVIUMS				ARCHING EFFECT			
33 216150				23 228527			
ALPHA RAYS				ARRESTING /PROCESS/			
62 205239				51 212149			
ALTERNATE SYSTEM				ARTERIAL HIGHWAYS /RURAL/			
11 212130	53 213981	82 212131	84 212998	22 213000			
84 218977	84 226119	84 226122	84 228582	ARTERIAL STREETS /URBAN/			
ALUMINATES				22 213000	22 220657	51 222971	53 205786
32 210913				53 207681	53 207905	53 214933	53 218556
ALUMINUM				54 215852	54 215853	70 214838	82 207088
22 205279	22 209402	22 212151	23 213007	ARTIFICIAL WEATHERING TESTS			
25 215352	27 210721	27 210723	33 226478	26 224326			
33 226487	34 205414	34 205785	34 228520	ASH TEST			
51 205274	51 205276			31 206200			
ALUMINUM ALLOYS	34 205413			ASPECT RATIO			
34 205413				27 210602			
ALUMINUM OXIDE				ASPHALT CEMENTS			
62 219586				25 216141	31 205174	31 212432	31 218560
ALUMINUM SESQUIOXIDES				31 218561	31 218562	31 218563	31 218565
64 222313				31 226835	31 226837	31 227967	
AMPLITUDE				ASPHALT CONTENT			
26 216364	63 214914			26 216373	31 206200	31 210728	31 210729
ANALOG COMPUTERS				31 210730	31 212432	31 213780	31 221152
26 216364	33 220054	52 214908		31 221154	31 226836	31 228516	32 210733
ANALOG SYSTEMS				33 207783	33 214464	34 215743	40 209445
53 221139	63 212980			ASPHALT PAVEMENTS			
ANALOG TO DIGITAL CONVERTERS				11 218970	25 208457	25 220733	26 224657
26 213157	27 209212			26 228087	31 205174	31 206995	31 207685
ANALYSIS				31 213779	31 213785	31 218564	31 218565
11 216148	25 215352	25 218054	27 216355	31 221149	31 226831	31 226834	31 226837
33 215708	51 228548	53 221435	62 215713	33 220780	33 224774	33 224776	33 224825
63 228525	81 218080	84 228556	90 210043	34 215743	35 219985	40 209425	40 209441
ANALYSIS OF VARIANCE				40 209445	40 209447	40 228026	51 219999
11 216148	33 207900	51 210709	52 212992	62 212978			
64 212128	81 211630			ASPHALT TESTS			
ANCHOR BEAMS				31 221155			
27 211964				ASPHALTENE			
ANCHORAGES				31 216352	31 218564		
22 205278	26 221128	27 211964	32 210914	ASPHALTIC CONCRETE			
ANGLE OF INTERNAL FRICTION				25 205171	25 208457	25 216138	25 216380
61 226844	63 214911			25 220733	26 209160	26 208448	26 208452
ANGLE PARKING				26 216373	26 221131	31 207685	31 210729
52 226856				31 213783	31 213784	31 213785	31 215356
ANGLES				31 216351	31 216381	31 218564	31 221149
63 214911				31 221155	31 226828	31 226829	32 210733
				33 209169	33 209274	33 213975	33 224775
				33 224777	35 219983	40 209442	40 209446
				40 215254	40 215255	40 228026	51 219999
				62 212978			

BOUSSINESQ FORMULA 62 226843	63 214916				BUCKLING 22 218145 63 228523	23 228530	27 220053	61 226853
BOX BEAMS 22 210719	27 209213				BUDGETING 11 215031 14 207786 15 213955 40 218578 40 218592 82 207085	11 215032 14 207787 40 209421 40 218579 40 223901	14 207784 14 207788 40 218569 40 218587 40 226900	14 207785 14 214967 40 218571 40 218588 41 206365
BOX GIRDERS 27 209207	27 209213	33 207693	33 226481		BUILDINGS 13 205332	70 204689		
BRAKING 25 205162	26 205876	51 224659	53 210712		BULK SPECIFIC GRAVITY 35 212436			
BREAKAWAY SUPPORTS 22 209402 34 229717	22 212151 51 205274	27 210721 51 205276	27 210722		BULLDOZERS 41 215696			
BREAKDOWN 33 213977	41 213978				BURIED CHANNELS 62 205774			
BREAKING 31 226832	40 215255	40 215256			BUS LANES 53 212118	84 214603	84 215361	
BRIDGE ABUTMENTS 23 209492 62 211965	27 209206 62 211966	33 226486 63 220056	62 208636		BUS STOPS 53 218556	84 226290		
BRIDGE ANCHDRAGES 27 226109					BUS TRANSPORTATION 15 207665 84 208690 84 215359 84 222085 84 226293 84 228544	53 218556 84 214603 84 215361 84 224756 84 228541 84 228556	55 209431 84 214938 84 217817 84 224770 84 228542 84 228581	84 208684 84 215358 84 221548 84 224815 84 228543
BRIDGE APPRDACHES 22 205278 62 208636	22 211959 62 211965	27 211359 62 211966	33 207689		BUS TRANSPORTATION / INTRACITY/ 53 204329 84 219558	84 213957 84 219559	84 219555 84 219560	84 219557
BRIDGE BEAM CONSTRUCTION 27 209209 34 214906	27 209288	27 210602	34 213008		BUSES /VEHICLES/ 15 207666	53 224318	84 224813	
BRIDGE BEARINGS 34 215734					BUSINESS 53 206774 70 214994 82 211173	55 222086 82 211170 82 211177	70 205687 82 211171	70 209493 82 211172
BRIDGE CAPACITY 27 223561					BUTT WELDS 34 207688			
BRIDGE DECKS 12 214927 26 216359 27 210601 27 226112 33 207693 33 223206 40 226114	26 214587 26 216362 27 210602 31 207685 33 215483 40 209422 40 226115	26 216357 27 209210 27 216355 31 216381 33 216356 40 214580 52 214908	26 216358 27 209211 27 226111 32 214418 33 220783 40 215252 62 211965		BYPASS HIGHWAYS 70 205693			
BRIDGE DESIGN 27 209207 27 216355 33 207693 34 207691 90 204090 90 221758	27 209208 27 220050 33 226478 40 205782 90 206146	27 209212 27 223891 33 226479 62 208636 90 206147	27 209213 27 226106 33 226485 84 213960 90 207071		BYPASS ROUTES 84 218973			
BRIDGE ELEMENTS 33 226486					CBR 61 207656	62 223500	64 205427	
BRIDGE ENGINEERING 33 215714					CBR TESTING 64 212125			
BRIDGE FAILURES 27 223565	27 223567				CABLES 22 205278	51 212149		
BRIDGE FOUNDATIONS 33 226478 62 211965	33 226480 62 211966	33 226486	62 208636		CALCAREOUS SOILS 64 205421			
BRIDGE PIERS 22 224304	23 209492	33 226486			CALCITES 31 216353			
BRIDGE RAILS 22 205278 22 220654 27 211359	22 211959 22 224312 27 216735	22 211960 22 227972 40 209422	22 211961 27 208177		CALCIUM 24 215747	34 205785	62 205239	
BRIDGE SPANS 27 207846 27 210602	27 209208 27 211964	27 209215 32 210909	27 210601		CALCIUM /SOIL STABILIZER/ 62 205245			
BRIDGE SUPERSTRUCTURES 27 205153	33 226486				CALCIUM CHLORIDES 26 224660 62 214631	32 215042 64 205428	40 214590	40 215750
BRIDGES 12 214927 23 215268 27 226113 33 226480 33 226488 34 214619 52 214908	22 218145 27 208586 32 214919 33 226485 33 230396 34 214621 55 214629	22 218146 27 220048 33 226478 33 226486 34 207691 34 214906 82 220393	22 223887 27 223561 33 226479 33 226487 34 214618 51 218147		CALCIUM COMPOUNDS 32 210913	33 213979	62 223501	
BRIGHTNESS 34 214926 53 221431	51 206272	51 206273	53 221430		CALCIUM SILICATE GEL 32 222176			
BRITTLNESS 31 206201					CALIBRATIONS 26 220702 34 207897 84 208692	26 223050 53 212987 84 214939	31 228516 53 214931 84 224760	33 216150 55 209431
BUBBLING 26 224326					CAMBER 27 209209	32 214919	32 226110	
					CAMPING 40 224619			
					CANT LEVERS 22 211960	22 218145	27 211964	27 211967
					CAPACITY 52 220373 84 218980	53 221554 84 221539	55 224823 84 224812	84 208690

CAPILLARIES 31 226835				CENTER LINES 53 221427			
CAPILLARITY 31 221155	32 216655	64 205420	64 205426	CENTER OF GRAVITY 22 224314			
CAPITAL 11 210041				CENTERLINE 22 212146			
CAR FOLLOWING 51 206271 53 207681	52 208603 53 210603	52 218966 55 224820	53 206780	CENTERS 84 224769			
CARBON MONOXIDE 11 220391	34 228517			CENTRAL BUSINESS DISTRICT 52 220375 53 215736 55 205787 81 211629 84 207130 84 218985 84 228542	52 220376 53 220785 55 207127 82 207088 84 208682 84 221544	53 213984 53 224293 55 209427 83 211631 84 214606 84 224758	53 214630 53 224654 55 222091 84 206204 84 214945 84 224812
CARBON TETRACHLORIDE 64 205420				CHAIN LINK FENCING 27 210723			
CARBONATE ROCKS 31 218942	35 219981	64 224631		CHAINS 52 228549			
CARBONATES 26 213158	26 224657	31 217085		CHALKS 33 207684			
CARBONIZATION 27 205153				CHANGEABLE MESSAGE SIGN 51 228539 53 224291 53 224295 53 224299 53 224303	52 212117 53 224292 53 224296 53 224300	53 221136 53 224293 53 224297 53 224301	53 221232 53 224294 53 224298 53 224302
CARBOXYLIC ACIDS 62 205245				CHANGES 27 209206 53 206779 53 228109 70 208188	31 218564 53 206780 55 212096 81 211630	33 215707 53 212987 62 215712 84 221544	35 219982 53 228105 64 205431
CARGO 51 228559				CHANNEL EROSION 23 205335			
CASE HISTORIES 32 210908	62 215710			CHANNEL LININGS 23 205335	23 215405		
CASE STUDIES 13 213009 70 205234	15 205593 70 214996	51 222645 81 226021	70 204761 82 212131	CHANNELIZATION 53 207678	53 218556		
CAST ALUMINUM ALLOYS 51 205274				CHANNELIZED INTERSECTIONS 53 207678			
CAST IN PLACE PILES 63 220055				CHANNELS /DRAINAGE/ 23 205336	23 223889		
CAST IN PLACE STRUCTURES 22 212150	27 210602			CHARACTERISTICS 24 215746 53 218968	25 214632 62 215705	35 219981	40 218589
CATCHMENT AREAS 23 205334				CHARTING 63 218058			
CATHODE RAY TUBES 21 205287	53 207679			CHARTS 53 207908			
CATION EXCHANGE 64 205419				CHEMICAL ANALYSIS 32 210912	32 210913	32 222175	
CATIONIC EMULSIFIED ASPHALTS 62 219583				CHEMICAL PROCESSES 35 219985			
CAVITATION 32 205778				CHEMICAL PROPERTIES 31 206995	31 218564	32 214925	64 222313
CELLS 22 216739				CHEMICAL TESTS 32 205784	32 210905	35 212436	
CELLULAR CONCRETES 22 212150				CHEMICALS 26 214586 40 214591 64 224628	32 205781 53 214579	32 215042 62 219580	40 214576 62 219581
CELLULAR STRUCTURES 22 205277				CHEMISTRY 32 223920			
CEMENT ADDITIVES 32 215042				CHEST 51 228558			
CEMENT AGGREGATE REACTION 32 205778 32 210912	32 205784 32 210914	32 210906	32 210908	CHI SQUARE TEST 40 221142	52 212992		
CEMENT CONTENT 26 208448 34 205785 62 223337	32 210907 62 205239	32 222175 62 205242	33 213979 62 213966	CHIMNEYS 32 210912			
CEMENT FACTOR 35 212434				CHIPPING 26 215697			
CEMENT MORTARS 32 215042				CHIPS 24 228204	26 205160	40 209424	40 209445
CEMENT TREATED BASES 26 208448	26 228083	26 228092	62 213966	CHLORIDES 27 205153 40 214591	34 211246 40 215748	34 215039	35 212436
CEMENTS 32 205781 32 223920 62 219588	32 205783 32 228518 64 205429	32 210905 62 219580	32 216657 62 219587	CINDERS 35 212433			
CENSUS 11 223903 81 217929 81 217933 81 217937 81 217941	15 207903 81 217930 81 217934 81 217938 81 223905	81 217926 81 217931 81 217935 81 217939 83 211626	81 217928 81 217932 81 217936 81 217940				
CENTER LANE 55 206620							

CIRCUITS 53 224300					COEFFICIENT OF FRICTION 25 205162 40 222638	26 210194 40 222640	26 222650 51 222646	31 217086 52 222656
CIRCULAR ARC ANALYSIS 33 214915					COEFFICIENTS 22 218148	26 214586		
CIRCULAR LOADED AREAS 23 228529	23 228530	62 226843	63 228523		COHESIOMETERS 31 206197	62 219584		
CIRCUMFERENTIAL HIGHWAYS 15 206297					COHESION 26 224326	31 210732	34 207692	63 207040
CIRCUMFERENTIAL STRESSING 23 205410					COHESIONLESS SOIL 62 215712	63 214911		
CITIES 15 206294 84 214950	41 214577 84 224815	55 224773	84 212134		COHESIVE SOILS 61 207660 62 215712 63 212979 64 205435	61 214913 62 223499 63 214911 64 205438	61 218057 62 223500 64 205418	62 213969 63 207044 64 205433
CITY STREETS 51 210706 53 215740 82 220385	51 226854 53 218556 82 220394	53 214627 53 220785	53 215736 55 224819		COILS 53 224300			
CIVIL ENGINEERING 15 210737					COLD MIX PAVING MIXTURES 31 226833			
CIVIL SERVICE 40 208409					COLD PLANT 41 213976			
CLAIMS 70 205328	70 222644	70 223756			COLD WEATHER OPERATIONS 33 224774	40 209423	40 214590	40 218581
CLASSIFICATION 21 228569 31 218565 40 214601 90 218143	31 218560 32 216658 40 226114	31 218561 35 219984 61 228573	31 218562 40 214578 62 219580		COLLAPSE 33 222309			
CLAY MINERALS 64 205419	64 224631				COLLISION RESEARCH 22 218558			
CLAY WATER SYSTEMS 64 205426					COLLISION TESTS 22 209402 22 212151 22 216738 22 224304 22 224308 22 224312 34 229717 51 212149	22 210717 22 216732 22 218146 22 224305 22 224309 22 224314 22 224310 27 210721 51 205275 51 218149	22 211961 22 216734 22 218558 22 224306 22 224310 27 210722 51 205276 52 210720	22 212150 22 216737 22 223727 22 224307 22 224311 27 210722 51 205276 52 210720
CLAYS 23 205335 35 212435 61 222312 62 219585 63 226852 64 205423 64 205434	25 215352 40 215753 62 205240 62 223501 64 205243 64 205429 64 205438	25 218055 61 207658 62 213968 62 226851 64 205421 64 205431 64 205440	32 216657 61 222311 62 219584 63 214911 64 205422 64 205432		COLLISIONS 22 205277 27 208177 51 222965	22 215700 27 211359 51 224316	22 216733 51 215702	22 218146 51 216745
CLEANING COMPOUNDS 52 216742					COLLOIDS 64 205421			
CLEARING 70 205327					COLOR 51 206271 53 206778 53 224302	51 215699 53 214933 64 206266	51 222969 53 221432	52 215858 53 224295
CLIMATE 25 215355	32 216654	40 215251	64 206264		COLOR AERIAL PHOTOGRAPHY 21 223000	55 205787	61 205286	
CLIMATIC CONOITIONS 31 226834	40 218582	61 222312	64 205421		COLOR CODES 53 214932	53 221432	53 224303	
CLIMATIC FACTOR 21 228567 64 205430	40 214594	61 226847	62 213970		COLOR FILM 61 205286			
CLIMBING LANES 51 213625	53 221549				COLOR PERCEPTION 51 222969			
CLINKERS 32 205783					COLOR PHOTOGRAPHY 12 214927 26 214614	21 205285 61 214615	21 228566	22 228572
CLOSED CIRCUIT TELEVISION 53 206766					COLUMNS /STRUCTURAL/ 27 211964			
CLOTH 23 222189					COMBUSTION 41 206363			
COAL MINES 34 228520					COMFORT 82 228196	84 211625		
COAL TARS 26 216359	26 224327	31 207685			COMMERCE 13 204684	40 214590	81 218068	
COARSE AGGREGATES 26 213158 31 210728 32 205779 32 214418 32 222180 62 214631	26 216357 31 210731 32 206243 32 214925 33 207783	26 216374 31 217085 32 210733 32 215036 35 204994	31 210727 31 217088 32 210907 32 216657 35 228521		COMMERCIAL VEHICLES 15 208691	25 208451	26 213158	53 212989
COARSE GRAINED SOILS 62 214631					COMMITTEES 40 218583	90 213890		
COATINGS 23 205412 62 226842	33 220783	34 214621	34 228520		COMMODITIES 15 207673	81 218067	81 218088	
COBALT COMPOUNDS 35 212436					COMMODITY FLOW 15 207673 15 218083 81 218066 81 218070 81 218080 81 218087 84 214934	15 218071 81 218062 81 218067 81 218075 81 218084 81 218088	15 218073 81 218063 81 218068 81 218078 81 218085 81 223905	15 218081 81 218064 81 218069 81 218079 81 218086 81 224956
CODING 51 206271	53 205536	81 217932	81 217933					

COMMON CARRIERS 81 218068				COMPENSATION 13 204683 70 204686 70 204765 70 213001 82 211172	13 214907 70 204686 70 207809 70 214994 82 211174	13 215482 70 204687 70 207810 70 227969	15 226014 70 204688 70 207811 70 228027
COMMUNICATING 53 224292	90 223776			COMPETITION 70 205330	84 222100		
COMMUNICATIONS 40 218570 51 210707 82 207090	40 218574 53 205534	40 218583 53 221148	40 218591 81 218082	COMPETITIVE BIDDING 41 206365	70 205325	70 205327	
COMMUNICATION SYSTEMS 51 228533 53 212122 53 220839 53 224299 53 226286	53 205534 53 220318 53 220840 53 226282 53 228563	53 205536 53 220837 53 220842 53 226283 81 226020	53 205537 53 220838 53 224291 53 226284	COMPLEX VARIABLES 63 218061			
COMMUNITIES 11 220378 82 220394	11 220380	11 220395	82 220387	COMPONENTS 22 224310	62 205776		
COMMUNITY CONSEQUENCES 13 211175 15 226018 82 207086 82 211177 82 212133 84 208683	15 206298 81 211629 82 211173 82 211633 82 212135	15 210739 82 206295 82 211174 82 212129 82 226016	15 210740 82 206296 82 211176 82 212131 84 208682	COMPOSITE BEAMS 27 211963	27 220052	32 214919	
COMMUNITY PLANNING 11 209435 15 205606 15 212136 82 207086 82 208689 82 211174 82 220389	13 211175 15 205609 24 206807 82 207087 82 211170 82 211177 84 208683	15 205594 15 205613 81 218078 82 207083 82 211171 82 212129 84 212996	15 205604 15 205614 82 207080 82 207090 82 211173 82 212133	COMPOSITE BEAM BRIDGE DECKS 27 209206	27 223565		
COMMUNITY RELATIONS 82 205351	82 207087	82 207091		COMPOSITE PAVEMENTS 25 216141 40 228026	25 223389	26 208448	40 209446
COMMUNITY VALUES 11 220382 15 205600 15 205609 15 210740 82 207081 82 207085 82 207089 82 211177 82 212139 82 220385 82 223494 82 228195 84 213003 84 228194 90 211744	13 211175 15 205604 15 205611 81 211632 82 207081 82 207085 82 207089 82 211627 82 212141 82 220386 82 223496 83 212144 84 214608 90 206146	15 205593 15 205605 15 205613 82 207079 82 207083 82 207087 82 207091 82 212133 82 212142 82 220384 82 220396 84 212134 84 221537 90 209155	15 205594 15 205606 15 205614 82 207080 82 207084 82 207088 82 211174 82 212138 82 220384 82 223493 82 223497 84 212996 84 221537 90 209155	COMPOSITE STRUCTURES 27 220049			
COMPUTER TRANSPORTATION 11 209419 84 228540	15 209284	15 213949	82 211627	COMPOSITIONS / INGREDIENTS/ 25 214632	25 215355	31 218563	52 216742
COMPUTERS 84 218985	84 222098			COMPOUNDS 32 223920			
COMPACTIBILITY 31 226832	62 223501			COMPRESSIBILITY 26 216357 63 214917	31 206194 64 205418	33 214915 64 205435	61 207658
COMPACTIION 23 205410 31 216351 33 224825 61 226848 64 205427	26 208448 33 205169 35 207902 62 219582	31 206195 33 205274 40 214585 62 219583	31 213785 33 221153 40 224619 62 219584	COMPRESSION 25 218051 32 214418 34 207691	25 218053 32 214920 34 215734	26 224327 32 214923 62 218060	31 215356 33 207689 63 207040
COMPACTIION CHARACTERISTICS 33 207898	64 205434			COMPRESSION RATIO 64 205418			
COMPACTIION CONTROL 33 214464	33 222308			COMPRESSION TESTING 31 206194	31 226833	34 215734	35 228521
COMPACTIION CURVES 33 222308	61 207659	62 223498	64 220815	COMPRESSIVE STRENGTH 26 205173 31 226834 32 223044 33 213979 61 207658 62 219581 64 205431	26 208448 32 205777 32 223048 34 207686 61 207663 62 223337 64 212128	31 206202 32 210904 32 223049 35 212434 62 213968 62 223501	31 213780 32 222182 33 207783 61 206263 62 213969 64 205429
COMPACTIION EFFORT 31 206199 62 213966	31 213785 62 213968	33 209274 64 212128	62 211354	COMPRESSIVE STRENGTH TESTS 31 206199	32 214920	32 214923	
COMPACTIION EQUIPMENT 33 209274	33 222309	33 224775	41 213974	COMPUTATIONS 23 223889 55 208508	25 218055 63 207040	25 228088 64 212127	40 218590
COMPACTIION REQUIREMENTS 33 222309	61 226848			COMPUTER APPLICATIONS 11 207671 11 215035 13 215482 15 210737 22 214611 22 218146 22 223888 27 223891 40 218592 53 207676 53 214931 53 224652 55 224820 63 228525 84 211625 84 214945 90 223885	11 215032 13 215482 15 221683 22 214613 22 218146 22 218558 25 223890 33 213975 40 224624 53 210603 53 220785 54 228106 61 214612 81 217932 84 214607 84 214947 90 223886	11 215033 15 207903 22 206100 22 216737 22 222950 25 228095 33 215708 51 215702 53 212989 53 221232 55 209431 61 214615 81 226022 84 214609 84 218973	11 215034 15 209286 22 212151 22 216738 22 223887 26 228096 33 216153 52 214908 53 214625 53 221428 55 224763 62 215715 84 208690 84 214939 84 218980
COMPACTIION TESTS 61 207656	61 207659	61 222307	62 223498	COMPUTER PROGRAMMING 31 217083 53 207679	32 216658	51 221158	53 205536
COMPARATIVE ANALYSIS 25 228097	35 228521	84 218989		COMPUTER PROGRAMS 15 206848 22 216731 25 208455 25 223890 26 208460 27 223891 40 209441 53 220785 53 221431 55 218964 83 208693 84 219563	15 207903 22 222950 25 208457 25 228088 26 221127 27 226106 40 224620 53 221138 53 221553 81 217932 83 212144 90 218143	15 213953 22 223892 25 215352 25 228089 27 209212 33 213975 53 214930 53 221232 55 209427 81 217933 83 226019	21 223001 23 223889 25 220948 25 228094 27 209214 33 214915 53 215811 53 221430 55 209427 81 226022 84 213959
COMPARISONS 11 212130 40 209447 54 228106 64 205424 84 221543	27 220051 40 228583 61 207660 70 205333 84 224765	32 206243 51 228558 61 226838 81 211630 84 228541	34 215743 53 207682 63 218233 84 208684				

