

Subject Index

A

- Airport pavement management system, 32, 228, 240, 272, 297
- American Association of State Highway and Transportation Officials (AASHTO) (See also State highway agencies), 13, 466, 484
- Guide for Design of Pavement Structures, 167
- road test, 411
- Automation, 198
 - airport pavement management system 228, 240
 - distress measuring device, 424
 - expert systems, 47, 106
 - management data and pavement surface model, 394
 - Micro PAVER, 211
 - PAVER, 256, 272, 297
- Axle weights, 411

B–C

- Bayesian updating, 359
- Bearing capacity, 334
- Bridges and structures management system, 359
- Capital Improvement Programs, airport pavement management, 228
- Condition assessment, 3, 106, 167, 256, 318, 466
 - index, 63, 211, 394
 - airport, 228, 297
 - load equivalencies, 411
 - standardization, 350
 - technologies for, 437
 - visual, 334, 424
- Crack density method, standard, 424

D

- Databases, 198, 376
 - airport pavement management, 240
 - inventory, 394
- Data collection and management, 148, 334, 272, 359, 376, 394
 - needs, 32, 106
 - performance, 297
 - procedure evaluation, 376
 - standards for, 350
- Deflection, 334
 - equipment, 437
- Degradation models, 359
- Delaware Department of Transportation, 376
- Design methods, mechanistic, 106
- Design, overlay, 334
- Design, pavement, 411
- Design service