COMPUTERS					CONCRETE PLACING			
11 215035	11 223897	15 223908	21 228569		32 210905	33 213973	33 215058	33 215483
22 224313	40 214580	40 218571	40 218578		33 216356			
40 218579	40 218581	53 215740	53 221139		CONCRETE PROPERTIES			
53 224294	53 224302	53 224303	54 228108		32 210904	35 212434		
61 228575	83 214633	84 219557	84 219559		CONCRETE STRUCTURES			
84 219560	84 219563	84 228545	90 223883		32 210907	32 210913	32 215044	
90 223886					CONCRETE TESTING			
CONCENTRATION					32 205783	32 206243	32 210900	32 210905
27 209210					32 210907	32 210912	32 222177	32 223043
CONCEPTS					32 223044	32 223045	32 223046	32 223047
31 216350	84 221538				32 223048	32 223049	32 228518	34 207686
CONCRETE AD MIXTURES					CONCRETES			
32 217815	32 222180	32 222182			23 213007	25 216140	25 216379	26 205160
CONCRETE AGGREGATES					26 216374	27 205153	27 211962	32 205777
32 205781	32 205784	32 206243	32 210905		32 205781	32 206243	32 210900	32 210901
32 214925	32 226110	33 205169	35 215038		32 210902	32 210904	32 210906	32 210907
CONCRETE BEAMS					32 210912	32 210914	32 214418	32 214918
32 214919	32 222179	33 226481			32 214919	32 214920	32 214921	32 214922
CONCRETE BOX GIRDERS					32 214923	32 214924	32 215036	32 215037
27 207846	27 210602				32 215040	32 215044	32 216657	32 222177
CONCRETE BRIDGE DECKS					32 222180	32 222181	32 226110	32 228519
26 216357	26 216358	26 216359	26 216360		33 207901	33 211968	33 216361	33 226478
27 209206	27 211962	27 216355	27 226108		33 226487	34 205785	34 207686	34 215041
27 226112	32 210902	32 213005	32 215040		40 215251	40 226115	40 228026	61 218056
32 222180	32 223046	33 210608	33 211968		90 204090	90 206146	90 206147	90 207107
33 213980	33 215483	33 216356	33 216361		90 209155	90 209287	90 211744	
34 215039	34 215059	40 205782	40 208497		CONDEMNATION			
40 216363	40 226114	40 226115			13 204683	13 204685	13 218557	13 221828
CONCRETE BRIDGES					70 204685	70 204686	70 204688	70 204689
27 205153	27 208586	27 209215	27 220050		70 204690	70 204691	70 204766	70 204768
27 223564	27 223565	33 226481	34 211246		70 205333	70 207809	70 207811	70 208188
CONCRETE COMPOSITION					70 211360	70 211361	70 212999	70 213001
32 228518	32 228519				70 214991	70 214995	70 215737	70 215744
CONCRETE CONSTRUCTION					70 228027	70 229716		
32 210900	32 216485				CONDEMNATION PROCEDURES			
CONCRETE CRACKING					13 204687	70 205333	70 205687	70 207809
26 216374	32 210912	32 215037	32 215040		70 211360	70 215744	70 216349	
32 215044	33 215483	40 215251			CONDENSATES			
CONCRETE CREEP					24 215752			
32 205783	32 214923	32 226110			CONDENSATION			
CONCRETE CURBING					32 216655			
32 210907					CONDITION SURVEY			
CONCRETE CURING					32 210902	33 207689	51 206108	
32 205777	32 205781	32 210905	32 215036		CONDITIONS			
32 215037	33 205169	33 215058	34 215041		40 208409			
40 205782					CONDUCTIVITY			
CONCRETE DAMS					64 205434			
32 205784					CONDUITS			
CONCRETE DURABILITY					23 228530	63 228523	63 228525	
27 216355	32 205778	32 205779	32 205780		CONE PENETRATION TESTS			
32 205781	32 206243	32 210908	32 215036		61 226844	62 223500		
32 222179	33 215483	35 206994	40 208497		CONFERENCES			
CONCRETE FINISHING					15 205593	15 205594	15 205595	53 209418
33 223206					81 217926			
CONCRETE MIX DESIGN					CONFINEMENT			
35 212434					25 218052	62 218059	62 218060	64 205243
CONCRETE MIXES					CONFLICT			
32 214922	32 222182				51 223913	53 210712	81 218086	83 206104
CONCRETE MIXING					CONFORMAL MAPPING			
32 210905					63 218061			
CONCRETE PAVEMENT CONSTRUCTION					CONGESTION			
12 206758	25 223135	32 210901	33 205169		15 223908	52 220375	55 224763	
33 215058					CONSEQUENTIAL DAMAGES			
CONCRETE PAVEMENT DESIGN					70 204692			
25 228094	32 210901				CONSERVATION			
CONCRETE PAVEMENT DURABILITY					22 216746	83 206102		
26 204874	32 222178	33 220778	33 224324		CONSISTENCY			
61 226853					31 206194	31 218562	31 218563	53 207908
CONCRETE PAVEMENT MAINTENANCE					CONSISTENCY LIMITS			
25 215354	40 215252				31 218560			
CONCRETE PAVEMENTS					CONSOLIDATION			
11 218970	25 215354	25 216140	25 216379		26 216374	32 210905	33 211968	33 220778
25 216380	26 204874	26 205167	26 208447		62 226845	63 214917		
26 213158	26 215250	26 216374	26 216375		CONSOLIDATION TESTS			
26 219997	26 219998	26 228083	26 228093		61 207657	61 207658	62 211966	
32 205779	32 210901	32 210902	32 210904		CONSTRAINTS			
32 210905	32 210906	32 210908	32 216654		51 210706	90 218971		
33 205168	33 205169	33 213973	33 215098		CONSTRUCTIONS			
33 220778	33 220782	33 220784	33 224324		53 216376			
34 215059	40 205170	40 209446	40 209447					
40 215251	40 215252	40 215255	40 215256					
40 215257	40 216363	40 228026	51 219999					
61 226853	64 206266							

COSTS				CULVERT INSTALLATION			
11 218970	11 220395	13 204687	13 215482	23 205412.	23 218259	23 228528	
15 205598	15 206848	15 207673	15 209286	CULVERT PRESSURE			
15 210736	15 216289	15 220390	15 221546	23 228527	63 228526		
15 223908	15 223909	15 223910	15 223912	CULVERTS			
15 227968	22 209402	22 212147	22 224307	22 212147	22 224313	23 205410	23 205412
24 215752	25 228094	25 228095	25 228097	23 209492	23 218258	23 218259	23 222183
26 215697	27 226106	31 221154	33 224325	23 222184	23 222185	23 222186	23 228527
34 208909	40 209445	40 214576	40 215256	23 228529	23 229491	34 205413	34 205414
40 218581	40 218587	40 221141	40 228026	53 224291	63 228526		
41 205350	51 214928	51 215701	51 228539	53 224651			
51 228546	51 228548	51 228559	51 228559	55 222086			
53 224298	53 224299	53 224301	53 224651	61 218057			
53 224652	53 224653	53 228884	55 222086	70 212999			
55 222091	55 224763	55 224768	61 218057	81 218067			
70 204761	70 205333	70 212999	81 218067	84 207131			
81 218087	81 220656	82 220384	84 207131	84 211625			
84 208684	84 208690	84 208692	84 211625	84 219559			
84 214948	84 219557	84 219558	84 219559	84 221547			
84 219560	84 219565	84 221539	84 221547	84 226122			
84 224765	84 224812	84 226120	84 226122				
84 228553	84 228554	84 228580					
COUNTY GOVERNMENT				CURING			
11 209419				32 205777	33 205168	34 215041	40 215251
COUNTY ROADS				CURING METHODS			
51 210706				62 223499			
COURTS				CURVATURE			
13 204685	13 204686	13 204687	70 207809	25 218051	51 213622		
70 216349	70 223555	70 228027					
COVER				CURVED BEAMS			
27 205153	32 213005	40 215753	41 215756	27 211963	33 226481		
COVERINGS				CURVED STEEL GIRDERS			
40 209423				27 223566			
CRACK PROPAGATION				CURVES			
26 216357	26 228092	27 226107					
CRACKING /FRACTURING/				CUSHIONING			
25 218051	26 216357	26 216358	26 216359	22 205277	22 212150	22 216737	34 207691
26 216374	27 220052	31 206201	31 213782	51 228559			
31 213783	32 210909	32 215040	32 215044	CUTTING			
62 219589				32 210903	32 210904		
CRACKS				CYCLES			
25 215354	32 214918	33 215483	62 223340	52 220375			
CREEP				CYLINDERS			
25 216137	27 209206	27 209209	27 209288	22 212150	23 228530	32 205784	32 222177
31 206196	31 213780	31 226831	32 214919	32 226110	33 207684	63 228523	
32 214923	61 226841	62 205244	64 205433	OC MOTORS			
CRITERIA				53 224300			
11 220397	25 218051	26 222650	40 218582	DAMAGE			
40 218590	53 221427	53 221433	53 221551	22 216740	22 224309	27 216735	70 204765
62 219580	70 218411	81 218076	82 220383	70 205691			
82 220394	84 221538						
CRITICAL PATH METHOD				DAMAGES			
22 223892	90 223883						
CRITICAL TEMPERATURE				DAMPERS			
31 218563				22 205279			
CRITICAL VALUES				DAMPING			
55 224823				27 210601	27 220050	27 220051	63 223341
CROSS SECTIONS				DARCYS LAW			
21 222999	22 214613	25 216143	27 209207	64 205439			
40 214595	61 214612						
CROSSINGS				DATA ACQUISITION			
51 213621	51 224316						
CROSSWALK				11 205516			
51 226854				11 223903	15 207675	15 207903	
CRUSHED AGGREGATE				21 206096			
31 210728	32 210733	35 212436	61 206268	21 213949	22 210711	26 213157	
CRUSHED LIMESTONE				27 209210			
32 214418	61 226839						
CRUSHED STONE				51 222641			
61 206268	61 226840	62 211354					
CRUSHERS				53 205786			
41 206364				53 207680	53 211773	53 212119	53 212987
CRUSHING				55 205787			
31 212432	35 212433						
CRYSTALLIZATION				62 215715			
64 205428				64 206264	81 211632	81 215741	
CRYSTALLOGRAPHY				82 212141			
64 213971				83 206105	83 211631	84 206204	
CUBES				84 211635			
23 205336				84 226291	84 214934	84 226118	84 226122
CULTURES				DATA ANALYSIS			
15 218982				11 216147	15 223911	24 209257	26 213157
				51 222642	52 212992	53 206759	55 209428
				84 206206	84 221540		
				DATA CONVERTERS			
				40 218577			
				DATA PROCESSING			
				11 205516	11 215035	15 207903	26 228096
				40 206366	40 218571	40 218577	53 214579
				55 208508	81 226022	84 214947	90 204578
				DATA RECORDING			
				32 210901	53 221433		
				DATA REDUCTION			
				26 216364	27 220048	53 224319	
				DATA RETRIEVAL			
				33 216153	81 226022		

DATA SAMPLING				DEICING				
51 206190	55 214623	55 214628		12 214927	40 215748			
DATA STORAGE				DELAY TIME				
33 216153	51 206190	90 204578		41 206368	84 215358	84 218988		
DATA SYSTEMS				DELINEATORS /TRAFFIC/				
11 215034	51 222642	51 222645	53 220318	53 210859	53 221434	53 222917		
DATA TRANSMISSION				DELIVERY				
40 218577	53 214579			15 218071	15 218073	15 218074	81 218068	
				81 218078	81 218080			
DAY				DEMAND				
51 210724	51 213618	51 213620	53 206618	15 207673	15 209285	15 219564	15 228099	
53 206775				24 215746	53 214625	55 214961	55 222086	
DAYLIGHT				55 222099	55 228101	55 228102	81 218084	
51 206272	51 222964	51 222965	51 222966	81 218085	81 218086	84 206205	84 214603	
52 208604				84 214604	84 214606	84 214607	84 214609	
DEAD LOADS				84 214948	84 214948	84 218977	84 218988	
22 218144	27 209208	27 209209	27 223566	84 219557	84 219558	84 219559	84 219561	
27 226111				84 221538	84 221548	84 222088	84 222089	
DEAFNESS				84 222100	84 224756	84 224757	84 224758	
84 226294				84 224760	84 224771	84 224772	84 226118	
				84 226287	84 226291			
DEBRIS				DENSE GRADED AGGREGATE				
51 210707				31 210729	32 210733	33 224776	40 215253	
DECELERATION				DENSIFICATION				
22 210717	22 211959	22 216738	22 216739	31 218561	31 218562	62 211354		
22 216740	25 205162	27 208177	51 212149					
51 218149	52 210720	53 206780	84 224818	DENSITY				
DECELERATION LANE				25 218052	31 226832	33 214464	33 222308	
51 213619				33 222309	33 224775	34 215743	34 216347	
DECELERATION RATE				35 212433	40 214578	40 214581	40 214596	
22 224312				41 213978	52 220372	61 207657	61 207658	
DECISION MAKING				62 219582	84 214943	84 224769	84 224812	
11 209419	11 212130	11 215031	11 220378	DENSITY MEASUREMENT				
11 220380	11 220381	11 220382	11 224646	33 207899	33 221153	34 207897	34 211356	
11 224648	14 207784	15 207666	15 210737	34 215743				
15 210738	15 218975	15 218983	15 221683	DEPRECIATION				
25 208458	40 209424	40 215253	40 218567	15 216289	41 206365	70 208188	70 212999	
40 218571	40 218577	40 218580	53 206778	DEPRESSED HIGHWAYS				
53 210714	62 219580	82 207081	82 207089	15 205608	24 209257			
82 207090	82 212129	82 212133	82 220384	DEPTH				
84 207561	84 208683	84 208685	84 211635	23 205335	25 215357	32 205777	33 224324	
84 212995	84 212996	84 213003	84 213959	40 214581	40 214585	40 214601	61 214913	
84 218974	84 218976	84 218978	84 226118	62 215713	63 207044	63 214914	64 205430	
84 226119	90 223883	90 223885	90 223886	64 224629				
DECISION THEORY				DESERTS				
15 210738	22 212146	33 207898	53 221550	31 221149				
82 207089				DESIGN				
DECISIONS				11 216149	11 223893	11 223897	22 205279	
40 218569	40 218588	53 228536	53 228537	22 211959	22 216732	22 216734	22 218144	
70 205234	70 207809			22 218146	22 218558	22 224330	22 227972	
DECOMPOSITION				23 205412	23 209407	23 215268	23 218258	
53 221428				23 218259	23 222183	23 222184	23 222185	
DEFECTS				23 222188	23 223889	23 228527	23 228529	
40 214584				25 215353	25 216378	25 216379	27 210721	
DEFINITION				27 216355	27 226112	31 221151	32 214919	
26 211622	55 228025			33 215714	33 216152	33 216361	33 220658	
DEFLECTION				33 226482	40 215254	40 223775	41 214600	
22 211960	22 211961	22 216731	22 216733	51 221331	51 228548	52 216741	52 228557	
22 218144	23 228530	23 228531	25 214632	53 215811	53 221236	53 221430	53 221431	
25 215352	25 216135	25 228085	25 228095	53 221554	53 224300	53 224650	61 218057	
26 208460	26 228090	27 209208	27 210601	62 215704	62 215709	62 215712	62 218059	
27 223566	27 226111	32 226110	33 220784	62 219582	62 219584	62 219585	62 219588	
40 215257	61 207656	62 205774	62 214631	63 228523	63 228525	63 228526	81 218080	
62 223340	63 228523	63 228526		84 219558	84 219559	84 224818	90 221750	
DEFLECTION TESTS				90 221753	90 221754	90 223883		
26 208452	24 208453	26 209401	26 209438	DESIGN CAPACITY				
27 209214	40 209441	63 220055		53 221551				
DEFLECTOMETER				DESIGN COMBINATIONS				
26 209401	26 209438	40 216377		15 205597	15 205601	15 205606		
DEFORMATION				DESIGN CRITERIA				
22 216736	23 228529	25 216380	26 224328	22 209402	22 218944	23 205335	23 205336	
27 209207	31 206194	31 206202	32 205783	23 215405	23 222186	24 206810	26 210194	
32 214918	32 214919	32 214920	32 214921	27 211359	27 211963	31 206197	34 215734	
32 214922	32 214923	32 214924	62 223500	34 222190	40 209442	51 213620	51 213625	
63 211355	63 212980			52 215703	53 221549	53 221555	63 220056	
DEGRADATION				DESIGN DATA				
35 210607	62 211354			53 221552				
DEGRADATION /AGGREGATE/				DESIGN FEATURES				
31 212432	35 207902	35 214463		53 224291	53 224294	53 224302	83 226019	
DEHYDRATION				DESIGN INFORMATION				
64 205417	64 205419			22 223727	25 224527	41 215756	53 221551	
DEICERS				DESIGN MODELS				
23 211620	24 228201	26 216359	32 205781	25 223389	53 221550	53 221552		
33 215483	33 220783	34 215039	40 215750	DESIGN SPEED				
40 216363				51 213623				
				DESIGN STANDARDS				
				15 206298	25 224527	51 222648	53 207645	
				53 221549				

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DESICKING 26 222649	26 222652	40 215253	40 222651	DIRECT SHEAR TESTS 63 212979	64 205418	64 205433	
DESICKING TREATMENT 12 214927				DIRECTION FINDING 53 215811			
DESTINATION 82 206295				DIRECTIONAL SIGN 52 205535	53 221684		
DETECTING DEVICES 26 216360	40 209422			DIRECTORIES 90 215030			
DETECTION 40 209422	52 208608	53 221148		DISABLED VEHICLES 22 210717	22 224309	51 206108	53 206760
DETECTORS 21 205285	34 215039	40 226114	53 224296	53 212122	53 212123	53 223003	53 226285
DETECTORS /TRAFFIC/ 53 206772 55 218967	53 206777	53 221232	55 206767	55 218967			
DETERGENTS 52 216742				DISCHARGE 23 223889			
DETERIORATED CONCRETE 32 210901 32 210913	32 210902 32 210914	32 210907 40 208497	32 210912	DISCONTINUITY 26 228093			
DETERIORATION 26 214587 32 213005 34 215039 64 205232	32 210907 32 214418 34 215059	32 210912 32 215040 35 206994	32 210914 32 216657 40 205782	DISCRETE DISTRIBUTIONS 55 218964			
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DIAGNOSIS 24 215747	51 206106	53 222917		DISPERSION 54 215853			
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DIAMOND BITS 32 210903				25 218055	26 228093	27 209215	31 213784
DIAMOND INTERCHANGES 53 206775	53 218968			34 207692	63 207041	63 207042	63 207043
DIAPHRAGMS 27 210602				63 211355	63 214916	70 207810	70 209493
DIELECTRIC CONSTANT 64 205423				70 217956	82 207088	82 211170	82 211171
DIESEL ENGINES 41 206362	41 206363	52 209403	84 213952	82 211172	82 211173	82 211174	82 211176
DIESEL FUELS 15 207669				82 211177	82 212131	84 218979	
DIFFERENTIAL EQUATIONS 61 226844				DISPLAYS 52 205535	52 212117	52 213626	53 205537
DIFFERENTIAL THERMAL ANALYSIS 64 224631				53 205538	53 207679	53 221432	53 221436
DIFFUSION 32 216655	64 205420			DISPOSAL 70 216480	90 221756		
DIGITAL COMPUTERS 22 212146 53 205786 53 206778 53 221428	25 208457 53 206766 53 207677 55 206767	26 208460 53 206772 53 207679	52 212988 53 206777 53 207680	DISTANCE 15 206294	52 208607	52 212988	52 220375
DIGITAL SYSTEMS 22 223888 53 221231	27 209212 53 221433	53 212989 55 224820	53 221139 81 226020	52 226855	53 205537	53 221437	53 224651
DIGITAL TECHNIQUES 53 205537	53 206780			53 224652	53 224655	55 209431	55 224759
DIMENSIONAL ANALYSIS 61 207656				82 228199	84 206204	84 208692	84 214943
DIMENSIONAL MEASUREMENTS 27 211967	52 228557			84 224770	84 224812	84 226288	84 226290
DIMENSIONLESS NUMBERS 63 214914				DISTRACTION 51 222971			
DIRECT CURRENT 84 214625				DISTRESS 27 220048	32 216657	34 207691	53 211771
DIRECT SHEAR 63 207043				DISTRIBUTION 15 218071	15 218073	25 215355	35 219984
				40 215748	52 220375	55 212993	81 218067
				81 218068	81 218069	81 218078	81 218080
				84 208692			
				DISTRIBUTION SYSTEMS 84 208682	84 218980		
				DISTRIBUTORS 84 208682			
				DISTURBANCES 24 209257	62 226845		
				DIVERGENCE 13 221828	53 222917		
				DIVIDED HIGHWAY 52 210725			
				DOCUMENTATION 70 205328			
				DOCUMENTS 32 216654	40 218580		
				DOLGOMITE 35 207902			
				DOPPLER EFFECT 55 212993			
				DOWELS 25 216379			
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EARTH SLOPES /STABILITY/ 63 218058				ELASTIC DEFORMATION 32 214918			
EARTHMOVING 41 213974				ELASTIC THEORY 25 208455	25 214632	25 216140	25 216378
EARTHQUAKE EFFECTS 63 218969				25 218053	25 228086	26 228093	40 209442
EARTHQUAKE RESISTANT CONSTRUCTION 63 218969				62 219587	62 226843	63 207041	63 214916
EARTHWORK CALCULATION 22 214613	22 223892	61 214612	84 218973	ELASTICITY 15 218986	25 214632	25 216135	25 216141
EARTHWORKS 21 222999				25 218051	26 208447	26 228090	27 220052
EASEMENTS 15 205610	70 204691	70 204763	70 205689	31 226834	32 214918	33 222310	
70 205692				ELASTICITY /SOIL/ 25 216140	63 204646	63 207041	63 214916
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15 210737	15 213951	15 213954	15 216289	ELASTOMERS 26 224326	26 224328	27 211962	27 220049
15 218983	15 219564	15 221546	15 221683	27 226112	31 226831	33 220784	34 207690
15 223912	33 207684	33 210713	81 218065	34 214618	34 215734	52 228549	
81 218067	82 207081	82 212129	82 228196	ELECTRIC CIRCUITS 53 224301			
84 212994	84 218980	84 228579		ELECTRIC COMMUNICATION SYSTEMS 53 228563			
ECONOMIC BENEFITS 15 207675	15 209405	70 204688		ELECTRIC HEATING 40 209422	40 214589		
ECONOMIC CONDITIONS 15 207903	15 210740			ELECTRIC MOTORS 84 214606			
ECONOMIC CONSIDERATIONS 15 205607	70 213001	81 217927	84 212995	ELECTRIC POTENTIAL 26 216364	34 215039	53 224301	
84 212996				ELECTRIC RAILROADS 84 211625			
ECONOMIC DEVELOPMENT 15 207667	15 218983	15 218986	81 211629	ELECTRIC WELDING 31 226023			
90 216744				ELECTRIC WIRE 53 224301			
ECONOMIC EVALUATIONS 15 218981	53 220840	61 206263	84 218979	ELECTRICAL ANALOGUES 63 207045			
84 221538	84 221539	84 221541	84 221545	ELECTRICAL RESISTANCE 33 220783			
84 221547				ELECTRICAL RESISTIVITY METHOD 61 209420			
ECONOMIC FACTORS 11 212130	15 205593	15 207666	15 207903	ELECTRICAL STRAIN GAGES 23 205410			
15 210740	15 228098	55 207128	55 209426	ELECTROKINETICS 31 227967			
55 212096	62 205773	62 213961	70 205325	ELECTROLYTES 64 205422			
82 207080	82 207083	82 209448	82 211170	ELECTRON MICROSCOPES 32 222181	62 208681		
82 211173	82 211174	82 211176	82 211177	ELECTRONIC COMPUTERS 53 205536	53 207910		
82 212133	82 220393	84 212134	84 214942	ELECTRONIC CONTRL 53 206772	53 206777		
84 214948	84 214950	84 221537	84 226122	ELECTRONIC DATA PROCESSING 41 206367	52 212988	53 206766	53 206772
84 228194				53 207677	55 206767		
ECONOMIC IMPACT 11 212130	11 220379	15 205601	15 206297	ELECTRONIC DEVICES 22 206100	41 213972	52 205535	53 205534
15 206848	15 207675	15 210739	15 211628	53 205536	53 205537	53 205538	55 208508
15 211634	15 212132	15 212136	15 218975	ELECTRONIC TRAFFIC DEVICES 52 212117			
15 221683	70 213001	70 214838	81 211629	ELECTROOSMOSIS 64 205417			
81 211630	81 211632	81 218062	81 226021	ELEVATED HIGHWAYS 15 205608	24 209257		
82 207079	82 207091	82 211627	82 212131	ELEVATION 22 212146	52 220376		
82 212137	83 211626	83 211631	84 208683	EMBANKMENT COMPACTION 33 207898	33 207899	33 220779	
84 211624	90 226102			EMBANKMENT FOUNDATION 33 220658			
ECONOMIC PLANNING 15 207666	40 209424	84 221545					
ECONOMICS 13 205332	15 205597	15 205601	15 205611				
15 206298	15 206847	15 207669	15 228578				
22 218145	31 217082	40 208179	40 209491				
40 215754	40 218582	51 206109	53 210715				
55 209430	63 207040	84 217818	84 228543				
84 228544							
EDGE MARKINGS 51 222970							
EDGES 25 215352	62 223340						
EDUCATION 12 205789	12 205792	12 205793	12 205794				
12 206758	12 214927	12 224622	33 215058				
EFFECT 26 215697	27 220050	35 219983	64 205439				
EFFICIENCY 33 224775	40 218592	63 207045	81 224956				
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33 214915	62 208636				51 224428	51 224432	51 224433	
EMBANKMENTS					ENVIRONMENT			
24 212147	23 205411	23 215268	33 214915		12 221334	22 215700	22 216746	25 214632
33 220658	33 220779	40 209441	62 211966		25 228713	32 216654	40 215257	40 215491
62 218059	62 218060	62 226845	63 212980		70 214989	70 215509	70 215725	70 216288
63 214916	63 214917	64 205434			70 216349	82 207091	82 220385	
EMBEDMENTS / PILE/					ENVIRONMENTAL EFFECTS			
63 207045					11 220395	11 224649	15 212136	15 218074
EMERGENCY SERVICES					15 221683	15 228098	22 226103	27 216355
51 210707	53 204080	53 206299	53 206760		33 216356	34 205414	61 206263	70 214989
53 211771	53 212122	53 212123	53 219496		70 217816	70 224335	81 218062	81 218068
53 220837	53 220838	53 220840	53 220841		81 226021	82 206296	82 211627	82 211633
53 220842	53 221148	53 226104	53 226283		82 212131	82 212138	82 220385	82 220394
53 226284	53 226285	53 226286	84 208683		82 220396	82 223497	83 226019	84 217818
					84 217819	84 228194	90 221749	90 221750
					90 226102			
EMERGENCY VEHICLES					EPOXY			
15 205608	51 206110	52 215703	53 204080		26 216362	27 205153	31 207685	33 207684
53 226286					34 208909	34 211246	40 209424	
EMINENT DOMAIN					EPOXY RESINS			
13 205331	13 214907	13 215482	13 218557		26 216359	34 211358	34 215059	40 215251
70 204687	70 204763	70 205690	70 205691					
70 205692	70 205694	70 208188	70 211360					
70 214838	70 214991	70 214996	70 215737					
70 227969	70 228027							
EMISSIVITY					EQUATIONS			
34 214926					22 224661	23 205336	25 215353	25 220948
					26 209438	26 216365	26 224660	31 218563
					32 214919	40 209441	40 209446	52 218966
					55 209426	63 214912	64 205425	64 224626
EMPIRICAL EQUATIONS					EQUILIBRIUM			
63 207044					55 222099	63 214912		
EMPIRICAL METHODS					EQUIPMENT			
62 205776					40 214601	40 218574	40 218580	40 218594
					40 218595	40 218596	41 214600	41 215695
					41 215696	41 215756	70 213001	70 214994
					70 216349			
EMPLOYMENT					EQUIPMENT COST			
11 207671	15 205609	15 206294	15 207674		41 206365	41 206367	41 215696	41 215756
15 207675	15 211628	15 218983	53 206774					
55 207126	70 214992	81 211629	81 217926					
81 217935	82 207082	82 208689	82 220389					
83 211626	83 212143	84 208683	84 212994					
84 214942	84 218984	84 224769	84 224770					
84 226293								
EMULSIFIED ASPHALTS					EQUIPMENT MAINTENANCE			
31 226831	40 209447	62 219583			40 224623	41 206365	41 206367	41 215695
					41 215756			
EMULSIONS					EQUIPMENT REPLACEMENT			
31 216352					41 206367			
ENCROACHMENTS					EQUIVALENT WEIGHT			
70 204763	70 214990				25 205171	25 221132	25 228089	
END MOVEMENTS					ERECTION			
25 215354	27 209206	27 211962			33 207693			
ENERGY					EROSION			
33 215708	34 205413				31 217088	40 215753		
ENERGY ABSORBERS					EROSION CONTROL			
22 211960	22 211961	22 220654	22 224304		23 209492	23 215405	40 215753	
22 224307	22 224311	51 212148	51 212149		ERRORS			
53 223003					34 207897	34 216347	34 221394	52 208606
					55 208508			
ENERGY ABSORPTION					ESTIMATES			
22 216736	22 216739	22 216740	22 223727		13 205331	27 208177	51 219701	53 224321
22 224306	22 227972	51 212148	52 210720		81 217935			
ENERGY DISSIPATION					ESTIMATING			
23 205336	23 209407	23 209492	23 222183		25 205171	26 208452	40 206366	55 209430
23 222184	23 222186	23 222187	23 222188		55 228101	62 215704		
ENERGY LOSS /PILE DRIVING/					ETCHING			
33 215707					31 213783			
ENGINE NOISE					ETHYLENE GLYCOLS			
41 206362	41 206363				26 214588			
ENGINEERING					EVALUATION			
15 207668	41 214600				11 223897	15 218983	15 221683	22 210719
					24 229083	26 208462	33 207783	33 215708
ENGINEERING ECONOMY					35 212435	40 215754	40 226900	51 206106
15 221683					51 206107	53 210712	53 210714	53 218968
ENGINEERING GEOLOGY					53 221436	53 221437	53 228028	53 228536
25 228713	33 216153				53 228537	53 228538	55 209428	61 205286
					63 214910	82 212131	82 220384	82 220394
ENGINEERING PERSONNEL					82 226016	84 218977	84 218980	84 221538
12 215694					84 221539	84 226017	84 226119	84 226122
					90 223883			
ENGINEERING SOILS					EVAPORATION			
61 207664	61 212982	61 212983	61 214615		24 215752	32 216655		
64 205417								
ENGINEERING SYSTEMS					EVIDENCE			
22 223887	22 223888	90 223885			70 204685	70 204689	70 204692	70 204763
					70 205688	70 205689	70 205690	
ENGINEERS					EXCAVATING AND BACKFILLING			
12 215694	12 230367	90 210043			90 221756			
ENGINES					EXCAVATING			
84 224817					70 205327			
ENTRAINED AIR								
32 205780	32 214923							

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EXCHANGE CAPACITY 64 205422				FAILURE SURFACES 63 214912			
EXCHANGING 70 205330				FAILURE THEORY 27 223565			
EXEMPTION 81 218068				FAMILIES 15 205600 82 211173	82 211170 82 211176	82 211171 82 211177	82 211172 84 214950
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EXHAUST GASES 53 223900				FARES 15 219564 84 219565	84 207130 84 224756	84 211625 84 228556	84 219558
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EXITS 51 224428	51 224433			FATALITIES 51 228558			
EXPANSION 26 221128 32 214925 64 205428	32 205778 32 215037 64 212126	32 205784 33 213979	32 210906 62 223502	FATIGUE 25 205171 31 210729	25 208457 31 213782	25 218051 31 213783	26 228092
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EXPANSIVE CEMENT CONCRETE PAVEMENT 33 213979				FATIGUE FAILURE 27 223562	27 223567		
EXPANSIVE CEMENTS 25 208445				FATIGUE LIFE 27 220048 31 213782 34 213008	27 223561 31 213783	27 223563 31 226833	27 226107 32 222179
EXPERIMENTAL DATA 62 215713				FATIGUE TESTS 27 220052 34 214906	32 222178 34 216348	32 222179	34 213008
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EXPERIMENTAL ROADS 25 208445 62 219581	26 216373 62 223342	62 205242	62 213962	FEASIBILITY 32 228518	82 228195	84 221548	
EXPERIMENTATION 22 216733 52 218966	31 216353 84 212134	31 221155	52 216741	FEASIBILITY STUDIES 15 221546 84 219558 84 228579	53 205538 84 219559 84 228581	53 224318 84 219560 90 223886	83 214633 84 221541
EXPERIMENTS 24 215751 53 221550	25 216137 61 214913	51 224428 64 205439	53 218556	FEDERAL AID 15 205596 70 209493 81 218076	41 214577 70 214992	70 204761 70 217816	70 204764 70 217956
EXPERT TESTIMONY 70 204686	70 204691	70 205687	70 211360	FEDERAL AID HIGHWAYS 13 213009 70 205325 70 215725 82 211172	15 206293 70 205326 70 223555 82 211174	51 206109 70 205328 82 207079	70 205234 70 214839 82 207083
EXPONENTIAL FUNCTIONS 55 224759				FEDERAL BUDGETS 14 207786			
EXPOSURE 24 215751 34 205413 61 207664	32 205779 34 206300	32 205780 34 208909	32 205781 53 207682	FEE SIMPLE 15 205610	70 204768		
EXPRESS BUSES 84 228540	84 228542	84 228543		FEEDBACK 26 228096			
EXPRESSWAYS 15 205600 22 210716 53 206776 82 207079	15 205604 51 210726 53 206777 82 207086	15 206293 52 208605 55 224762	15 208691 53 206764 55 224773	FEES 13 204687	70 205691		
EXTRACTION 31 212432				FERTILIZATION 24 226105 40 215753	24 228202	24 228203	40 215749
EXTRUSION 35 219983				FERTILIZERS 24 215751			
EYES 51 213620	51 224428	51 224433	52 208603	FIELD CONTROL 33 207898	40 218577		
F TEST 55 218967				FIELD DENSITY 33 207899			
FABRICATION 22 211960				FIELD INVESTIGATIONS 34 211246			
FABRICS 26 216359				FIELD MEASUREMENTS 25 208444	53 207680	63 207042	
FACILITIES 15 218071 52 220377	22 220657 53 223003	24 215746 84 226294	40 216482	FIELD OBSERVATION 31 216351	32 216657		
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FAILURE 23 205410 27 226108 34 207692 63 214911	23 218258 31 226828 53 214624 63 214912	25 215354 32 214924 61 226838	25 218051 33 214915 62 219582	FIELD PERFORMANCE 23 222189 34 205414	26 213004 35 206994	27 208586 61 222312	31 218561

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FIELD TESTS 11 216147 27 209210 31 213785 34 211358 62 226845 63 220820	25 228086 27 209288 31 221152 51 215702 62 226851 63 228526	26 205164 27 210722 32 222180 51 218149 63 212981 82 212131	26 215697 27 220048 33 215708 61 226848 63 220055	FLEXIBILITY 27 220049 61 207656	31 226828	35 212435	40 218594
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FILMS 52 216742	53 221279			FLEXIBLE PAVEMENTS 25 213781 25 216138 25 228097 26 214614 63 211355	25 215355 25 216143 26 208453 26 221130 63 212981	25 215357 25 218053 26 209401 31 213785	25 216137 25 223890 26 211622 63 207042
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FINE AGGREGATES 26 205167 32 210907	31 210727 33 207783	31 210728	31 210730	FLOW 23 222186	52 220372		
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FLASH POINTS 31 218560				FOG DISPERSION 53 210859	53 213002		
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FLASHING 53 212123	53 226285			FOOD 53 204080			
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				FORCE 22 218148			
				FORCES 22 216731	22 216733	27 208177	52 216743

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31 210729	31 210729	31 210730	31 210731	52 209403	53 207907		
31 210732	32 210733	64 205429		GUSTS			
GRANITES				51 221157			
61 207662	61 226840			GYRATORY COMPACTION			
GRANULAR MATERIALS				33 222308			
25 218052	32 216657	35 212436	61 207659	GYRATORY COMPACTOR			
61 207662	61 226838	62 211965	63 211355	31 213785			
64 205416	64 205424	64 205425		GYRATORY TESTS			
GRANULAR SOILS				31 221150			
34 205414	61 207657	61 222307	64 205417	HAMMERS			
64 205423	64 205424	64 212126	64 224632	33 215706	33 215708	40 215255	
GRAPHIC METHODS				HANDBOOKS			
53 228535	55 224820	63 214917	84 228545	53 226282			
GRAPHICAL ANALYSIS				HANDICAPPED INDIVIDUALS			
27 211967	31 218564	35 219981	55 218965	52 226857	84 226291	84 226294	
55 222086	62 226843	64 220818	82 212129	HANOLING			
83 226019				15 206846	15 206847	23 218258	35 207902
GRASSES				62 215705			
24 215751	24 226105	24 228201	24 228202	HARBORS			
40 215749	40 215754			33 216150			
GRADES				HARD SURFACING			
22 224313	23 209407			25 218055			
GRAVEL ROADS				HARDENED CONCRETE			
61 226847				32 205778	32 210903	32 222175	35 213944
GRAVELS				HARDENERS			
31 217085	35 207902	35 215038	61 212982	33 205168			
61 226838	61 226847	64 205427	83 206102	HARDENING			
GRAVITY FLOW				26 224326	31 218562	31 218564	32 215043
63 220821				HARDNESS			
GRAVITY MODEL				34 215734	35 205165	40 214578	
11 208687	53 224650	55 207127	55 207129	HARDNESS TESTS			
55 209430	84 212997	84 221538	84 221544	34 215734			
84 221548	84 224770			HARDWARE			
GRID SYSTEMS				40 218579	84 214605		
27 209211				HAUL DISTANCE			
GRIDS /COORDINATES/				90 221756			
81 226022				HAZARDS			
GROOVES				22 210716	22 210718	22 215700	51 206107
51 206108				51 210707			
GROOVING				HEAD			
26 216362	26 216371	26 222652	33 205168	51 228558			
33 205169	40 205170	40 209440	53 210715	HEAD ON COLLISIONS			
GROSS NATIONAL PRODUCT				22 210717	22 212150	22 216740	51 205276
15 209285				51 228558	52 210720		
GROUND COVERS				HEADLIGHT GLARE			
24 215751				51 210724	52 215857		
GROUND TRANSPORTATION				HEADLIGHTS			
15 206848	84 206203	84 206204	90 218971	51 222961	51 222963	51 222964	51 222965
GROUNDWATER LEVEL				51 222966	51 222970	53 212123	53 221434
64 205430				HEADWAY			
GROUPS				52 215861	53 206780	54 215853	55 224820
52 212992				84 224812			
GROUTING				HEALTH			
2T 205153	34 211244			24 215747	84 218987		
GROWTH				HEARINGS			
15 206294	24 215751	24 215752	24 226105	11 220381	70 214989	70 224845	
40 215749				HEAT			
GUARANTY				32 215040	32 215044	44 205416	64 205418
41 206365				64 205434			
GUARDRAIL DESIGN				HEAT CONTENT			
22 205278	22 210718	22 211960	22 223727	64 205424			
22 227972	34 229717			HEAT EXCHANGERS			
GUARDRAIL WARRANTS				26 214588			
22 223892				HEAT LOSS			
GUARORAILS				64 224630			
22 205278	22 210717	22 210718	22 211959	HEAT MEASUREMENT			
22 211960	22 211961	22 212147	22 216732	31 221149	64 206267		
22 216733	22 216734	22 218558	44 220654	HEAT TRANSFER			
22 223727	22 224310	22 224311	22 227972	26 214588	27 211962	32 216658	64 212127
27 211359				64 224630			
GUIDANCE				HEAT TRANSMISSION			
52 205535	52 206270	53 205534	53 205536	26 214588	64 205436		
53 205537	53 205538	53 213002		HEAT TREATMENT			
GUIDELINES				64 205429	64 205440		
22 213000	51 206106	51 210706	53 222917				
GUIDE SIGNS							
53 209418	53 228535	53 228536	53 228537				
53 228538							

HEATING				HIGHWAY DESIGN				
26 214588	64 205419	64 205427	64 205435	11 220395	15 206298	15 210737	15 210740	
HEATS /ENERGIES/				15 216289	15 221683	15 223910	21 223000	
32 216655				22 206098	22 206099	22 206100	22 206808	
HEAVE				22 212146	22 212147	22 213000	22 215700	
62 223502	64 205418	64 205428		22 216746	22 218944	22 222950	22 223887	
HEAVING				22 223888	22 227971	22 228158	40 218574	
64 224625				51 214417	51 222968	52 215738	52 224333	
HEAVY SOILS				52 224334	53 207645	53 221549	55 214629	
23 205335				61 214612	61 226849	62 220819	64 206264	
HEIGHT				70 224335	82 212142	84 228200	90 204090	
22 212147	51 213620	53 221430	53 221431	90 206146	90 206147	90 206148	90 207107	
HELICOPTERS				90 209155	90 209567	90 210750	90 211744	
51 206110	53 220841			90 221750	90 222953	90 223391		
HERBICIDES				HIGHWAY DRAINAGE				
24 213789	40 215754			23 205334	23 209407	23 209492	23 223889	
HIGH ACCIDENT LOCATIONS				26 213155	40 215748	52 213154	63 212981	
40 222638	51 206109	51 222641	51 222642	90 204090				
51 222645	51 222655			HIGHWAY ECONOMICS				
HIGH BEAMED HEADLIGHTS				15 210736	15 218983	15 220392	15 226018	
53 226285				22 212147	84 213958	90 206148	90 209287	
HIGH EARLY STRENGTH CEMENT				HIGHWAY ENGINEERS				
32 222181				53 222917				
HIGH SPEED				HIGHWAY ENGINEERING				
26 221134	51 222646	53 206764	53 207676	15 205608	15 210736	15 210737	21 205287	
84 222083				22 228572	33 224778	61 206268	83 206101	
HIGH PRESSURES				90 222953	90 223885			
25 218055	62 218059			HIGHWAY HISTORY				
HIGH STRENGTH STEELS				82 224206				
27 205153	27 209208	34 216348		HIGHWAY IMPROVEMENTS				
HIGH TEMPERATURE				11 224649	14 207784	14 207787	15 210736	
32 205778	64 205436			15 216289	15 221683	26 222649	26 222652	
HIGHWAY ADMINISTRATION				40 222651	40 222653	51 215863	51 222655	
14 207784	14 207787	90 204090	90 206146	53 223003	70 204688	70 204692	70 208188	
90 206147	90 206148	90 207107	90 209567	82 211171	82 211173	82 211174	82 211176	
90 210750	90 211744	90 213890	90 222953	82 211177				
90 223391				HIGHWAY LAW				
HIGHWAY BRIDGES				13 214907	70 204763	70 207809	70 214989	
26 214587	27 207846	27 209206	27 209209	70 214990	70 214991	70 214996	90 209287	
27 209212	27 209288	27 210601	27 210602	HIGHWAY LIGHTING				
27 210723	27 211963	27 220052	27 226109	12 214927	22 209402	51 205274	51 205275	
34 207687	34 212555	40 209422	40 214580	51 205276	51 213624	51 214417	51 215859	
53 212118	70 205693	82 220393	84 213960	51 215860	51 222962	51 222968	51 228546	
90 209287	90 210750	90 211744	90 221758	51 228547	51 228548	53 210859	53 213002	
HIGHWAY CAPACITY				90 209287				
11 224649	22 224331	53 207907	53 207908	HIGHWAY LOCATION				
53 214624	53 214625	55 214623	55 214628	11 212130	11 220380	11 220381	11 220397	
55 214629	55 224822	55 224823	55 224824	13 211175	15 205600	15 205601	15 205602	
HIGHWAY CLASSIFICATION				15 205605	15 205611	15 210738	15 210739	
14 207784	22 213000	22 220657	40 218589	15 210740	15 218975	15 221683	15 226018	
70 204763				22 214610	22 214611	22 214613	24 209257	
HIGHWAY CONSTRUCTION				61 209420	70 205234	70 223555	70 224335	
11 209419	12 205789	12 205790	12 205792	82 207079	82 207084	82 207086	82 207091	
12 205793	12 205794	12 206758	15 205601	82 212131	82 220383	82 220384	82 220386	
15 205608	15 206293	15 213951	15 226014	82 220387	82 223497	82 228199	84 218973	
15 226018	21 223000	22 223892	24 228204	84 218976	90 221750	90 221754		
32 214925	33 207783	33 207899	33 207901	HIGHWAY MAINTENANCE				
33 214464	33 214915	33 216486	33 224778	11 209419	12 205791	12 205792	12 224622	
35 213944	35 229046	41 206362	41 206368	14 207784	15 207675	26 205161	26 216368	
61 205284	61 207662	61 207664	61 209420	40 208179	40 209421	40 209423	40 209424	
61 214909	70 205325	70 205326	70 205327	40 209425	40 214590	40 215252	40 216369	
70 205328	70 205329	70 205693	70 208188	40 218569	40 218570	40 218581	40 218585	
70 208589	70 214839	70 214992	70 214996	40 218586	40 218588	40 221140	40 221142	
70 215509	70 215725	70 217816	70 223756	40 221143	40 224618	40 224620	40 224621	
82 205351	82 211177	90 204090	90 206146	40 226900	41 205350	41 215695	51 214928	
90 206147	90 206148	90 207107	90 209567	53 206597	53 216376	53 223898	63 218969	
90 210750	90 211744	90 221749	90 209567	90 204090	90 206146	90 206147	90 206148	
90 221756	90 221757	90 223391	90 221752	90 207107	90 209155	90 209287	90 209567	
HIGHWAY COSTS				90 210750	90 211744	90 223391		
51 206190	51 214928			HIGHWAY NEFDS				
HIGHWAY DAMAGE				11 223903	15 205604	33 216488	40 209436	
63 218969				84 213958				
HIGHWAY DELINEATION				HIGHWAY PAVEMENTS				
51 222969	51 222970	53 210714	53 228028	25 205162	26 205160	26 205161	26 213157	
HIGHWAY DEPARTMENTS				34 207692	35 213944	40 209422	40 209425	
11 223764	12 205788	12 205791	12 224622	62 212978	64 205427	64 205437	64 206264	
12 226123	27 210601	12 230367	14 207788	90 209287	90 210750			
26 210194	40 218590	34 215743	40 208409	HIGHWAY PLANNING				
40 218590	40 218591	40 218593	70 223756	11 205513	11 216149	11 218559	11 220395	
70 224845	81 220704			11 220397	11 224649	12 223917	13 211175	
HIGHWAY PROGRAMMING				14 207787	14 207788	15 205600	15 205603	
14 207787				15 216289	21 205288	22 206808	22 224331	
HIGHWAY RELOCATION				22 228571	24 206807	33 216488	40 221140	
70 204764				40 224618	51 206109	51 215863	52 209403	
				70 205234	70 214989	81 223904	82 207091	
				82 209406	82 212129	82 220384	82 228199	
				84 218973	84 218976	90 207107	90 213890	
				90 223391	90 223885	90 223907		

I BEAMS					INDUSTRY				
27 211963	33 207684				81 218067				
ICE					INELASTIC ACTION				
15 223911	26 205876	26 215697	26 219997		22 216731	27 220052	32 214921		
40 209422	40 214582	40 214583	40 214584						
40 214591	51 219999	52 228549	53 214579		INERTIA				
64 212126	64 220817	64 224632			33 220054				
ICE CONTROL					INFILTRATION				
40 209491	40 214601				64 206264				
ICE LENSES					INFLATION				
64 212124	64 224625	64 224628	64 224630		40 218574				
ICE PRESSURES					INFORMATION				
64 224625					11 215031	11 216144	11 220381	11 223903	
ICING					40 218568	40 218577	51 215863	52 215858	
12 214927	27 209210	40 209491	40 214578		53 215811	53 221136	53 221232	53 221432	
40 214580	51 214928	53 214579	64 224631		53 221435	53 221436	53 221684	53 223900	
IGNEOUS ROCKS					81 218069	81 218070	81 218085	81 224956	
35 207902					84 226120	90 214956	90 223885	90 223902	
ILLITES					INFORMATION DISSEMINATION				
64 205417	64 205419	64 205431			11 207672	51 221331	52 205535	52 212117	
ILLUMINATED TRAFFIC SIGNS					53 206299	53 206759	53 206778	53 210714	
34 214926	51 223134				70 205327	70 205330	82 205351	82 207090	
ILLUMINATION ENGINEERING					90 204090	90 204711	90 213890	90 224193	
51 228547	51 228548				INFORMATION RETRIEVAL				
IMAGES					53 223914	90 204090	90 204578	90 218143	
61 205284					INFORMATION SYSTEMS				
IMMERSION					11 215034	11 223893	11 223895	11 223906	
31 226836	64 205427	64 205429			14 223894	40 206366	40 214601	40 218574	
IMPACT					40 218591	41 206367	53 220318	53 220339	
11 220395	22 205277	22 216731	22 216736		53 221136	53 221137	53 223914	81 223904	
22 216737	22 216738	22 216739	22 216740		82 207081	84 214947	90 204578	90 206148	
27 216735	33 222309	40 215255	40 218591		90 207107	90 218143	90 222613	90 223752	
51 205275	51 205276	51 218147	51 218149		90 223883	90 223902	90 223907	90 223913	
62 215715	81 217936	82 220384	82 220394		90 230109	90 230110	90 230111		
82 220396	83 214633	84 219562	90 210043		INFRARED				
IMPACT FACTOR					21 205287	53 228576			
27 211963					INFRARED DETECTORS				
IMPACT STRENGTH					53 210603				
22 210719	51 205276				INFRARED PHOTOGRAPHY				
IMPACT TESTS					12 214927	21 205285	21 228568	22 228571	
22 205278	22 211959	27 216735	32 210904		22 228572	26 214614	61 205284	61 205286	
32 223049	35 228521	51 205274	51 215702		61 209420				
52 210720	61 207659	90 218971			INFRARED RADIATION				
IMPEDANCE					61 205284				
52 208607	84 208692	84 214935			INHIBITORS				
IMPERFECT TRENCH METHOD					27 205153	32 215042			
23 205410	63 228526				INJURIES				
IMPERVIOUS MEMBRANES					15 207675	22 216739	22 218146	27 216735	
26 216359					51 206110	51 213618	51 213620	51 222645	
IMPROVEMENT					INLAND WATERWAYS				
13 205331	15 207667	33 215714	34 207691		15 209286				
34 228550	41 215696	53 221232	53 221233		INLETS				
70 205327	70 205333	70 212999	82 228196		23 209407				
IN PLACE DENSITY					INORGANIC SALTS				
33 207898	33 207899				62 208679				
INCENTIVES					INPUT				
11 210041	12 226123	40 218590			22 216731				
INCOME					INPUT OUTPUT DEVICES				
15 207674	15 213949	55 209427	70 205688		15 207673				
70 212999	81 217934	82 211627	84 207131		INSERVICE				
84 212994	84 214942	84 214950	84 224758		31 226631	32 210900	32 210901	32 210902	
84 224760	84 226287	84 226288			32 210903	32 210906			
INCREMENTS					INSITU METHODS				
55 224768					33 207899	33 214915	61 226841		
INDEX PROPERTIES					INSOLUBILITY				
61 226848					31 217082				
INDEXES					INSPECTION				
63 204646	82 207085	90 204711	90 207107		26 211622	34 208909	34 212555	34 228517	
90 210197	90 216155				40 215253	40 215254			
INDEXES /RATIOS/					INSPECTION PROCEDURE				
24 215747	51 215701				34 212555	51 222643	70 205329		
INDEXING					INSPECTORS				
90 204578					34 212555				
INDIRECT METHOD					INSTALLATIONS				
62 219584	62 219585	62 219588			22 216734	33 215714	62 215705		
INDUSTRIAL ENGINEERING					INSTALLING				
11 210041					22 211960	51 228548	62 226845		
INDUSTRIAL PLANTS					INSTRUMENTATION				
15 210739	32 210913				27 223562	27 223566	27 223563	27 223564	
					27 223565	27 223566	32 216656	62 215711	

LABORATORY STUDIES				LATERAL MOVEMENT			
26 215697	31 217084	31 218562	31 221150	52 206270	63 207041		
31 221156	32 205777	32 216657	40 215749				
51 218149	53 222917	64 222313	90 210042	LATERAL PLACEMENT			
LABORATORY TESTS				22 224330	51 210726	53 214930	
11 216146	22 205279	23 222189	26 205164	LATERAL PRESSURE			
26 215697	27 209288	31 206197	31 206995	01 207657	61 214913	64 212126	
31 213783	31 216351	31 218561	31 228516	LATERAL STRESS			
31 228551	32 205779	32 210902	32 214914	64 224632			
32 214920	32 222178	32 222179	32 222181	LATERITES			
32 222182	33 224774	35 205166	35 222658	61 207663	61 207664	61 212982	61 222312
52 216742	53 228535	53 228536	61 212984	61 226648	62 226851	64 205429	64 222313
61 222307	61 226839	61 226848	62 212978	LATEX			
62 226842	63 220055	63 220820	64 205428	32 222181	40 216363		
64 205431				LATTICES			
LAMPS				33 222310			
53 224302				LAWS			
LAND				13 204686	13 213009	15 205610	15 205614
83 206102				15 209405	15 226014	22 213000	22 226103
LAND ACQUISITION				26 228552	40 218585	41 206364	51 222965
13 204686	13 213009	13 214907	13 215482	70 204761	70 204763	70 205234	70 205325
13 218557	15 205998	15 205602	15 205603	70 205326	70 205329	70 205330	70 205693
15 205605	15 205607	15 205610	15 205611	70 208589	70 209493	70 211360	70 214989
15 205914	15 212132	15 226014	70 204692	70 215489	70 215490	70 215509	70 215725
70 204763	70 204764	70 204766	70 204767	70 215744	70 216268	70 216349	70 216480
70 205694	70 208188	70 209493	70 214838	70 217167	70 217816	70 220655	70 224845
70 214991	70 214994	70 216349	70 217956	82 207087	82 211172		
82 207087	90 207071	90 207107	90 209155	LAYERED SYSTEM MECHANICS			
LAND APPRAISAL				25 215357	25 216135	25 216139	25 216141
13 205331	13 205332	13 214907	13 227970	25 218051	25 218053	25 218054	25 228086
15 226014	70 204686	70 204691	70 204768	25 228088	26 228093	32 216658	62 205245
70 214994	70 214995	83 211626		62 219582	62 223340	63 204646	
LAND DEVELOPMENT				LAYERED THEORIES			
11 207671	83 208693	83 212143	83 212145	25 208444	25 216378		
84 208688	84 228540			LAYERED VISCOELASTIC SYSTEM			
LAND FILL				62 205244			
40 224619	70 204684			LAYERS			
LAND OWNERSHIP				24 215752	25 215357	31 226834	32 223047
70 205692	70 216349			62 219587	64 205418		
LAND RECLAMATION				LEACHING			
70 204684	83 206104			62 213970			
LAND USE				LEAKAGE			
11 207671	11 216747	15 212132	22 220657	63 207045			
22 226103	51 228546	70 204684	70 204686	LEAN CLAYS			
70 204688	81 217926	81 217936	81 218062	62 226851			
81 226022	83 206104	83 212145	83 214633	LEAN MIX CONCRETE			
84 208688	84 214606	84 214947	84 221544	26 228083	35 212434		
84 226122	84 228194			LEASES			
LAND USE CONTROLS				13 205331			
22 220657	70 204763			LEFT TURN			
LAND USE EFFECTS				53 214933	53 215735	53 221555	54 215851
83 211631	84 212996			55 214949	55 224821		
LAND USE FORECASTING				LEFT TURN ONLY			
83 212143				53 207678			
LAND USE PLANNING				LEGAL ASPECT			
11 224648	15 220390	24 206807	82 207088	13 204683	15 205593	15 206846	53 221236
82 207089	82 207090	82 208689	82 220389	70 204684	70 204764	70 204765	70 204766
82 228199	83 206105	83 212143	84 212995	70 205328	70 205329	70 208188	70 215909
84 224772	90 221754			70 215725	70 215737	70 218411	70 228966
LAND VALUES				70 229716	90 210750	90 223391	
13 205332	13 227970	15 206298	15 212132	LEGAL RESPONSIBILITY			
15 212136	15 213954	15 228197	52 226857	13 204687	40 218568	40 218585	70 205691
70 204686	70 204767	70 205333	70 205688	70 222644	70 223756		
70 208188	70 211361	81 211630	81 217934	LEGAL STUDIES			
82 211627	82 212137	83 211631	84 211635	15 205610	70 204763	70 214996	70 220655
LANDFORMS				70 228966	90 204090	90 206146	90 206147
24 209257				90 206148	90 207071	90 207107	90 209155
LANDSCAPE DESIGN				90 209567	90 211744		
15 207675	24 206807	24 209257		LEGIBILITY			
LANDSLIDE MEASUREMENTS				53 215811	53 221430	53 221431	53 224302
21 211772				LENGTH			
LANDSLIDES				27 209206	27 211964	32 206243	51 213619
61 206268	61 214909	70 228966		51 213623	53 224654	55 212096	84 226288
LANE DISTRIBUTION				LETTERS			
51 215702				53 214933	53 215811	53 221430	53 221431
LANES				53 224302			
40 214576	53 207907	53 216376	53 218556	LEVEL OF SERVICE			
LAPLACE TRANSFORMS				40 218582	40 218584	40 218589	52 220372
31 213784				53 205786	53 206770	53 212991	53 215736
LATENT HEAT				53 218556	53 228884	55 222099	55 224763
32 216658				55 224819	55 224822	55 224824	55 228025
LATERAL FORCES				84 208682	84 224756		
26 222650	52 224333			LEVELING COURSE			
				40 209436			

LIABILITIES					LIVE LOADS				
15 206846	40 218585	70 222644	70 223756		26 216358	27 209212	27 209215	27 211964	
LICENSE PLATES					27 223566				
55 209429	55 214940				LOAD DISTRIBUTION				
LICENSES					23 213007	25 228089	27 209208	27 223561	
15 209405					32 222178	62 216136	62 226843		
LIFE SPAN					LOAD FACTORS				
25 216378					25 221132	26 204874			
LIGHT					LOAD RESTRICTIONS				
22 214616	51 224755	51 228546	51 228547		26 208453				
LIGHTING					LOAD TRANSFER				
40 218585	51 215859	51 224428	53 206597		25 216380	26 216372	33 215058		
53 224298	90 218971				LOADERS				
LIGHTING EQUIPMENT					41 215696				
51 224755					LOADING				
LIGHTNING					15 206846	25 220948	27 223561	33 222310	
51 228546					61 218057	62 223340	63 207043	63 228524	
LIGHTWEIGHT AGGREGATES					64 205428				
31 206197	32 214925	32 215036	32 215037		LOADING INTENSITY				
33 213979	35 212434				27 223562	27 223563	27 223564	27 223567	
LIGHTWEIGHT CONCRETES					LOADING PERIOD				
22 212150	22 216732	22 224305	22 224306		27 220048				
27 209209	32 214919	32 214925	32 215036		LOADING RATE				
32 226110	35 212434				27 223562	27 223563	27 223564	27 223567	
LIME					34 207686				
24 215751	61 207663	62 213962	62 213963		LOADING TESTS				
62 213968	62 213969	62 213970	62 213980		27 209210	27 209213	27 223566	31 213784	
62 219584	62 219585	62 219586	62 223501		34 213008	40 226115	61 226839	62 226851	
62 223503	62 223504	64 213971			LOADING ZONES				
LIME CEMENTS					15 218083				
62 213970					LOADOMETER				
LIME FLY ASH					25 208454	84 214934			
62 223504					LOADS				
LIME SOIL WATER REACTION					22 216732	25 215352	25 215355	27 226108	
62 219586					31 213784	32 214918	32 214919	32 214920	
LIMESTONE AGGREGATES					32 214921	32 214922	32 214923	32 214924	
31 217082	31 217088	31 218942	61 226839		32 222179	33 220784	34 222190	40 215257	
LIMESTONES					51 206108	51 218147	52 214908	62 215711	
26 224656	31 213783	31 217082	31 226836		63 214911				
35 215038	62 205240	62 208681			LOADS				
LIMING OF SOILS					62 213964				
62 223499	62 223500				LOCAL TRANSIT				
LIMITS					84 228581				
22 218144	63 214912				LOCATING				
LINEAR PROGRAMMING					15 218071	22 220654	40 214595	40 224620	
40 224619	40 224620	55 224823	84 212997		51 222641	51 222642	53 224650	53 224655	
LINEAR REGRESSION					55 214941	81 218075	81 218080		
40 218584					LOCATIONS				
LINEAR SHRINKAGE					40 214580	51 206109	51 206190	84 212998	
61 222312					84 214950	84 218980			
LINEAR SYSTEMS					LOESS SOILS				
25 218054	84 218977				61 207658				
LINEARITY					LOGIC DESIGN				
25 218053					83 226019				
LINEHAUL					LONGITUDINAL CRACKING				
84 228200	84 228540				26 216372				
LINERS					LONGITUDINAL JOINTS				
24 215752					33 207689				
LINKAGES					LONGITUDINAL MOVEMENT				
15 208691	55 224759	82 206295			53 228576				
LINSEED OIL					LOS ANGELES ABRASION TEST				
26 215250	32 213005	34 215041			35 212433	35 219982			
LIQUID ASPHALT					LOSSES				
31 226833					12 215694	15 227968	27 209209		
LIQUID LIMITS					LOUVERS				
61 207661	61 212983	61 214913	64 205431		22 218148				
64 205440					LOW ALLOY STEELS				
LIQUIDS					34 207687				
40 214590	40 214591	64 205420	64 205425		LOW PRESSURES				
LITHIUM COMPOUNDS					25 218055				
62 205239					LOW TEMPERATURE TESTS				
LITIGATION					31 218561	31 218565			
70 222644	70 223555				LOW TEMPERATURES				
LITTER					25 213781	26 205172	26 228087	31 205174	
41 205350					31 218561	31 218563	31 218565	64 212128	
					LUBRICANTS				
					34 207691				

LUMINAIRES				MAPPING			
22 209402	22 224308	27 210721	51 205274	21 206097	21 223001	22 214610	22 223888
51 205275	51 205276	51 222962	51 222968	81 217934	81 226022		
LUMINESCENCE				MAPS			
21 205285				53 204080	70 205689		
LUMINOUS INTENSITY				MARINE ATMOSPHERES			
51 206272	51 224428	51 224432	51 224433	34 214621			
51 224755				MARINE CLAYS			
MACHINERY				64 205432			
70 204689	70 213001	70 216349		MARKET RESEARCH			
MACHINES				84 214604	84 214608	84 221540	84 222083
41 214597				MARKET VALUE			
MAGNESIUM				13 205331	13 218557	15 227968	70 208188
24 215747				70 212999			
MAGNETIC FIELDS				MARKETS			
34 212555				11 220379	81 226021	84 224814	
MAGNETIC TAPE RECORDING				MARKETING			
55 224820	55 224824			15 219564	84 228540		
MAINTENANCE				MARSHALL MIX DESIGN METHOD			
11 223897	22 220654	22 224307	24 206806	31 212432			
24 215752	26 222649	40 215252	40 215253	MARSHALL STABILITY & FLOW TEST			
40 215753	40 216482	40 218566	40 218568	31 206197	31 206198	31 206995	31 210728
40 218571	40 218572	40 218573	40 218575	31 212432			
40 218576	40 218578	40 218579	40 218580	MASS			
40 218582	40 218583	40 218584	40 218587	63 214914			
40 218589	40 218590	40 218592	40 218594	MASS CONCRETE			
40 218595	40 218597	40 221145	40 224624	32 215044			
40 226114	40 228026	53 207677	53 224298	MASS TRANSIT			
81 217936	90 207071			15 205600	15 205609	53 204329	81 217940
MAINTENANCE ADMINISTRATION				84 206204	84 214602	84 214603	84 214604
40 208179	40 209421	40 209424	40 215253	84 214605	84 214607	84 214608	84 214609
40 215254	40 216482	40 222638	40 222653	84 215358	84 221537	84 222082	84 222085
40 223401	40 224623	40 224624	40 226900	84 222088	84 228540	84 228541	84 228545
MAINTENANCE COSTS				84 228555			
15 205608	15 206298	15 209283	15 216289	MASS TRANSIT /FREEWAYS/			
22 212147	22 216732	24 228203	26 209439	84 228542			
40 208179	40 209424	40 209436	40 209442	MASS TRANSIT ADMINISTRATION			
40 209443	40 214576	40 216482	40 218584	84 228540			
40 218592	40 221140	40 221142	40 221144	MASS TRANSIT PATRONAGE			
40 224618	40 224619	40 226900	51 214928	15 228578	34 221541	34 222088	84 224815
51 228548	53 210713	53 224303	62 208636	84 226288	84 228540	84 228555	84 228580
MAINTENANCE EQUIPMENT				MASS TRANSIT VEHICLES			
40 209421	40 209425	40 218592	40 224623	15 213950			
41 205350	41 206365			MASTICS			
MAINTENANCE OPERATIONS				31 206201			
15 206298	40 209421	40 209425	40 216482	MATERIALS			
40 218581	40 218585	40 218592	40 221393	25 220948	32 216656	32 216658	33 222308
40 224619	40 224620	53 206597	53 223003	33 222310	40 218574	40 218580	40 218596
53 224322				63 214910			
MAINTENANCE PERSONNEL				MATERIALS HANDLING			
12 205791	12 205792	12 205795	12 226123	33 216151	70 205329		
40 208179	40 208409	40 209421	40 209424	MATERIALS SPECIFICATIONS			
40 209425	40 215491	40 218570	40 218596	33 220781	61 226840		
40 228583				MATERIALS TESTING			
MAINTENANCE STANDARDS				31 206194	31 206195	35 205166	35 212433
40 208179	40 216482	40 218583		62 212978	63 228525		
MANAGEMENT				MATHEMATICAL ANALYSIS			
11 210041	11 215031	11 215032	11 215033	15 207665	15 207674	15 209285	15 213955
11 215034	11 215035	11 218559	11 220380	22 212146	23 228530	26 205876	26 208459
11 223893	11 223895	12 205788	12 206758	26 213158	26 221129	26 228084	26 228092
12 223917	12 223918	12 223919	12 224622	31 213782	31 213784	32 214923	34 205413
12 226123	12 230367	14 214967	14 214967	34 207897	53 224655	55 207128	55 208508
14 223894	15 228103	25 223890	25 224097	55 209426	55 209428	55 222099	63 207043
26 228096	33 216488	40 206366	40 208179	63 212979	63 212980	64 205418	64 205424
40 216482	40 218566	40 218567	40 213570	64 205425	64 206265	83 208693	84 213960
40 218571	40 218572	40 218573	40 218574	MATHEMATICAL MODELS			
40 218575	40 218576	40 218577	40 218579	15 210737	15 210738	22 209402	22 212151
40 218580	40 218581	40 218583	40 218588	22 216737	22 218146	22 218558	22 224309
40 218591	40 218592	40 218596	40 222639	25 216138	25 216139	25 216143	25 228094
40 222640	40 224623	40 224624	41 206367	26 208456	26 208460	26 213158	26 221126
51 222641	90 221750	90 223883	90 223886	26 221127	26 228087	26 228093	27 210721
MANEUVERABILITY				27 211359	31 216352	33 213975	33 213977
51 222648				33 224778	34 213008	40 218594	40 224619
MANPOWER UTILIZATION				40 224620	51 205274	51 205275	51 206107
12 205790	12 205791			51 213618	51 213620	52 213154	52 216743
MANUAL CONTROL				53 206779	53 206780	53 207676	53 212990
52 216741				53 214625	53 215811	53 218556	53 221138
MANUALS				53 228110	54 215851	54 215854	54 215856
25 224527	40 209442	53 207908	70 205326	55 207129	55 208508	55 214941	55 214949
82 207091				55 224764	55 224823	55 228102	62 216136
MANUFACTURED AGGREGATES				64 205432	82 207089	82 212144	84 207131
31 216381	32 214925	35 212435	35 212436	84 208692	84 213959	84 214609	84 214934
35 219983	35 229046			84 214938	84 214939	84 214945	84 214948
MANUFACTURING				84 224756	84 224760	84 224765	
15 206294	33 226485						

MODELS					MORTARS				
11 216149	11 220378	15 207666	15 214986	15 218986	32 205784	32 215042	32 222181	34 215059	
15 223912	15 228099	22 206058	22 206099	22 206100	61 218056				
22 216738	22 226103	23 222186	24 206100	24 206100					
25 215352	25 220948	25 228097	26 221126	26 221126					
26 223050	26 224328	27 220049	27 220050	27 220050	MOTELS				
31 206196	32 216658	32 222176	33 220054	33 220054	53 204080				
40 214576	40 214580	40 214583	40 214583	40 214583					
40 214596	40 221144	40 226900	51 206273	51 206273	MOTION				
51 215702	51 221158	51 221333	52 204403	52 204403	22 212151	55 218900	63 214914		
53 205786	53 212987	53 215736	53 220440	53 220440					
53 220841	54 228104	55 222084	55 222086	55 222086	MOTION PICTURES				
55 222091	55 222094	55 222095	55 222096	55 222096	27 209206	52 208608			
55 224763	55 224767	55 224768	55 228101	55 228101					
62 205244	63 207040	63 212980	63 214916	63 214916	MOTIVATION STUDIES				
64 205433	64 212127	64 217936	81 218084	81 218084	11 210041				
81 218085	81 218086	81 224956	81 226022	81 226022					
82 212137	82 220386	82 220393	82 220199	82 220199	MAJOR VEHICLE ACCIDENTS				
84 218976	84 218977	84 218978	84 218979	84 218979	21 211772				
84 218988	84 219561	84 219563	84 221544	84 221544					
84 221548	84 222082	84 222083	84 222085	84 222085	MOTOR CARRIERS				
84 222088	84 222089	84 222090	84 222092	84 222092	84 214934				
84 222093	84 222098	84 222100	84 224766	84 224766					
84 224770	84 224771	84 224772	84 226118	84 226118	MOTOR VEHICLE ACCIDENTS				
84 226122	84 228582				22 209402	22 210717	26 205167	27 210721	
					27 211359	51 210706	51 222645	51 222654	
MODULAR CONSTRUCTION									
34 214619					MAJOR VEHICLES				
MODULUS					22 210717	22 210719	22 211960	22 211961	
25 216378	25 218052	31 215356	31 226829	31 226829	26 208461	27 208177	40 224624	51 206272	
31 226830	31 226833	32 214922	40 216377	40 216377	51 212149	51 215699	51 221331	52 209403	
62 215713					52 210720	52 210725	52 215738	53 207645	
MODULUS OF ELASTICITY					53 213002	53 226283	53 226284	55 209429	
23 228529	25 208455	25 215353	25 215357	25 215357	55 222095	62 206296			
25 228086	26 208452	26 208456	31 206195	31 206195	MOTORCYCLES				
31 210728	32 205783	32 214918	32 214922	32 214922	51 222964	51 222965	51 222966		
32 214923	32 215037	32 223044	33 213979	33 213979					
34 207686	35 205165	64 220817			MOUNTAINS				
MODULUS OF ELASTICITY /SOIL/					27 210723	40 214595			
62 219582	64 205432				MOVEMENTS				
MODULUS OF RUPTURE					22 216739	32 216655	32 216657	34 207692	
31 213783					40 215748	52 208603	52 220372	52 220375	
MOIST CONDITION					52 220376				
64 224628					MOVING				
MOISTURE					70 205333	70 214994			
31 226023	32 216655	32 216657	62 208681	62 208681	MOVING SIDEWALKS				
64 206266					84 224818				
MOISTURE CONTENT					MOVING VEHICLES				
32 216658	33 207899	33 222308	33 222309	33 222309	26 208460	27 209212	27 209214	27 209215	
34 216347	34 221394	61 207656	61 207662	61 207662	27 211963	53 206770	55 208508	55 218900	
61 226848	62 213964	62 213969	62 223498	62 223498	62 212978	63 207042			
62 223503	63 213353	63 218233	63 223341	63 223341	MOWERS				
64 205431	64 205434	64 205438			41 205350				
MOISTURE CONTROL					MOWING				
34 215743					24 206806	40 215755	41 205350		
MOISTURE METERS					MUDJACKING				
53 214579					53 216376	62 211965			
MOISTURE MOVEMENT					MUFFLERS				
62 214631	64 205422	64 205434	64 205437	64 205437	41 206363				
64 224628					MULCHES				
MOLDS /FORMING/					24 226105	24 228204			
61 207659	64 205427				MULTILANE HIGHWAY				
MOLECULES					53 206779	53 206780	53 212119	53 212987	
31 216350					54 215854	54 228104	55 206767	55 218965	
MOMENT OF INERTIA					84 228208				
22 216733	26 228084				MULTIPLE CORRELATION				
MOMENTS					52 220375				
22 218148	23 228527				MULTIPLE PATHS				
MOMENTUM					53 206763	55 224763	55 224768		
22 224308					MULTIPLE PURPOSE PROJECTS				
MONITORING					82 207083				
11 218559	15 223908	53 223900			MULTIPLE USE				
MONITORS					13 227970	15 205593	15 205594	15 205595	
81 226020					15 205596	15 205597	15 205598	15 205599	
MONOLITHS					15 205600	15 205601	15 205602	15 205603	
27 209206					15 205604	15 205605	15 205606	15 205607	
MONORAILS					15 205608	15 205610	15 205611	15 205612	
33 226481					15 205613	15 205614	15 220390	24 206807	
MONT CARLU METHOD					70 215744	82 208689	84 208688	84 213959	
26 221126	34 221394				MULTIVARIATE ANALYSIS				
MONTMORILLONITE					15 208691	84 218979			
62 205240	62 213967	64 205243	64 205431	64 205431	NATURAL AGGREGATES				
MORAINES					31 206197	32 215037	33 213979	35 214463	
64 205421					NATURAL FREQUENCY				
					27 220051				
					NATURAL RESOURCES				
					15 228098	15 228103	83 206102	83 206105	
					NATURAL RUBBER				
					31 206201				

NAVIGATION 13 204684					NUCLEAR MOISTURE DENSITY DETERMINATIONS 33 207899 34 216347	34 207897 34 216481	34 211356 64 206266	34 215743
NEGATIVE FRICTION 62 226842					NUCLEAR TESTING 31 221152 33 220778 34 221394	32 210904 33 221153	32 228518 34 205785	32 228519 34 216481
NEGLIGENCE 70 222644					NUMBERS 51 206271	53 207907	53 221430	
NEIGHBORHOODS 82 207082	82 212139	82 228199			NUMERICAL ANALYSIS 61 214612 63 214916	63 207041	63 207042	63 214911
NEOPRENE 26 224327	33 220784	34 214618	34 215734		OBJECTIVES 11 205514	82 220383	90 210042	90 210043
NETWORK ANALYZERS 15 228103	82 223497				OBSERVATION 26 208461	52 218966		
NETWORK FLOWS 54 215852	55 222099				OBSTRUCTION 40 218585	70 214990		
NETWORKS 15 223909 53 221428 81 217927	53 218556 53 221429 81 217932	53 220785 54 215852 81 217941	53 221232 55 224763 84 224813		OCCUPANCY 53 221138			
NEUTRON ACTIVATION ANALYSIS 34 205785					OCCUPANTS 27 216735	52 216743	55 209427	
NEUTRONS 32 228519					OCCUPATIONAL DISEASES 41 206362			
NEW TOWNS 84 219557	84 221538	84 224815			OCCUPATIONS 55 207128			
NIGHT 15 218077 51 213620 53 206775 53 221684	51 206271 52 210725 53 215811	51 210724 53 206597 53 221430	51 213618 53 206618 53 221431		OCCURRENCES 61 222311			
NIGHT VISIBILITY 51 214417 52 208604 53 221437	51 222961 53 214930	51 228546 53 221430	51 228547 53 221431		OFF RAMPS 54 215856			
NIGHT VISION 51 214417	51 224428	53 214930			OFF STREET PARKING 53 221236	55 205787		
NITROGEN 24 215751	32 215043	40 215749			OFFICE BUILDINGS 52 220375	55 206301		
NO PASSING ZONE 53 221427					OFFICIALS 84 218978			
NOISE /SOUND/ 15 228098 52 215739 84 218979	22 218944 52 226858 84 228194	41 206362 70 227969	41 206363 81 218068		OFFSETS 53 207905			
NOISE CONTROL 15 218083 90 230109	41 206363 90 230110	52 209403 90 230111	52 224334 90 230112		OILS 15 216289	70 204768		
NOMENCLATURE 26 211622					ON RAMPS 53 206764	53 212120	53 212121	53 212990
NOMOGRAPHS 15 213953	25 208450	26 228087	40 209446		ON STREET PARKING 53 205786	53 221236	55 205787	
NONDESTRUCTIVE TESTING 26 209401 32 210903 32 223045 32 223049 40 226114	26 228090 32 210904 32 223046 32 228518	31 221152 32 223043 32 223047 32 228519	32 210902 32 223044 32 223048 33 221153		ONE WAY TRAFFIC 15 212136 54 215851	53 207908 54 215854	53 215735 54 215856	53 218556
NONDESTRUCTIVE TESTS 32 210904	34 212555	62 205239			OPEN CHANNELS 23 222188	40 214596		
NONLINEAR SYSTEMS 25 216137	51 221158	62 212978			OPEN GRADED AGGREGATE 26 216362	31 210729	31 210730	40 209445
NONUSER BENEFITS 15 221683					OPEN SPACE CONTROL 11 209435	15 205594	24 206807	
NORMAL DISTRIBUTION 23 205334					OPERATING COSTS 11 207672 53 224303 84 218989	15 207665 81 218080 84 224816	15 216289 84 208690	52 215738 84 211635
NORMAL STRESS 63 214916					OPERATING REVENUES 84 218989			
NORMAL TIME 84 214948					OPERATING SPEED 55 224824			
NOTCH 27 210722					OPERATION AND MAINTENANCE 12 221334			
NUCLEAR APPLICATIONS 31 228516	34 215743	34 216347			OPERATIONS 15 206848	51 213625	84 224816	90 223391
NUCLEAR ENERGY 34 214926					OPERATIONS RESEARCH 40 221141	40 224620	82 207089	
NUCLEAR EXCAVATION 33 216150					OPERATOR PERFORMANCE 51 221333			
					OPINIONS 40 215755	84 221540		
					OPPOSING TRAFFIC 51 224316			
					OPTICAL INSTRUMENTS 53 205538			

PATTERNS				PAVEMENT WIDENING			
55 222097				40 209444			
PAVEMENT BASES				PAVEMENT WIDTH			
25 228086	26 221131	26 228093	33 220781	15 206298	51 206107		
33 224774	61 206263	61 226839	61 226840				
62 205242	62 208680	62 226850	64 205430				
PAVEMENT CONSTRUCTION				PAVEMENTS			
25 223135	25 228713	26 228864	31 213779	12 214927	15 216289	22 224661	25 215352
33 215058	33 220780	84 218973	90 210750	25 215353	25 215355	25 215357	25 216139
				25 216141	25 216142	25 218051	25 222145
				25 223890	25 228097	26 214588	26 214614
				26 215250	26 215697	26 215698	26 216364
				26 216365	26 216366	26 216367	26 216368
				26 216370	26 216371	26 216373	26 216375
				26 228864	31 217082	31 217087	31 217088
				32 216657	32 216658	35 205166	40 209436
				40 209444	40 209491	40 214591	40 215252
				40 215255	40 215256	40 215257	40 216369
				40 218582	40 228026	41 214599	52 214908
				53 218972	62 216136	62 219587	64 205418
				PAVING EQUIPMENT			
				41 213972	41 213978		
				PAVING MACHINES			
				25 223135	33 224323		
				PAYMENT			
				13 215482	15 218077	40 218590	70 209493
				PEAK HOUR			
				55 218967	55 222094	84 208684	84 226288
				84 228555			
				PEAK HOUR TRAFFIC			
				15 207665	15 218074	22 224331	52 208606
				53 206777	53 212118	53 214625	53 214627
				53 220785	53 224293	53 224654	53 228484
				55 214628	55 223002	55 224820	84 206204
				84 211624	84 213957	84 214938	84 214945
				84 214948	84 218985	84 224756	
				PEAK RATES			
				23 229491			
				PEDESTRIAN ACCIDENTS			
				51 226854	52 226856		
				PEDESTRIAN CHARACTERISTICS			
				55 207127			
				PEDESTRIAN CROSSINGS			
				52 226857	53 223899		
				PEDESTRIAN MALLS			
				11 209435	15 218083	52 226857	
				PEDESTRIAN PROTECTION			
				84 226294			
				PEDESTRIAN VEHICLE CONFLICTS			
				52 220374	52 226856		
				PEDESTRIANS			
				11 209435	27 210601	51 210706	52 212992
				52 220372	52 220373	52 220374	52 220375
				52 220376	52 220377	52 226855	52 226857
				53 224294	55 207127	82 206296	82 220388
				84 224766	84 224812	84 226289	84 226294
				PEDOLOGICAL CLASSIFICATION SYSTEMS			
				62 213961			
				PENALTIES			
				55 214949			
				PENETRANTS			
				34 212555			
				PENETRATION			
				31 218564	31 226837	32 205777	
				PENETRATION RESISTANCE			
				33 222309	61 207662	61 226844	
				PENETRATION TESTS			
				31 218560	31 218561	31 218563	31 218565
				32 223048	32 223049	62 215715	
				PENETROMETERS			
				61 207662			
				PERCENT COMPACTION			
				33 207899			
				PERCENT SATURATION			
				25 218052			
				PERCEPTION			
				51 221157	51 221333	53 221437	
				PERCEPTION DISTANCE			
				51 222966	51 222970		
				PERCEPTION TIME			
				51 215702			
PAVEMENT SKIDDING CHARACTERISTICS							
22 224661	26 210194	26 222657	26 224656				
40 209440	40 222638	40 222639	40 222640				
51 222643	51 222646	51 222648	51 222654				
51 224658							
PAVEMENT SMOOTHNESS							
26 208461	26 208462	26 213156	52 214908				
62 205242							
PAVEMENT STRUCTURES							
25 218052	25 220733	26 221130					
PAVEMENT SUBGRADES							
25 214632	64 205427	64 205437	64 206264				
PAVEMENT SURFACE TEXTURE							
15 213953	25 205163	26 205164	26 205167				
26 208461	26 208462	26 213155	26 213156				
26 215250	26 215698	26 222649	26 222652				
33 205168	33 205169	33 215058	33 220782				
34 228522	40 209440	51 222641	51 222647				
51 222648	52 228549						
PAVEMENT THICKNESS							
25 208450	25 208455	25 214632	25 221132				
25 228089	25 228094	26 204874	26 228087				
31 226834	32 223045	62 219587					

PERFORMANCE				PHYSICAL TESTS			
14 207784	22 216732	22 216737	22 21673d	63 214910			
22 218558	27 220050	32 206243	32 210900	PHYSICOCHEMICAL PROPERTIES			
32 210901	32 210904	32 210905	32 222102	62 214631	62 219586		
34 205413	34 207691	35 216483	40 209421	PHYSIOLOGICAL ASPECTS			
40 216482	40 218569	40 218572	40 218586	84 221542			
40 218587	40 218588	40 218590	40 218592	PICKUPS			
41 214598	63 212981			15 218071	15 218074	31 218064	31 218080
PERFORMANCE TESTS				PLERS			
34 207692	34 222190			23 215268			
PERMAFROST				PILE BATTER			
64 220818				62 226842			
PERMEABILITY				PILE BEARING CAPACITIES			
31 206197	32 210904	35 205166	35 206994	33 215714	33 220054	62 215704	62 215709
PERMEABILITY MEASUREMENT				62 215710	62 215712	62 215713	62 215715
63 212981				PILE DRIVING			
PERS ONNEL				33 207684	33 215706	33 215708	33 220054
12 221334	12 223917		40 218576	62 215704	62 215709	62 215710	62 215712
40 218574	40 218586	40 218589	40 218592	62 215715			
40 218594	40 218595	40 218596	41 206362	PILE DRIVING EQUIPMENT			
53 226286	70 214992	90 215030		33 215706	33 215708		
PERS ONNEL MANAGEMENT				PILE DRIVING FORMULAS			
11 223897	12 205790	12 205791	12 205792	33 215707			
12 205793	12 205795	12 223917	12 223918	PILE FOUNDATIONS			
12 226123		12 230367	40 228583	62 215704	62 215705	62 215709	62 215713
90 223883				62 226842			
PERS ONNEL TRAINING				PILE FRICTION			
12 205788	12 205789	12 205792	12 205793	62 226842			
12 205794	12 205795	12 206758	40 218596	PILE GROUP SPACING			
12 230367	40 206179	40 209425		62 226842			
41 213972				PILE GROUPS			
PETROGRAPHIC INVESTIGATIONS				33 207684	62 215712		
31 217085	32 210907	32 210908	35 206994	PILE LATERAL LOADS			
35 219981				62 215709	62 215713	62 215715	
PETROGRAPHY				PILE LENGTH			
35 219982	35 222659			62 215705			
PH METERS				PILE TESTS			
62 213970				62 215709	62 215711	62 215715	
PH VALUE				PILE TYPES			
23 213007	27 205153	31 216352	32 210913	62 215704	62 215705		
34 205414	61 212984	62 213968	62 223503	PILES			
PHASE				23 215268	33 215706	33 215708	33 215714
31 216350	32 216655	64 224626		62 215704	62 215705	62 215709	62 215710
PHOSPHATES				62 215711	62 215712	62 215713	63 220056
31 216353				PIPE BEDDING			
PHOSPHORIC ACID				62 205774			
62 213962	62 219581	64 205428		PIPE CULVERTS			
PHOSPHORS				23 205411	23 213007	23 218258	23 222188
34 214926				23 228528	63 228523	63 228525	
PHOSPHORUS				PIPE FLOW			
24 215747	24 215751			23 222188			
PHOTODELASTIC METHOD				PIPELINES			
34 214617				62 205774	64 224626	81 218067	81 218087
PHOTODELASTICITY				PIPES			
63 214916				26 214588	61 207656	64 205439	70 207811
PHOTOELECTRIC CELLS				PITTING			
53 214931				35 205165			
PHOTOGRAMMETRY				PLACEMENT			
21 206096	21 206097	21 211772	21 222999	23 205336	33 207684	33 224323	52 210725
21 228566	22 223888	90 209155		52 215858	53 224292		
PHOTOGRAPHS				PLACING TEMPERATURE			
26 211622	32 210908			33 215058			
PHOTOGRAPHY				PLANNING			
22 206098	22 206099	51 224658	55 207429	11 215031	11 215032	11 215034	11 224648
55 224821				12 205788	14 207785	14 207786	14 214967
PHOTOINTERPRETATION				15 205593	24 206809	27 216355	40 206366
12 214927	26 213155	26 214614	51 222647	40 208179	40 209421	40 209425	40 218571
61 214615	62 214631			40 218572	40 218575	40 218581	40 218588
PHOTOMETERS				40 218594	40 218595	41 206365	51 210707
51 222967				52 220377	53 207677	53 221429	81 218075
PHYSICAL CHEMISTRY				82 207085	84 221537	84 221544	84 221545
40 214582				84 230122	90 216744	90 221750	
PHYSICAL FACTORS				PLANT COVER			
40 218584				23 211620			
PHYSICAL PROPERTIES				PLANT MIX			
26 216373	31 206197	31 206995	31 210727	26 205160	31 206198	40 209445	
31 210728	31 210729	31 210730	31 210731	PLANTING			
31 210732	31 218564	31 221154	32 214925	24 213789	24 215751	24 226105	24 228202
32 215042	32 216658	32 222176	34 215059	24 228204			
35 207902	35 212434	35 219983	61 226847				
64 222313							

PLANTS /BOTANY/ 23 211620				POLYVINYL CHLORIDE 26 224326			
PLASTIC CONCRETE 32 210909	32 223045	33 210608	33 215058	POPULATION 15 206294 53 213984 81 217935 90 216744	15 207674 81 211629 83 211620	15 207903 81 217928 84 212997	15 211628 81 217934 84 228555
PLASTIC DEFORMATION 25 218051 31 218562	26 209439	26 213160	31 206995	POPULATION FORECASTING 11 207671 84 217819	81 217926	84 217817	84 217818
PLASTIC EQUILIBRIUM 61 226844	63 214911	63 214912		POPULATION GROWTH 82 211171	83 206104		
PLASTIC LIMIT 61 207661				POPULATION MOVEMENTS 81 218068	81 218082	84 214943	84 217817
PLASTIC SOILS 35 212435	62 205241	62 226842		PORE PRESSURES 33 214915	61 207660	64 205418	
PLASTIC THEORY 63 214912				PORE WATER 64 205418	64 205422		
PLASTICITY 33 222310	35 212433	62 220819	62 223503	PORE WATER PRESSURES 64 205435			
PLASTICITY INDEX 61 207656	61 207661	64 205431		PORE WATER TENSIONS 63 211353			
PLASTICITY THEORY 61 218056	61 218056	61 226844		PORES 27 226107	31 226836	62 205240	
PLASTICS 22 205277 40 209423	23 222189	24 215752	34 211358	PORDSIMETERS 31 226836			
PLATE BEARING TESTS 25 208449 62 205242	26 208453	26 249401	61 207656	POROSITY 26 216357 32 216655	31 226836 64 205425	32 214925 64 224632	32 215043
PLATE GIRDERS 27 220053	27 226106	27 226111		POROUS MATERIALS 32 216656	64 205420		
PLATE LOAD TEST 25 215352	26 228090	62 219587		PORTABLE 55 218900			
PLATES 27 207846	32 214921			PORTLAND CEMENT CONCRETES 12 206758 26 224656 33 215058 35 213944 40 216377 64 206266	26 204874 26 228083 33 220782 35 219983 40 226115	26 215250 33 205169 34 207686 40 209446 51 224659	26 224327 33 207783 35 212436 40 210363 62 211965
PLOTTERS 22 206100				PORTLAND CEMENTS 26 215697 32 215043 61 207663 62 223504	31 217084 32 222176 62 213962	32 215037 32 223920 62 213965	32 215042 33 213979 62 219581
PLOTTING 22 223888	31 217087	53 221553		PORTS 15 206847			
PLUNGERS 31 226835				POSITION /LOCATION/ 52 216743			
PNEUMATIC TIRE 40 215255				POSITIONING 33 207689			
POISSONS RATIO 25 216135 31 226830 61 207657	25 218052 32 214918 62 219582	26 208456 53 206779	31 226829 53 212990	POSTS 22 216733	22 216734	51 205275	
POLARIZATION 21 205285				POTASSIUM 24 215747	40 215749		
POLARIZED LIGHT 51 222961	51 222970	52 215857	53 213002	POURING 25 215354			
POLICE 51 206110	51 209404	53 221231		POVERTY 84 214942			
POLICE PATROLLING 53 219996				POWER 33 215706			
POLICE POWERS 22 213000				POWER SPECTRA 26 221135			
POLICY 11 210041 70 216288 81 224956 84 228555	11 215034 70 218411 84 221537	40 208409 81 218062 84 226116	40 228583 81 218064 84 226118	POZZOLANIC ACTION 35 212434			
POLISHES 31 217082				POZZOLANS 32 205781	32 217815	32 222182	
POLISHING 12 214927				PRECAST CONCRETE 22 212150 33 226481	27 220052 33 226487	33 216361	33 224325
POLITICS 11 220378 15 205597	11 220379 40 218570	11 220382 82 207081	11 224646 82 207083	PRECAST CONCRETE PILES 33 207684			
POLLUTION 15 218083	40 218574	70 215725	90 221754	PRECIPITATION 64 211352			
POLYESTERS 34 207686	40 215251			PRECOATED AGGREGATE 26 215697			
POLYMERS 34 215059				PRECOMPRESSION 34 207691	61 214913		
POLYURETHANE RESINS 27 208586							

PREDICTIONS				PROFILES			
13 215482	22 216737	22 218944	23 215268	26 213157	31 217084	40 214581	
26 216368	32 216654	32 222177	33 220054				
40 214576	40 214580	40 216377	40 224618	PROF ILOMETERS			
52 214908	53 214579	55 224822	55 224823	26 208462	26 213157	26 216364	26 216366
62 219584	62 219585	62 219587	62 219588	26 216366	26 221134	26 221135	
84 218974	84 218976	84 224756	84 224758				
84 224760	84 224771	84 224772		PROFITS			
				15 221546			
PREFABRICATION				PROGRAMMING			
33 224325	33 226480	33 226486	33 226487	11 215031	11 215032	11 216145	12 205788
63 220820				14 207785	14 207786	14 214967	15 213955
				82 207085			
PREFERENCE				PROGRAMS			
82 209448				11 215034	11 216149	14 207784	14 207787
				14 207788	15 220392	15 221683	22 226133
PREFORMING				26 222649	40 218591	40 222638	40 222639
27 211962	33 207689	34 207690		40 222640	40 222653	41 215696	51 221331
				51 222641	51 222655	53 221554	84 221545
PERFORMS				90 215260			
34 214617	34 214618			PROGRESSION			
				53 207681			
PREHEATING				PROJECT PLANNING			
33 224774				11 215033	11 216144	53 223003	
PREPARATION							
34 215059	70 205333			PROJECTIONS			
				40 218587	40 224618	81 217935	
PRESSURE				PROJECTS			
23 228530	25 218052	31 216351	51 206108	11 215033	11 216144	11 218555	70 217816
62 218060				90 215260	90 227973		
PRESSURE CELLS				PROPAGATION			
23 205410	61 207660			32 214918			
				PROPERTIES			
PRESSURE DISTRIBUTION				13 218557	15 228197	25 222145	26 216373
25 218055				31 215356	33 215058	40 214584	
PRESSURE MEASUREMENT				PROPERTY ACQUISITION			
61 207657	64 205426			13 218557	13 221828	70 204768	70 207810
				70 208589			
PRESSURE SENSORS				PROPERTY CONDEMNATION			
61 207660				70 205687	70 205688	70 205690	70 205691
				70 207809	70 207810	70 214994	
PRESTRESSED BEAMS				PROPERTY DAMAGE			
32 214919				51 214929	70 208589		
				PROPERTY TAXES			
PRESTRESSED CONCRETE				70 214994	82 211627		
22 209402	25 208445	25 223135	27 205153	PROPORTIONING			
27 209215	27 220052	33 216361	33 224325	41 213976			
34 211246				PROPOSALS			
				22 223892			
PRESTRESSED CONCRETE BEAMS				PROPULSION SYSTEMS			
27 209206	27 209209	27 226108	27 226109	84 224817			
32 214919	32 226110	33 226481		PROTECTION			
				22 210718	32 205777	40 209423	51 206106
PRESTRESSED CONCRETE PILES				51 206107			
33 207684				PROTECTIVE COATINGS			
				27 205153	34 206300	34 208909	34 211246
PRESTRESSING				PROTOTYPE TESTS			
27 209204	32 214919	34 211246		62 216136			
				PROTOTYPES			
PRETENSIONING				22 218146	83 208693	84 208685	
27 205153	27 209209			PSYCHOLOGICAL ASPECTS			
				11 224646	62 205773		
PREVENTION				PSYCHOMETRICS			
51 222643	52 208605			84 214608			
				PUBLIC			
PRICES				11 220381	15 207667	70 205327	70 205690
15 218986	53 224653	70 205327		70 205692	70 207809	70 207810	70 214989
				70 216349	82 205351		
PRIMERS				PUBLIC LAND			
34 206300				70 204766	70 214989		
				PUBLIC OPINION			
PRINCIPLES				11 220382	82 220384	82 223494	82 223496
12 224622	32 216656			82 223495	82 223497	84 207561	
				84 214608	84 217818	90 221757	
PRIORITIES				PUBLIC RELATIONS			
11 220379	15 218981	15 220392	40 215253	53 219946	70 214989	90 221752	90 221753
53 214627	53 223003	84 218978	84 226118	90 221757			
				PUBLIC SUPPORT			
PRISMS				84 230122			
32 210903	32 214920						
PRIVATE ENTERPRISE							
15 228578							
PRIVATE TRANSPORTATION							
84 213957	84 214937	84 214938	84 221543				
84 224758	84 228581						
PROBABILITY THEORY							
15 206294	23 205334	26 271126	61 218057				
63 226852	84 207131	84 218977					
PROCTOR COMPACTION TEST							
62 205239							
PRODUCTION							
11 210041	40 218569	40 218586	40 218587				
40 218595	41 206368	41 215756	81 218069				
PRODUCTION CONTROL							
32 216485							
PRODUCTION ENGINEERING							
90 223885							

PUBLIC TRANSIT				RADIAL STRESS				
11 209419	11 209435	15 207665	15 207666	23 228530				
15 213950	15 219564	15 228578	52 220376	RADIATION				
55 207126	81 218062	82 209406	82 228196	32 216658				
84 207130	84 207561	84 208684	84 208688	RADIATION COUNTERS /SENSORS/				
84 208690	84 214937	84 214938	84 215358	32 228519				
84 215360	84 217817	84 217818	84 218980	RADIO				
84 218984	84 218987	84 219555	84 219556	53 206760	53 220839	53 221136	53 221436	
84 219557	84 219558	84 219559	84 219560	RADIO COMMUNICATION SYSTEMS				
84 219562	84 221538	84 221543	84 224756	11 228564	53 211771	53 219996	53 224299	
84 224813	84 224814	84 226287	84 226208	53 226283	53 226284	53 226286		
84 226290	84 226292	84 226293	84 228553	RADIO CONTROL				
84 228554	84 228556	84 228581	84 228582	41 205350				
PUBLIC UTILITIES				RADIO TRANSMISSION				
70 207811				53 211771				
PUBLIC WORKS				RADIOACTIVE ISOTOPES				
41 213974	70 205325	82 207090	82 211172	34 205785	34 214926			
82 211173				RADIOACTIVITY				
PUBLIC WORKS DEPARTMENTS				34 205785	40 214581			
90 221751				RADIOGRAPHIC INSPECTION				
PUG MILLS				34 212555				
33 220781	62 208680			RAIL TRANSPORTATION				
PULSE AMPLITUDE MODULATION				11 209435	15 206846	15 206847	15 206848	
55 212993				15 207666	15 209285	15 218072	53 204329	
PULSE TIME MODULATION				81 218062	81 218067	81 218087	81 218088	
25 218053				82 211627	84 208684	84 211624	84 211625	
PULSE GENERATORS				84 214938	84 215358	84 215359	84 215360	
55 218964				84 215362	84 221542	84 221547	84 222083	
PULSE VELOCITY				84 222085	84 224756	84 228540		
32 223045				RAILROAD BRIDGES				
PULVERIZATION				82 220393				
62 213963	64 205429			RAILROAD CARS				
PUMPING				84 228540				
26 208446				RAILROAD GRADE CROSSINGS				
PURCHASING				51 206106	51 206107	51 228539	53 210713	
41 206365	41 206367	41 215696		RAILROAD TERMINALS				
PYRITES				84 214935				
32 210913				RAILROADS				
QUALITATIVE ANALYSIS				15 205549	41 214577	84 228540		
40 214596				RAINFALL				
QUALITY				23 205334	55 214628			
25 215355	34 207688	35 229046	40 218571	RAINFALL INTENSITY				
40 218582	40 218584	40 218587	40 218595	22 224601				
84 218984				RAMP LOCATION & SPACING				
QUALITY CONTROL				53 218968				
25 216139	31 216484	32 205778	32 216485	RAMPS				
32 222177	33 213975	33 214464	33 215058	22 214616	51 224315	53 214932	53 221139	
33 216486	33 216488	33 220658	34 207690	53 223900	53 224317	55 224822	63 218969	
34 216487	35 216483	40 218578	61 206263	RANDOM PROCESSES				
62 214631	63 214910	70 205325		51 215702	53 206779			
QUALITY CONTROL TESTING				RANDOMIZATION				
32 223043	33 214464	35 216483		11 216145	23 205334	25 216139	32 210903	
QUANTITATIVE ANALYSIS				33 207898	33 207899	33 207900		
31 227907	40 221141	82 226016		RANKING				
QUANTITY				84 218973				
40 218587				RAPID TRANSIT				
QUARRYING				53 204329	53 221236	53 224654	81 208686	
33 216150				84 208684	84 214602	84 214603	84 214606	
QUARTZ				84 215361	84 215362	84 221542	84 221543	
31 216353				RAPID TRANSIT SYSTEMS				
QUARTZITES				11 209435	15 211628	15 211634	81 211630	
31 217086				82 211627	82 211633	83 211631	83 212143	
QUESTIONNAIRES				84 211624	84 211625	84 211635	84 221541	
11 205516	26 210194	27 210601	31 216354	84 228540	84 228579			
33 211968	33 224323	34 211246	34 215743	RAPID TRANSIT USAGE				
40 209440	40 209443	51 210708	51 215863	84 222083	84 222087	84 224772		
53 206759	53 206778	53 221136	53 221137	RATE				
53 221434	55 209429	55 214940	82 209406	26 215697	26 219998	40 215749	41 206368	
82 209448	82 212140	82 220384	82 220385	64 224629	64 224630			
84 206204	84 207561	84 214608	84 218974	RATE OF RETURN				
84 218988				84 211635				
QUEUEING THEORY				RATES /COSTS/				
53 214624	53 214627	84 214935		15 218077	81 218068			
QUEUES				RATING				
53 206773	53 206778	53 207907	53 212120	22 210716	22 223887	23 228528	26 209439	
53 212990	53 224317			26 213160	26 216367	26 216368	35 212433	
RADAR				52 224334				
21 205285	21 205288	21 228566	32 223047	RATIOS				
55 212993				63 214910	63 214914			
RADAR APPLICATIONS								
41 228567	32 223047							

RAVELING 26 209439				REGISTRATIONS 55 209429			
RAYLEIGH WAVES 25 216141				REGRESSION ANALYSIS 15 207674 15 213954 26 224656 40 221143 51 213620 55 206301 55 209428 84 213958	15 207903 15 214983 31 206198 51 206107 52 220374 55 207129 62 213966 84 224771	15 209282 23 205335 31 226836 51 210708 53 207676 55 208508 62 223500	15 209285 26 213160 40 214576 51 213618 53 221555 55 209420 84 207131
REACTION 61 207656				REGULATIONS 70 211360 81 218068	70 215725 81 218075	70 218411 81 218086	70 224845 84 219562
REACTION TIME 51 206271	51 213620		51 215702	REGULATORY SIGNS 53 209418			
REACTIVE AGGREGATE 32 210914				REHABILITATION 26 209438 40 209446	40 209436 40 228026	40 209440	40 209444
REACTIVITY 62 219586				REIMBURSABLE COSTS 70 209493			
REAL PROPERTY 13 204683 70 204684 70 204768 70 215737	13 205331 70 204685 70 205333 83 211626	15 228197 70 204691 70 207811	24 209257 70 204765 70 209493	REINFORCED CONCRETE 22 205278 33 215483	26 214587 40 208497	27 216735	33 210608
REAR END COLLISIONS 51 215699 53 221437	52 215858		53 206763 53 207676	REINFORCED CONCRETE BRIDGES 27 209206 34 216348	27 209206	27 209213	32 210909
REBOUND 22 210717				REINFORCED CONCRETE CULVERTS 23 205411			
RECLAMATION 13 204684				REINFORCED CONCRETE PAVEMENTS 25 208445		26 208459	52 206270
RECOGNITION 51 228534				REINFORCED CONCRETE PIPES 34 214622	62 205774		
RECOMMENDATIONS 40 222639	53 222917			REINFORCEMENT 25 228094 40 205782	32 215040 63 207040	32 215042	33 207684
RECONNAISSANCE 21 228567				REINFORCING STEEL 26 214587 27 209213 33 213979 40 208497	26 216357 27 211964 33 215483 40 226114	26 216359 32 213005 34 215039	26 216372 33 207684 34 216348
RECONNAISSANCE SURVEYS 61 209420				RELATIONSHIPS 25 215353 55 218965	25 218051 83 206102	31 218564	53 224292
RECONSTRUCTION 23 205410	40 209436		40 226114	RELATIVE COMPACTION 31 213785			
RECORDERS 63 211355				RELIABILITY 25 216142	26 221126	84 224772	
RECORDING 27 209206	27 209208		52 208603 55 209429	RELIGIOUS BUILDINGS 70 212999			
RECORDS 32 210901	40 218571			RELOCATION 13 204683 15 205603 70 204688 70 207810 70 214994 70 217956 82 211172 82 211177 90 221754	13 211175 15 206293 70 204761 70 207811 70 215489 82 207082 82 211173 82 212135	13 215482 15 226015 70 204763 70 209493 70 215490 82 211170 82 211174 90 221751	15 205600 15 227968 70 205687 70 214839 70 216480 82 211171 82 211176 90 221753
RECOVERY 26 216373				REMAINDER 13 205332 70 211361	70 204692	70 204766	70 205687
RECREATION 53 206774	55 224767		84 208688 84 224771	REMOVED SOIL SAMPLES 63 212979	64 205431		
RECREATIONAL FACILITIES 15 205600 82 207084	15 205611		15 228095 55 228101	REMODELING 31 206198	61 207663	64 222313	
RECREATIONAL ROADS 55 228100	55 228102			REMOTE CONTROL 21 205285 53 224303	21 205287 61 205284	53 221232 61 205286	53 224301
RECTANGLES 25 216140				REMOTE CONTROL SYSTEMS 53 224300			
REDUCTION 22 216732	24 215752			REMOTE SENSING 21 228566 53 228576	21 228570 61 228573	22 228571 61 228575	22 228572
REFLECTION CRACKING 40 215255	40 215256		40 228026	REMOVAL 51 210707	52 216742	70 216480	
REFLECTIVE BEADS 41 205350				RENOVATING 64 205232			
REFLECTOR MARKERS 34 211358				REPAIR SHOPS 40 224624			
REFLECTORIZATON 53 206597							
REFLECTORIZED PAINTS 34 228522							
REFLECTORS 53 221434							
REFUSE 24 223136							
REGIONAL PLANNING 15 208691 90 216744	81 215741		81 224956 84 214947				
REGIONAL PLANNING /TRANSPORTATION/ 11 209419 81 217927 84 208682	15 226018 81 218075 84 208683	21 205288 81 220704 84 212995	61 226849 82 207082 84 218973				
REGIONAL SHOPPING CENTERS 84 212997							

RIGID PAVEMENTS				ROUGHNESS			
12 206758	25 208444	25 215353	25 223890	12 214927	23 205336	25 205163	26 205876
26 204874	26 208456	26 211622	26 213004	15 22659	26 208462	26 216364	26 216366
26 221127	26 221128	26 221129	26 228090	26 216368	26 216370	26 216375	31 217087
33 215058	62 211965	62 219582	62 219584	33 213973	40 215256	52 214908	62 205242
62 219585	62 219588	64 206264		62 211965	62 223342		
RIGIDITY				ROUGH METERS			
27 220050	62 205242			25 208449	26 208461	26 208462	26 213156
RING COMPRESSION AND FLEXIBILITY FACTOR				ROUTE SELECTION			
34 222190				11 212130	13 211175	15 205553	15 205597
RINGS				15 205599	15 205601	15 205604	15 210738
23 222188				15 213949	15 218975	53 221137	54 215855
RIPRAP				55 222096	82 212131	82 212135	82 220393
23 215405	23 222185	63 214910		84 214944	84 218973	84 222090	84 222098
				84 228582			
RIVERS				ROUTES			
84 214938				53 221137	53 223914	83 214633	84 228555
ROAD IMPROVEMENTS				84 228556			
53 215736				ROUTING			
ROAD INVENTORY				52 205535	53 205534	53 205536	53 205537
26 205161				53 205538	84 214607	84 214609	84 224815
ROAD SURFACES				84 224816			
25 205163	25 221133	26 215697	33 222310	RUBBER			
35 212433	40 209444	40 214601	53 214579	26 216373	34 207691	34 211358	34 215041
62 213962				41 205350	41 221147		
ROAD TESTS				RUBBER TIRE ROLLERS			
31 206201	52 208607	53 205538	64 206266	33 209274			
ROADNET				RUBBER TIRES			
11 205516	15 207667	51 206109	53 205536	26 205164	26 205167		
53 205538	84 208692			RUMBLE STRIPS			
ROADS				53 210715	53 222917		
12 214927				RUNNING SPEED			
ROADSIDE				55 224819			
22 210716	22 210718	22 212147	22 212151	RUNOFF			
22 215700	23 209407	24 206806	24 215747	22 226103	23 205334	23 215268	34 205414
24 215751	24 215752	40 215748	40 215753	64 206264	70 228966		
40 215754	40 218573	41 215756		RUNOFF FORECASTING			
ROADSIDE ADVERTISING				23 229491			
11 207672	70 220655	82 212142		RURAL AREAS			
ROADSIDE DEVELOPMENT				26 216375	40 209423	51 206107	53 220841
22 206808	24 206806	24 206807	24 215751	53 226286	84 218976		
24 228201	24 228202	24 228203	24 229083	RURAL HIGHWAYS			
40 221145	41 215756	70 204763	70 214838	15 206298	15 208691	24 228198	25 208454
90 206090	90 206146	90 206147	90 207071	27 220048	51 213618	51 214929	51 215359
90 207107	90 209155	90 209287	90 210750	52 208607	53 204080	53 206759	53 206775
90 211744				53 210712	53 212122	53 214932	53 220438
ROADSIDE IMPROVEMENT				53 221427	53 221555	53 226286	55 224824
24 223136	41 215756	82 212142		RUSH HOUR			
ROADSIDE STRUCTURES				15 209284	53 224653	84 228542	
51 222968	53 221552			RUST CONTROL			
ROCK DISINTEGRATION				32 215042			
33 216151				RUSTING			
ROCK FILLS				34 207687			
23 205411				SAFETY			
ROCK PROPERTIES				22 215700	40 218573	40 218584	51 206106
63 214910				51 215701	51 220000	51 221331	51 224755
ROCK SALT				53 221233	53 221549	53 221550	53 221551
40 209423	40 215749	62 208680		53 221552	53 221553	53 221554	53 221555
ROCKFALLS				82 228196	90 218971		
40 228205				SAFETY BELTS			
ROCKS				22 216739	27 216735	51 210706	51 228558
23 205411	23 222186	31 217083	32 205784	52 216743			
32 214922	33 216151	33 216152	62 205242	SAFETY FACTORS			
62 218059	63 214910			23 218258	25 214632	26 205167	51 221333
ROLLER COVERAGE				61 218057	62 205773	62 205774	62 205775
31 206199				62 205776	84 221542		
ROLLERS				SAFETY FEATURES			
31 206199	33 209274	33 222309	40 215255	22 224309	41 214600	41 215695	51 210706
40 215256	41 213978			51 222645			
ROLLING				SAFETY MEASURES			
31 206201	31 218562	33 213977	33 222310	40 218585	40 222638	40 222651	51 221331
ROADS				51 222641			
33 216151				SAFETY PRACTICES			
ROOT EFFECTS				51 206106			
24 215752				SAG			
ROTATION				22 206100			
52 214908				SALARIES			
ROUGH TEXTURED WARNING PAVEMENT				12 205791	12 221334	40 206366	40 215491
53 210715				40 228583	70 205325		
				SALARY WAGE PRACTICES			
				12 205791	40 208409	40 228583	

SALES				SCRAP			
13 204685	53 206759	53 206774	70 205333	70 216480			
70 205688	70 205690			SCRAPING			
SALINITY				41 214599			
40 215749				SCRATCHES			
SALT /SODIUM CHLORIDE/				35 205165			
24 215747	24 228201	26 214587	40 214589	SCREEDS			
40 215748	40 215749	40 215750	41 214577	27 226111	33 223206		
62 223499				SCREENING			
SALTS				32 206243	41 213976	53 221434	70 216480
22 226103	23 211620	26 216357	26 216358	SCREENS			
26 216359	26 224660	34 207687	34 215039	27 210723	51 210724	51 224432	51 224433
40 216363	62 208681	62 213967	64 205418	SEA WATER			
64 205423	64 205428			34 205414			
SALVAGE				SEAL COATING			
40 215252	40 215254	40 215255	40 215256	31 221151	33 220783		
70 216480				SEAL COATS			
SAMPLES				26 205160	26 209439	26 216359	31 206201
33 207899	33 207900	34 207897		31 216381	33 224774	34 215059	40 209424
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15 209405	25 216139	32 210902	32 210903	SEALANTS			
32 210905	34 216487	82 212140		25 222145	27 208586	32 205777	33 207689
SAND ASPHALT				33 220784	34 207690	34 207691	34 207692
31 206196	31 206202	31 210728	31 213782	34 214617	34 214618	34 214620	34 215041
31 217086	40 209447			34 215059			
SAND ORAINS				SEALING			
62 226845				25 222145	33 207689	64 206266	
SAND STABILIZATION				SEASONAL VARIATIONS			
90 221755				26 208453	26 209401	26 216366	40 224619
SANDING				61 228577	64 205430	64 205437	
40 224620				SEASONS			
SANDS				24 226105	24 228202	40 209441	
22 224307	23 205335	25 218055	32 214919	SECONDARY ROADS			
33 207684	33 222309	40 214596	40 215753	26 216375	62 219581		
41 214577	61 207662	61 212982	61 222307	SEDIMENTATION			
61 226844	62 213968	62 219583	62 223337	40 215753			
62 226851	64 205427	64 212126	64 220817	SEEDS			
64 224632				24 226105	24 228204		
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31 217085	31 217086	35 215038	61 214909	63 207045	64 205439		
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62 226850	64 212128			52 220376			
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24 206810				15 221683	22 220654	40 215754	53 207681
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25 215352	61 214913	64 205417	64 205418	SEMIACTUATED TRAFFIC SIGNALS			
64 205422	64 205425	64 205434	64 205438	53 207676			
64 224625				SEMIARID LAND			
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31 216351	32 205779	32 214925	32 215036	SENSITIVE CLAYS			
32 216657				62 226845			
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51 215701				15 210738	25 215353	64 224627	84 213958
SAWED JOINT				SENSORS			
27 208586	33 207689	34 207691		21 205285	21 205287	26 209438	40 209422
SCALE				53 224294	61 205284	61 205286	
32 222180	51 223916			SEPARATION			
SCALING				70 205327			
32 205778	32 210907	32 210908	32 213005	SERVICE			
32 215040	40 208497	84 214608		25 228095	27 208177	53 214624	84 228555
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21 228569				26 216372	27 223562	31 218562	32 205779
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53 207905				SERVICE TIME			
SCHEDULING				84 214935			
11 216144	11 218559	14 207784	22 223892	SERVICEABILITY			
40 208179	40 218571	40 218572	40 218575	25 216142	26 216367	32 216654	40 216369
40 218576	40 218578	40 218588	40 218594	SERVICEABILITY INDEX			
40 218595	40 224619	40 226114	41 206367	25 208449	25 215353	25 215355	26 208446
84 214607	84 219557	84 219559	84 219560	26 213158	26 216365	26 216366	26 216370
84 219563	84 224760	84 224815	84 226292	26 216375	40 209436	40 209441	40 209443
84 228582				62 213962			
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15 205601	15 205604	70 212999		11 220379	15 218982	53 206759	53 206774
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90 210043				SERVO MECHANISMS			
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62 205239							
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23 209492	23 215268	23 222185	23 222186				

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27 223565					11 208687				
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62 211966	63 214917				51 228558				
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62 211966					15 206298	25 216143	26 228083	51 213618	
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62 211965	63 212980	63 226852	70 205328		25 223389	26 221131	27 205206	32 210904	
					32 214919	32 214923	32 215037	32 215040	
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63 214917									
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22 205277	51 215699	61 222311			33 213979				
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23 223889					25 213781	26 205173	26 228087	32 210909	
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33 216150	61 214909	61 226853	62 213962		15 218981	32 210907	52 220372	52 220373	
62 223502	64 224631				84 224812				
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34 215734	40 214585	63 214914			31 218942	33 207783			
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32 214922	34 207692	34 215734	61 222307		15 206298	53 221430	53 224332	55 224824	
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61 222307					22 212151	27 210722			
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51 205274					53 218556	53 218968			
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25 214632	26 209439	33 214915			52 215858				
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31 226835					26 216364				
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31 210732	31 226835	63 212979	63 214914		53 206759	53 206778	53 221432	53 221436	
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27 226109	40 226115	61 207660	61 226840		22 218148	51 222967	53 215811	53 218972	
62 205245	62 214631	62 219583	63 207044		53 224320				
63 212979	63 220056	64 205417	64 205418						
64 205433	64 205438	64 205440							
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63 207041	63 207043	63 214916			32 205784	62 219586			
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31 218965	32 222181	61 207660	61 226841		64 205421				
63 207044	64 205440								
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26 208459					32 222180	34 208909			
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63 214911					62 226842	62 226851	63 214911	64 205427	
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63 207045					61 214909	64 224631			
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84 214934					27 209214	27 211963	40 205782		
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					15 210737	22 212151	22 216738	22 218146	
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15 206846	15 206848				32 216657	33 213975	40 214580	40 214593	
					40 214596	51 215702	51 218149	51 222648	
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40 214582					53 213981	53 215740	53 220785	53 220840	
					53 220841	53 221431	53 221552	53 224321	
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51 228559					55 222086	55 222094	55 224761	55 224821	
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51 228559					84 211635	84 214607	84 214609	84 214945	
					84 218980	84 222087	84 226119	84 228545	
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55 207129					40 221144				
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40 224620				40 218585	53 221433		
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15 206297	26 216368	26 221126	26 223053	55 224821			
31 217083	31 217087	32 222177	33 224776	STOPPING			
51 209404	51 222641	51 222642	51 222654	51 206271			
52 210725	53 205786	53 207645	53 221137	STOPPING DISTANCES			
55 218964	55 218965	55 218967	55 222004	22 216737	25 205162	26 205876	26 214586
55 222091	62 205776	63 214917	64 207561	26 224656	31 217082	51 212149	51 219999
84 214946	84 218974	84 218977	84 218984	52 222656	52 228549		
84 218988	84 221544	84 222088	90 218143	STOPPING SIGHT DISTANCE			
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25 214632	26 216373	31 206199	31 216484	15 206846	53 206773	70 205329	
32 216445	33 207900	33 207901	33 213975	STORES /BUILDINGS/			
33 216486	34 216487	35 216483	40 218584	15 218073			
52 212992	55 209428	61 226849	81 211633	STORM DRAINS			
81 226021	82 209406	84 207561	84 214608	23 209442	23 222187		
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25 216139	31 216484	32 216485	33 207899	23 205336			
33 207900	33 214464	33 216486	33 216488	STORMS			
33 220781	33 224776	33 224777	33 224778	53 220703			
34 216487	35 216483			STRAIN CONTROL			
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11 216146	25 216139	33 220779	40 218584	STRAIN GAGES			
40 221142	55 209426			22 205279	23 205410	26 213156	27 209213
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31 217084	51 222641			STRAIN MEASUREMENT			
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40 218585				32 206243			
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55 206620				31 226828	32 214920	32 214924	63 212979
STEADY STATE				STRAINS			
40 214593	63 207045	63 220821		25 208444	25 216138	25 218051	25 228085
STEAM				25 228068	27 209208	27 209209	31 218561
84 224817				31 226834	32 214920	32 214924	34 207686
STEEL BRIDGES				35 228521	61 222307	62 205773	63 207043
27 220049	27 223562	27 223563	27 223564	63 223339			
27 223566	27 226106	31 207685	34 214021	STRATIFICATION			
34 214906				31 226832	84 214939		
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33 226483				61 214909			
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34 222190				70 204684			
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23 205410	27 209211	27 220049	33 207693	23 215268			
34 213008				STREAM SCOUR			
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27 205153				STREAMS			
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33 224323				STREET MAINTENANCE			
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27 226107	34 214906			STREETS			
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22 216733	22 216734	23 205412	27 209210	STRENGTH			
27 210721	27 210723	33 211968	33 226478	25 215355	25 215357	26 216373	32 214919
33 226487	34 211246	34 213008	34 214021	32 214924	32 222177	32 222179	34 216348
34 214906	34 215039	40 214589	51 205276	40 214584	40 216377	62 218060	62 223342
51 212149	51 218149			62 223499	62 223500	62 223501	62 223503
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21 211772				33 207901	61 226838		
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21 211772	22 214610	22 214611	22 214613	23 228531	25 228088	34 214617	34 214619
26 213155	26 214614	61 209420		62 205773	63 218061		
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62 212978				63 214916			
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25 213781	26 228084	27 210601	27 210602	61 207657	63 207040		
31 210729	31 210730	31 218563	31 226828	STRESS CYCLE			
31 226834	32 214924	64 205440	64 212128	27 223561			
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23 205336	23 222187			25 216140	31 210728	62 212978	63 218061
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31 217085	31 217086	31 217087	31 217088	TAXATION			
34 215059				15 205598	15 205605	70 214994	
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40 216363	40 222651			55 207126	84 214609	84 215358	84 218988
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53 206760	53 214626	53 218972	53 219996	TAXIWAYS			
53 223900				40 215257			
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21 223001	21 228567	21 228569		33 226478	51 221331	53 228563	81 218086
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15 221546	26 216368	84 218984	84 218988	84 228582			
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11 209516	11 216148	12 224622	23 211620	53 211773			
24 215746	26 205161	31 216354	32 210901	TELEPHONE LINES			
34 207691	40 205782	40 209440	40 209443	53 224299			
51 205274	52 228560	53 212122	55 209429	TELEPHONES			
55 214940	62 211965	81 211629	81 218088	53 212122	53 219996	53 220838	53 220842
82 209406	82 209448	82 211627	82 223494	53 224299	53 226104	81 226020	
84 206206	84 214608	84 218974	84 218987	TELEVISION			
84 219558	84 221540	84 222085	84 228543	21 205285	52 208606		
84 228544				TELEVISION SURVEILLANCE /TRAFFIC/			
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51 228558				TEMPERATURE			
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22 226103				26 216366	26 224326	26 228093	27 209206
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27 220051				31 206200	31 206201	31 218560	31 218562
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62 214631				33 209274	33 213977	33 215058	33 216356
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51 228534				40 214578	51 206108	52 228549	62 208681
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31 207685	40 215251			64 205438	64 205439	64 206264	64 206266
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31 213779	31 213780			TEMPERATURE CONTROL	32 210909	32 215044	64 206266
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11 215034	11 215035	11 223897	12 226123	26 208452	33 224774	64 205434	64 220818
22 216734	26 216368	40 224623	51 206109	64 224626			
81 226020	81 226022			TEMPERATURE GRADIENT			
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11 216144	11 216149	11 220397	13 211175	TEMPERATURE MEASUREMENT			
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25 228094	25 228095	26 221127	33 224778	TENDONS			
40 216369	40 218581	40 224618	40 224621	27 205153	34 211246		
51 210709	53 205534	53 213981	53 221429	TENSILE PROPERTIES			
54 215852	55 214629	55 222086	82 207080	31 218561	32 214922	62 213966	62 219582
82 207085	82 211177	84 206204	84 213003	62 219584			
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27 216355	33 226478	33 226479	33 226480	62 219584	62 219585	62 219588	
33 226482	33 226483	33 226485	33 226488	TENSILE STRESS			
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TAIL WATER				53 206774	53 224655	81 211630	81 218062
23 222184				81 218068	81 218069	81 218075	81 218078
TAILLIGHTS				81 218079	81 218080	82 211627	84 211635
51 206271	51 215699	51 222964	52 215858	84 214935	84 215359	84 215361	84 218980
53 210603	53 210859	53 213002	53 221437	84 218989	84 228579		
TAKING /PROPERTY/				TERRAIN			
70 227969				21 205288	22 214613	40 214595	40 218582
TANDEM ROLLERS				61 205284	61 214612		
33 209274	33 224775			TEST METHODS			
TANGENTS				25 205162	26 213155	32 205777	32 205778
32 214922	53 221553			32 206243	32 210733	32 210904	32 223043
TAPE RECORDERS				33 207900	33 214464	34 207692	35 205166
55 224820				35 206994	35 212436	35 228521	40 209440
				53 210714	62 214631	62 223338	62 226850
				64 212127	82 212140		

TEST RESULTS				TIMBER GUARDRAIL			
25 208449	25 208450	26 208452	26 209438	22 216733			
40 214591	61 206263						
TEST SAMPLES				TIMBERS			
64 205426	64 205427			15 228103	22 216734	83 206102	
TEST SECTIONS				TIMBER /STRUCTURAL/			
23 205335	25 208451	26 208446	31 213779	33 226478	33 226487		
32 210908	33 224325	40 209440	40 209441				
TEST SPECIMENS				TIME			
31 213784	62 208680			15 213949	15 218077	21 205285	25 218054
TEST TRACK				31 213784	31 226834	32 206243	34 207687
90 218971				41 206368	52 215862	53 206779	55 206620
TESTING EQUIPMENT				55 218967	61 226841	62 223338	62 223499
25 205162	26 205161	26 209401	31 206194	64 205420	64 212126	81 218087	84 214937
31 206200	32 210904	32 214924	41 205350	84 224756	84 224766		
TESTING LABORATORIES				TIME AND MOTION STUDIES			
90 218971				22 216731	41 205350		
TESTING MACHINES				TIME EFFECTS			
26 220702				26 224328			
TEXTURES				TIME FACTOR			
33 205168	33 224324			55 222091	55 222094	61 228577	84 222090
THAWING				84 222093			
32 215036				TIME LAPSE PHOTOGRAPHY			
THEORETICAL ANALYSIS				33 213980	52 212992	52 220372	53 207680
15 207673	26 208460	27 207846	27 209210	53 212991	55 214629		
27 209211	27 209215	27 205288	27 210602	TIME SERIES ANALYSIS			
40 214594	51 213623	52 213154		55 218964			
THEORIES				TIME STANDARDS /WORK/			
25 214632	26 208456	26 213004	27 207846	40 218578			
31 206195	32 216655	52 220376	62 219589	TIRES			
82 207081				15 209283	15 216289	25 205162	25 205163
THEORY OF CONSOLIDATION				25 218055	26 214586	26 215697	26 215698
64 206265				31 217083	31 217087	31 217088	51 219999
THERMAL ANALYSIS				51 220000	51 224658	52 214908	52 215738
64 213971				52 228549	63 207041		
THERMAL CONDUCTIVITY				TOBERMORITES			
32 216658	33 224774	64 205417	64 205423	64 213971			
64 205425	64 206267			TOLERANCES			
THERMAL EXPANSION				24 228201	31 216484	32 216485	40 215750
27 209206	27 209288	31 216351	32 210904	TOLL BOOTHS			
64 205418				55 214629			
THERMAL MEASUREMENTS				TOLL ROAD TRAFFIC			
64 205420				15 218986			
THERMAL PROPERTIES				TOLL ROADS			
27 209288	27 211962	40 214580	64 205416	40 215252	40 215254	51 206108	
64 205417				TOLL TUNNELS			
THERMAL STRESSES				15 218986			
26 205172	27 209288	32 215044		TOLLS			
64 206266				15 209282	15 209284		
THERMISTORS				TOPOGRAPHIC MAPPING			
64 206266				21 205288	21 211772		
THERMO OSMOSIS				TOPOGRAPHY			
64 205417	64 205420	64 205422		40 214584	40 214601	61 226847	
THERMODYNAMICS				TORSION			
64 205416	64 205417	64 205418	64 205420	27 210602	27 226108		
64 205423	64 205424			TORSION TESTS			
64 205423				27 226108			
THERMOGRAPHS				TORTS			
64 213971				70 204763	70 214996		
THICKNESS				TOTAL ANALYSIS			
25 215353	25 215355	25 215357	25 216378	84 218980			
25 216380	26 208446	26 208448	26 213004	TOURISTS			
26 216373	26 216375	27 226111	31 206198	11 207672			
31 217087	32 223047	33 213977	41 213978	TOXICITY			
64 205418				40 215748			
THICKNESS DESIGN				TRACKING			
25 208457	25 221132	25 228085	25 228086	53 215811			
26 204874	26 209438	31 210729	31 213779	TRACT			
40 209442	40 209446	61 212983	64 206265	81 217928			
THIN FILM OVEN TEST				TRACTION			
31 206995	31 218560	31 218562		52 228549	63 207041		
THIN PLATES				TRAFFIC			
25 216140				15 206297	25 208450	25 208457	25 215355
THINNESS				25 228089	25 228095	26 208446	31 206201
26 216375				31 217083	31 226023	40 214578	40 214585
THIXOTROPY				51 223913	52 215738	53 221136	54 215852
61 207662				54 215856	61 206263	81 217933	81 218069
THREE DIMENSIONAL				82 220385	84 214948		
22 206099	26 213155	52 213154	63 207041	TRAFFIC ACCIDENT ANALYSES			
THROUGH TRAFFIC				15 206298	51 206108	51 206190	51 210724
84 228200	84 228542			52 208606			

TRAFFIC ACCIDENT CAUSES				TRAFFIC ENGINEERS			
24 206806	53 206618	53 210859		15 216289			
TRAFFIC ACCIDENT ECONOMIC EFFECTS				TRAFFIC FLOW			
52 215748	53 228884			15 205608	15 207668	22 214616	52 218966
TRAFFIC ACCIDENT REPORTING				52 220374	53 206760	53 207677	53 207679
51 206106	51 206190	51 209404	53 206760	53 210712	53 215735	53 215736	53 215740
53 220837	53 220838	53 220840		53 216376	53 218556	53 220785	53 221232
TRAFFIC ACCIDENTS				53 224297	53 224317	54 215852	54 215854
15 210736	24 224656	40 205170	51 206109	54 228104	55 214623	55 214628	55 218965
51 206110	51 206190	51 209404	51 220546	55 218967	55 224820	55 224822	70 216349
51 228547	52 212117	53 206775	53 207682	81 211632	81 218062	81 218068	84 212998
53 210713	53 214932	53 228109	53 228538	84 214606	84 214945		
90 207107							
TRAFFIC ACTUATED SIGNAL CONTROLLERS				TRAFFIC FLOW CHARACTERISTICS			
53 206776	53 212121			15 213953	51 222971	53 204736	53 206766
TRAFFIC ACTUATED SIGNALS				53 207910	53 208093	53 212989	55 206620
53 207676	53 207680	53 207905	53 221433	55 206767	55 207127	55 212993	84 212994
53 223899	53 223900	54 215851		90 218971			
TRAFFIC ANALYSIS				TRAFFIC FLOW PATTERN			
55 218965	84 214946			15 218081	51 206107	52 215738	53 206778
TRAFFIC ASSIGNMENT				53 228105	54 228106	81 218070	81 218079
15 207668	53 207677	53 218556	54 215852	84 214946			
55 206301	55 209430	55 214944	55 222095	TRAFFIC FLOW SIMULATION			
55 222096	55 224759	55 224761	55 224762	53 205786	53 207676	53 207679	53 207680
55 224767	55 224768	55 228101	55 212994	53 207905	53 212987	53 212989	53 220785
84 214945	84 221547	84 224757	84 226119	54 228107	84 212995		
84 226122				TRAFFIC FLOW THEORY			
TRAFFIC CAPACITY				53 221231	55 206767	55 212993	
22 210711	53 212118	53 218556	84 214603	TRAFFIC FORECASTING			
TRAFFIC COMPOSITION				11 205514	15 207903	55 212096	55 214941
53 207909				84 212994	84 214945	84 214948	
TRAFFIC CONGESTION				TRAFFIC GENERATION			
15 209282	15 209284	15 209286	15 213950	11 205514	22 220657	53 206774	55 206301
22 210711	51 206110	51 210707	52 212117	55 214941	82 207088		
53 206597	53 206763	53 206776	53 206778	TRAFFIC INTERFERENCE			
53 207910	53 212118	53 212120	53 215736	51 222971			
53 216376	53 221136	53 221137	53 221232	TRAFFIC LANES			
53 224293	53 228884	81 218086	82 207088	15 218083	51 213618	53 206779	53 206780
84 211624	84 214946			53 212987	53 221138	53 224297	53 224317
TRAFFIC CONGESTION ECONOMIC EFFECTS				53 228105	53 228109		
15 213950				TRAFFIC LAW ENFORCEMENT			
TRAFFIC CONTROL				51 206190			
51 213621	53 206597	53 206764	53 206765	TRAFFIC LAWS			
53 206766	53 206770	53 206771	53 206772	51 210708	53 215735		
53 206773	53 206776	53 206777	53 206778	TRAFFIC MARKING			
53 207680	53 207910	53 210603	53 212990	34 211358			
53 214932	53 215735	53 221231	53 221232	TRAFFIC MARKING EQUIPMENT			
53 221233	53 223899	53 223900	53 224299	34 211358	41 205350		
53 224303	53 224320	53 224332	54 228107	TRAFFIC MARKINGS			
54 228108	55 222096	90 204050	90 206146	12 214927	26 219997	34 211358	40 218585
90 206147	90 209287	90 209567	90 210750	41 221147	51 214928	51 222969	51 226854
90 211744				53 209416	53 214932	53 221434	53 222917
TRAFFIC CONTROL DEVICES				TRAFFIC NOISES			
52 208605	53 204736	53 206597	53 206771	15 212136	15 218083	22 218944	22 226103
53 207680	53 208093	53 210713	53 221433	52 209403	52 212988	52 215739	53 212991
53 221434	53 221436	90 218971		53 228884	82 212137	90 221754	
TRAFFIC CONTROL SYSTEMS				TRAFFIC OPERATIONS			
15 218083	51 228534	53 206763	53 206772	53 207645	53 207677	53 207905	53 213002
53 207676	53 207677	53 207905	53 207910	53 221231	53 221232	53 221233	53 221279
53 212121	53 214626	53 215740	53 224291	53 223898	53 223900	53 224318	53 224319
53 224293	53 224294	53 228110	53 228576	53 228563	84 206204	90 206146	90 206147
TRAFFIC CORRIDORS				90 206148	90 209287	90 209567	90 210750
15 212132	54 228107	82 207088	82 226016	90 211744			
84 208688				TRAFFIC OPERATIONS RESEARCH			
TRAFFIC COUNTING				53 207677			
25 208454	53 223899	55 207126	64 206264	TRAFFIC PLANNING			
TRAFFIC DELAY				11 205513	55 205787	55 206301	82 206296
15 209282	22 210711	51 210707	52 212117	84 212994	90 209287		
53 205786	53 206778	53 206780	53 207679	TRAFFIC PLATOONING			
53 207680	53 207907	53 212121	53 214624	54 215853	54 215854		
53 214627	53 215740	53 221137	53 221433	TRAFFIC REGULATION			
53 224297	54 215851	55 218967	55 224819	70 204763			
55 224820	84 214945			TRAFFIC RESEARCH			
TRAFFIC DELAY COSTS				51 222341	55 212993		
53 212118				TRAFFIC SAFETY			
TRAFFIC DELAY STUDIES				12 214927	23 209407	26 228552	51 222341
15 209282	22 210711	53 207676	53 207905	51 223916	52 208180	53 207682	53 208093
53 221433				53 224319	82 212142		
TRAFFIC DENSITY				TRAFFIC SIGN DESIGN			
40 214580	40 218582	52 212988	53 206777	51 210726	51 228534	53 214930	53 221684
55 206620				TRAFFIC SIGN LEGIBILITY			
TRAFFIC DIVERSION				51 210726	51 222967	51 228534	53 214930
90 221757				53 214933	53 221684	53 228535	53 228536
TRAFFIC ENGINEERING				53 228537	53 228538		
51 206190	52 226856	53 207679	53 215736				
53 222917	55 205787						

TRAFFIC SIGN MATERIALS 51 222967				TRANSPORTATION ECONOMICS 14 207784 83 208693 84 214604 90 206146 90 209507	14 207785 83 212143 84 214605 90 206147 90 210750	15 213954 83 212144 84 217819 90 207071 90 211744	15 226014 84 213958 90 204090 90 209155
TRAFFIC SIGN VISIBILITY 51 210726 51 222967				TRANSPORTATION EFFECTS 15 226015 90 210043	55 207128	84 208682	84 210979
TRAFFIC SIGNAL CONTROLLERS 53 210603 54 215852				TRANSPORTATION ENGINEERING 90 221749			
TRAFFIC SIGNAL COORDINATION 53 218968 54 228106 54 215851 54 215852 54 215853				TRANSPORTATION FINANCE 14 207784 84 217819	15 218983 90 209155	82 209406	84 207561
TRAFFIC SIGNAL NETWORKS 53 218968				TRANSPORTATION MODELS 11 207671 15 209286 55 209430 81 211642 84 208682 84 212994 84 212998 84 214939 84 224757	15 207666 15 211628 55 214941 81 217936 84 208685 84 212995 84 213003 84 214944 84 226119	15 207668 55 213982 55 214949 81 217938 84 208690 84 212996 84 214609 84 214945	15 207673 55 209427 55 224762 83 212145 84 211635 84 212997 84 214938 84 214948
TRAFFIC SIGNAL TIMING 53 207645 53 214624 53 220785 53 207677 53 215735 53 221428	53 207680 53 215740 54 228106	53 212120 53 218556		TRANSPORTATION PLANNING 11 205512 11 205516 11 223903 14 207785 15 212132 15 228098 55 222099 81 217929 81 217936 81 218064 81 220656 82 220389 82 223496 83 214633 84 212995 84 214946 84 218977 84 221538 84 226119 84 226291 90 216744	11 205513 11 207671 11 224646 15 205599 15 218073 15 228103 81 215741 81 217932 81 217939 81 217941 81 218065 81 223905 82 223493 82 223497 84 206203 84 213003 84 217817 84 218978 84 224772 84 226120 84 228545 90 223902	11 205514 11 209435 11 224648 15 207668 15 218982 22 220657 81 217926 81 217933 81 217941 81 218075 81 226117 82 223494 82 228195 84 208685 84 214602 84 217818 84 218985 84 226116 84 226121 84 228553 90 223907	11 205515 11 220379 11 228882 15 207670 15 223909 55 222094 81 217927 81 217934 81 218062 81 218079 82 209406 82 223495 84 206101 84 214934 84 217819 84 218989 84 226118 84 226122 84 230122
TRAFFIC SIGNALS 40 218585 53 207677 53 209418 53 221428 55 214623 51 214929 53 207905 53 212490 53 221429	51 223415 53 207907 53 214624 54 215852	51 228533 53 217908 53 215740 54 215853		TRANSPORTATION POLICY 11 220379 84 218978	11 220382 84 218979	81 218062 84 221537	81 218076
TRAFFIC SIGNS 34 214926 53 209418 53 221431 51 228554 53 214930 53 221434	52 205535 53 214933 53 228535	53 207678 53 221430		TRANSPORTATION SYSTEM ANALYSIS 11 216149 55 209431 84 208684	11 224646 55 228100 84 208685	15 211628 55 228102 84 221544	15 228099 81 211624 84 228194
TRAFFIC SPEED 26 213160 53 206779 53 212991 55 224820 52 212988 53 207679 53 213002 55 224822	52 212992 53 207909 55 206620	53 206773 53 212989 53 218965		TRANSPORTATION SYSTEMS 11 205515 12 214927 15 205609 15 209284 15 213995 55 207127 81 211632 82 207084 82 211643 84 208682 84 212134 84 214943 84 219555 84 221542 84 222089 84 224814 90 209155	15 212992 53 207909 55 206620 53 206778 53 214626 53 224321 53 206779 53 224319 55 218967 55 228101 82 212137	84 214602 84 217817 84 218978 84 224772 84 226120 84 228545 90 223902	84 214602 84 217818 84 218985 84 226116 84 226121 84 228553 90 223907
TRAFFIC STUDIES 25 208451 55 223002 53 204736 90 207107	53 211773	53 221279		TRANSPORTATION SYSTEMS 11 205515 12 214927 15 205609 15 209284 15 213995 55 207127 81 211632 82 207084 82 211643 84 208682 84 212134 84 214943 84 219555 84 221542 84 222089 84 224814 90 209155	11 205516 11 223903 14 207785 15 212132 15 228098 55 222099 81 217929 81 217936 81 218064 81 220656 82 220389 82 223496 83 214633 84 212995 84 214946 84 218977 84 221538 84 226119 84 226291 90 216744	11 205514 11 209435 11 224648 15 207668 15 218982 22 220657 81 217926 81 217933 81 217941 81 218075 81 226117 82 223494 82 228195 84 208685 84 214602 84 217818 84 218985 84 226116 84 226121 84 228553 90 223907	11 205515 11 220379 11 228882 15 207670 15 223909 55 222094 81 217927 81 217934 81 218062 81 218079 82 209406 82 223495 84 206101 84 214934 84 217819 84 218989 84 226118 84 226122 84 230122
TRAFFIC SURVEILLANCE 51 206110 53 210603 53 221231 55 214628 53 206772 53 211773 53 221233 81 226020	53 206777 53 212121 53 224293	53 206778 53 214626 53 224321		TRANSPORTATION SYSTEMS 11 205515 12 214927 15 205609 15 209284 15 213995 55 207127 81 211632 82 207084 82 211643 84 208682 84 212134 84 214943 84 219555 84 221542 84 222089 84 224814 90 209155	11 205516 14 207784 15 205613 15 209286 15 218982 55 212096 82 207079 82 207090 83 211626 84 208684 84 208685 84 212997 84 214948 84 218980 84 219563 84 221545 84 222100 90 204090 90 209567	11 209435 15 205599 15 207666 15 216737 40 218570 55 222099 82 207080 82 211170 83 212145 84 208685 84 212998 84 218980 84 219565 84 221547 84 224757 90 206146 90 210750	11 220379 15 205601 15 207667 15 211634 55 207126 81 208686 82 207082 82 211174 84 207561 84 208685 84 213959 84 218989 84 221534 84 222082 84 224758 84 226147 90 213890
TRAFFIC SURVEYS 55 207126 84 212994 55 209429	55 214940	55 228100		TRANVERSE CRACKING 25 208445 31 218561 40 208497	26 228084 31 218562	26 228092 31 226837	31 205174 33 215483
TRAFFIC VOLUME 15 208691 15 228099 26 204874 26 224657 31 217082 51 213619 52 212988 53 206773 53 212122 53 228884 55 224762 70 214838 84 214948 15 211628 25 208451 26 213158 27 223562 31 217088 51 213619 52 212988 53 206773 53 212122 53 228884 55 224762 81 211630 84 215358 15 212136 25 208454 26 213160 27 223563 40 209446 51 213624 53 206597 53 207679 53 213984 55 218465 55 224824 81 211632 84 224771 15 216289 25 215354 26 224656 31 210731 51 213618 52 208607 53 206764 53 207909 53 224319 55 218967 55 228101 82 212137				TRANVERSE JOINTS 26 216374 33 207689		34 207692	
TRAILERS 26 205161 26 220702 27 210723				TRANVERSE REINFORCEMENT 26 216372			
TRAINING AIDS 12 224622				TRANVERSE STIFFENERS 26 208447			
TRANSducers 27 209210 63 211355				TRAVEL 55 206301 55 224767 84 222092 84 224771 55 209430 81 217936 84 222093 84 224772 55 222099 84 222082 84 222100 84 226118	55 222099 84 222082 84 222100 84 226118	55 224763 84 222089 84 224765	
TRANSFER CHARACTERISTICS 64 205420				TRAVEL PATTERNS 15 211628 55 206301 55 209431 55 220977 55 222084 55 228100 81 217927 83 211626 84 214937 84 214950 84 222100 84 226293	15 218986 55 207128 55 222084 55 228100 81 217934 83 212143 84 214942 84 218977 84 226122	15 228099 55 209429 55 222094 55 228101 81 217937 84 206206 84 214944 84 218984 84 226287	53 224655 55 209430 55 222095 55 228102 81 217938 84 212997 84 214948 84 222087 84 226289

TRAVEL TIME				TUBES			
11 207671	15 207903	15 210736	15 211634	24 211960	22 211961	24 215752	
15 213949	15 213951	51 206108	51 206110				
52 212117	52 212988	53 204329	53 206766	TUMBLING			
53 206773	53 206776	53 206777	53 207681	23 205336			
53 207907	53 212120	53 214625	53 215736	TUNNEL CONSTRUCTION			
53 221137	53 221138	53 224320	53 228884	90 221755			
55 207129	55 209427	55 209431	55 212096	TUNNEL LIGHTING			
55 214941	55 218964	55 222084	55 222086	51 224428	51 224432	51 224433	51 224755
55 222095	55 224759	55 224763	82 208689				
83 208693	84 206204	84 207130	84 207131	TUNNEL LININGS			
84 208682	84 208690	84 208692	84 211624	33 216152			
84 211625	84 213952	84 214938	84 214943	TUNNELING			
84 215358	84 219558	84 221548	84 222090	33 216154			
84 224760	84 224765	84 224770	84 228580	TUNNELING MACHINES			
TREAOS				33 216151			
31 217087	51 206108	51 224659		51 224432	33 216152	33 216153	51 224428
TREATMENTS					51 224433	53 221232	53 223899
40 214590	40 215750	62 215705		TURBOCHARGING			
TREE DAMAGE				41 206363			
24 215747	40 215748			TURBOCOMPRESSORS			
TREES /PLANTS/				41 214599			
24 209257	24 213789	24 215747	24 228204	TURBULENCE			
40 221145				55 224820	55 224822		
TRENCHES				TURN			
40 228205	62 205775	63 220821		51 206271	53 222917		
TRENCH STABILITY				TURNING LANES			
62 205775				53 221555			
TRENCHING				TURNING MOVEMENTS			
63 214916				51 206271	52 226856	53 207907	
TRENOS				TURNOVER			
15 228578	84 218989	84 221537		53 205786	55 205787		
TRESTLES				TWO DIMENSIONAL			
61 209420				23 205336			
TRIALS				TWO LANE HIGHWAYS			
70 205687				52 208607	53 206764	53 207909	53 221427
TRIANGULATION				54 215856	55 224821	55 224824	
21 206096	21 206097	22 214610	22 214611	TWO WAY COMMUNICATION			
TRIAxIAL COMPRESSION				53 219996	53 226283	53 226284	
25 218052	64 205243	64 205435		TWO WAY TRAFFIC			
TRIAxIAL TESTING				53 207681	53 207908	54 215851	
32 210733	33 222310	61 207660	61 226838	TYPES			
61 226839	62 218059	62 218060	62 219583	27 220048	51 215699		
63 211355	64 205435	64 205440		ULTIMATE LOADS			
TRIP				27 223565			
53 224654	55 207129	55 212096	55 222097	ULTIMATE STRENGTH			
55 224761	55 224773	84 226288		27 223565	31 213780	32 214924	34 207686
TRIP GENERATION				62 205240	64 205232		
11 208687	15 207903	15 223909	15 228099	84 212994			
52 220375	52 220376	53 215811	53 221551	84 221544			
55 206301	55 207128	55 209426	55 209427	84 224769			
55 209428	55 209429	55 222084	55 222095	ULTIMATE STRENGTH DESIGN			
55 224764	55 224773	55 228101	55 228102	27 209208	27 211964		
81 208686	82 206295	82 207088	84 212994	ULTIMATE STRENGTH METHOD			
84 214937	84 214950	84 219558	84 221544	25 214632			
84 222088	84 224756	84 224757	84 224769	ULTRASONIC TESTING			
84 228554				32 223045	34 207688		
TROPICS				ULTRASONICS			
40 215251	61 222312	61 226847	64 205427	31 226829	34 212555	55 206767	
64 205429				ULTRAVIOLET RAYS			
TRUCK DRIVERS				21 205285	32 205777		
53 212122				UNCONFINED COMPRESSION			
TRUCK EFFECT ON HIGHWAY CAPACITY				61 207663	62 219583	62 219584	64 205431
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BELLIS WR 90 218143				BLESSING CA 15 205606			
BENDER JG 52 216741				BLEYL RL 51 223915	51 228533		
BENDER LE 53 224295				BLOEM DL 35 216483			
BENESH AH 55 224759				BLOOM JN 15 207670	24 209257		
BENNETT JC 53 224651	84 222092	84 222100		BLOOM NR 40 218579			
BENSON DE 84 226291				BLYSTONE JR 61 207659			
BENSON FJ 31 210730				BOCK P 23 229491			
BENZINGER RW 53 205538				BODOCSI A 51 218149			
BERGSTRALH K 12 215694				BOEDECKER KJ 25 208444			
BERGESON KL 61 226838				BOHLING JM 13 227970			
BERGER WG 53 228535				BOLLING NB 35 215038			
BERG WD 51 206107	51 215859			BOLYEA NF 33 213975			
BERMAN MT 70 205327				BONIFAY DW 35 219983			
BERRY OS 15 208691	53 207908			BOONATHAN S 64 205429			
BEST TW 62 211354				BORGMAN AG 70 205333			
BESTER WG 26 216375				BOSSELMAN FP 13 215482			
BETZ MJ 40 221142	53 223898			BOTSFORD JH 41 206362			
BHANOHAUSAVEE C 61 207656				BOTTINY WH 15 207674			
BHARGAVA JR 27 220052				BOUCHARD RJ 82 223493	84 218978	84 228194	
BHATIA HS 61 226847				BOULDING KE 82 207081			
BHROMMALEE N 40 215754				BOURGET L 27 210723			
BIELFUSS CW 40 218577				BOUWKAMP JG 27 209211			
BILLHEIMER JW 84 224760				BOWER LC 33 220778	41 213972		
BIRD KD 26 205876				BOX PC 51 228546	51 228547		
BIRNIE C 40 214580				BOYCE DE L1 224648	81 211630		
BISHOP B 82 212129	82 212133			BOYD JH 15 220392			
BISSADA AF 31 226834				BOYD PL 26 220702			
BISELL HH 55 224820				BRACH RM 52 222656			
BLACKWELL HR 51 222962				BRAND O 81 217938	84 219562		
BLACKWELL DM 51 222962				BRANSON DE 32 214919			
BLACKBURN RR 40 214580				BRANDT GH 64 224628			
BLASER MD 64 205428				BREGMAN H 53 220842			
BLASER RF 24 228202	40 215748	40 215749	40 215750	BRENNER C 51 222648			
BLASER RF 24 215751				BRENNER R 51 221331			
BLAZER RE 23 211620				BREUER R 11 205514	84 226121		

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BREVER R 82 226016				BULLEY WA 90 223883			
BREWER KA 53 206763 53 224322	53 206765	53 206766	53 212990	BUMP VL 33 220054			
BREWER RA 26 216362				BURCHELL C 21 228567			
BRICKMAN AD 26 216364				BURDETTE EG 27 223565			
BRIDWELL L 82 207087				BURKE CA 12 224622			
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BRIGGS GM 40 218568				BURKE JW 53 223914			
BRINTON JH 24 209257				BURKHARDT JE 82 220386			
BRINK RH 32 210904				BURKET RB 22 216734			
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BRITTON SC 61 226839				BURHEISTER WJ 90 223884			
BRITTON WS 31 210731				BURNETT CR 22 227972			
BROHM DR 40 214583				BURNS EN 53 224293			
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BRONSTAD ME 22 216734 22 224310	22 218558	22 220654	22 223727	BURROUS CM 64 205438			
BRONZINI MS 55 214949				BUSCHING HM 31 206200	33 214464		
BROOKS W 53 224302				BUSEK RH 27 226106			
BROWN DO 26 224327				BUSOT JC 31 206194	31 221155		
BROWN FB 33 214464				BUTH CE 51 218147			
BROWN GJ 83 212145	84 214945			BUTH E 22 212150 32 214925	22 224305 32 215036	22 224308	27 226108
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BROWN HE 33 226478				BUTLER BE 23 228528			
BROWN JL 25 228095	26 228096			BUTLER BJ 41 215756			
BROWN SF 25 228088				BUTLER EW 82 209448			
BROWN W 34 215743				BUTLER HD 27 209209			
BROWNFIELD WE 32 223044				BUTLER JD 24 228201			
BRUGGEMAN JM 54 228108	84 208690	84 214935		BUTTON EF 24 215747			
BRUNETTE 26 228092				BYRD LG 40 214581	40 214593	40 214596	40 218574
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BUCK AD 32 210907				CAHOON R 53 210715			
BUFFINGTON JL 15 207669				CALCOTE LR 22 218558			
BUGLASS WJ 40 218593				CALCATERRA PC 27 220050			
BUHR JH 53 206763 53 206771	53 206765 53 206772	53 206766 53 207910	53 206770	CALHOUN CC 23 222189			

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CALLAHAN JP 32 214418				CHANG YB 53 207908			
CAMPBELL HE 51 222655				CHAPPELL CW 81 218087			
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CAMPBELL W 15 210736	15 210738			CHELAPATI CV 23 228530			
CANNER RM 51 220000				CHEN WF 61 218056			
CANTILLI EJ 22 210716	51 215699	84 226287	84 226288	CHERWONY W 84 222088			
CANTY FT 81 226021	84 214608	84 215563	84 224814	CHIARAMONTE RM 53 226284			
CANTZ R 34 228550				CHIANG YC 63 223341			
CAPELLF DG 53 224318				CHINITZ B 81 218082			
CAPLES GB 51 221333				CHISHOLM DA 23 229491			
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CARP FM 82 220388	84 218987	84 226289		CHOU YT 25 218055	63 207042		
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CARROLL JD 81 218066				CHRISTIANO PP 27 223561			
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CARR RM 52 213626				CHURCH DE 81 223905			
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CARTER EC 53 220841				CIRILLO JA 51 213619			
CARTER RG 22 214616				CIVGIN M 15 213955			
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CASELL JF 40 215755				CLARK GA 15 213953			
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CETINER A 22 218145				CLARK RN 23 205335			
CHADDA LR 62 213963				CLARK WE 52 209403			
CHAE YS 63 214914	63 223341			CLARK WM 33 213975			
CHAMBERLAIN DE 32 228519				CLEARY EF 84 206203			
CHAMBERS RE 34 214622				CLENDENNING TG 32 205780			
CHAMBERLIN WP 32 215036	33 224324			CLEVELAND DE 52 212117	55 207129		
CHAN AT 31 213782				CLISBY MB 63 220055			
CHANG CY 25 220948				CLOSE RA 27 209213			
CHANDRASEKHARAN EC 64 205429				CLOUGH DJ 51 219999	52 228549		

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COCKFIELD RW 83 226019				CULVER JL 61 228574			
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COLEMAN RR 51 206110				CURD HN 84 219562		84 221540	
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COLONY OC 15 226015	54 215855	82 212137		CURRIN DD 62 219580			
COMPTON JR 23 222189				CURRY JP 84 226292			
CONE JW 84 221543				CYRA DJ 55 223002			
CONLEY JA 51 210708				DAESEN JR 34 207687			
COOK JC 11 212130				DAHIR SH 35 222658		35 222659	
COOK JP 34 214617	51 218149			DAKIN MG 70 205330			
COOK KE 11 210041	14 207784	15 205593	84 215358	DALE JM 34 211358			
COOPER DL 53 214626				DALE M 53 226286			
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CORLEW JS 33 224774				DALY JF 81 217931			
CORLEY WG 34 216348				DANTIN TJ 62 205245			
COROTIS RB 23 228531				DARE CE 53 207676			
CORRADINO JC 81 215364	84 206206			DARLINGTON JR 26 221134			
COSABOOM B 34 207687				DARTER MI 25 228095		26 216373	31 213779
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COVAULT DD 55 207129	82 228196			DASCH RB 82 205351			
COX BE 40 218590				DASH U 62 223498			
COX CS 52 208606				DATTA T 51 222969			
COX EA 41 206367				DAUGHADAY H 52 213154			
CCYLE HM 33 215708	62 215712			DAVENPORT JT 23 215405			
CRAIG RJ 32 215042				DAVIS H 15 211634			
CRATIN PD 31 216352				DAVIS MG 53 221429			
CRAWFORD FE 40 218592				DAVISSON MT 62 215713			
CREIGHTON RL 81 217927	82 207079	84 226119		DAVIDSON P 15 207675			
CRIBBINS PD 51 214929				DAVIS RE 27 209210			
CROCE K 41 214597				DAVIS RJ 31 218565			
CROWLEY KW 54 215852	55 224822			DAVIS RL 31 221151		33 224778	
CRUMPTON CF 34 228520	34 228522			DAVIDSON WH 24 213789			

DAWSON RF 53 212989				DIETHELM PJ 25 215355			
DAY DE 31 212432				DIEMALD W 55 224821			
DAY WC 33 216150				DILLINGHAM MR 22 206808			
DEACON JA 25 208454	25 220733		55 224767	DIPIETRO CM 52 212992			
DEAK EJ 82 220384				DIRENZO JF 84 222083			
DEAN BV 82 207089				DISEKER EG 40 215753			
DECABOOTER PH 51 224315				DDLAR-MANTUANI L 32 205784	35 219981		
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DEERE DU 33 216152				DOUGAN CE 25 208445	51 210726		
DEGRAFT-JOHNSON JW 61 226847				DOUGLAS J 41 213974			
DEHLEN GL 62 212978				DOUGLAS TR 27 223562			
DEKEMA J 11 216747				DOVE RP 61 207659			
DELANEY DJ 55 224761				DOWNES A 82 211174			
DELEYS NJ 53 221552				DRAKE JA 62 223499			
DELLWIG LF 21 228567				DRAKE WB 40 224619			
DELP L 40 209425	40 224624	41 215695		DRENNON CB 25 216138			
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DE NEUFVILLE R 84 218988				DUDDEN PF 64 206266			
DERBY TF 27 220050				DUDEK CL 53 220839	53 221136	53 221139	53 221432
DESAI D 27 211962				DUECKER KJ 84 228555			
DETTORE JN 15 218981				DUFKER KJ 11 220397	84 214934		
DEUTSCHMAN HD 55 209428	84 214942			DUFFEY D 32 228518			
DEUTERMAN M 33 211968				DUFF JT 53 221232			
DEVANEY FJ 15 206297				DUGOFF H 51 221157			
DEWAR RE 51 228534				DUKE TJ 22 216733			
DEYOUNG CE 33 216486				DUNBAR DW 70 205329			
OGLESBY CH 82 212133				DUNLAP DF 22 224314			
DHAWAN PK 62 213963				DUNLAP WA 62 219580			
DIAL RB 55 212096	55 222096			DUNLAY WJ 40 221144			
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DICKSON PF 33 224774				DUNN CS 62 219583			
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DIHL CE 40 218591				DUNN JR 64 224631			

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DWYER TA 22 227971				ESTEP AC 53 223900			
DYE I 81 218064				EWENS WE 51 219999			
DZIMIAN RJ 34 214620				FAIRBANKS GS 12 223918			
EARLEY WO 24 229083				FALCOCCHIO JC 84 226287	84 226288		
EASH RW 15 213955				FANG HY 25 228086 64 205430	61 207660	61 218056	63 214912
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EDGERLEY E 11 220391				FARBER E 51 228532	52 208604		
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ELLIOTT JF 25 218054				FENVES SJ 40 206366			
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ENSLEY EK 31 216353				FICHTER D 84 221541			
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ERFLE PD 23 222188				FIELD RN 22 205278	51 205276		
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FINN FN 25 220733				FROMM HJ 31 218563	31	218565	
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FLYNN TE 54 228106				GALAMBOS CF 27 209212	27	220048	27 223564 27 223567
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FGNUA RD 53 206776				GALLAGHER V 51 228532			
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FORBES CE 40 218582	53	216376		GARDNER RP 34 207897	34	216347	34 221394
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GOODMAN LA 84 214609				GUILBEAU LH 12 205794			
GOODMAN LE 27 223561				GUNDERSON BJ 34 214618			
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HADLEY WD 62 219582			HANSON JM 34 216348			
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HAENEL HE 53 221433			HARBERT JM 90 221757			
HAIRSTON DE 22 224309			HARGETT ER 31 206197	31 210732		
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HALL G 82 226016			HARNAGE D 26 228090			
HALL JN 26 214587			HARRIS B 83 211626	83 211631	83 214633	84 212997
HALL JW 15 213951	84 213952		HARR ME 26 208460	31 213784	62 216136	
HALLIBURTON TA 62 220819			HARTMAN CH 51 221332			
HALSTEAD WJ 31 218560	31 221156		HARTGEN OT 55 209431	84 222082		
HALTON CC 81 218065			HART GC 27 220051			
HALVERSON HG 40 214581			HARTMAN GW 82 211173			
HAMADA HS 32 226110			HART I 53 224298			
HAMBURG JR 81 217927	83 212145	84 226119	HART TJ 11 215034			
HAMILTON WF 84 221545			HASELTON FR 26 205876			
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HAMMER P 15 205607			HAVENS JM 25 228085			
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HAYWARD JC 51 223916				HIGGINS CM 61 207660			
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HEARING VJ 82 207080				HILL SL 15 205603	82 207087		
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The **National Research Council** was organized as an agency of the National Academy of Sciences in 1916, at the request of President Wilson, to provide a broader participation by American scientists and engineers in the work of the Academy in service to science and the nation. Its members, who receive their appointments from the President of the National Academy of Sciences, are drawn from academic, industrial, and government organizations throughout the country. The National Research Council serves both Academies in the discharge of their responsibilities. Supported by private and public contributions, grants, and contracts and by voluntary contributions of time and effort by several thousand of the nation's leading scientists and engineers, the Academies and their Research Council thus work to serve the national interest, to foster the sound development of science and engineering, and to promote their effective application for the benefit of society.

The **Division of Engineering** is one of the eight major divisions into which the National Research Council is organized for the conduct of its work. Its membership includes representatives of the nation's leading technical societies as well as a number of members-at-large. Its Chairman is appointed by the Council of the Academy of Sciences upon nomination by the Council of the Academy of Engineering.

The **Highway Research Board** is an agency of the Division of Engineering. The Board was established November 11, 1920, under the auspices of the National Research Council as a cooperative organization of the highway technologists of America. The purpose of the Board is to advance knowledge of the nature and performance of transportation systems through the stimulation of research and dissemination of information derived therefrom. It is supported in this effort by the state highway departments, the U.S. Department of Transportation, and many other organizations interested in the development of transportation.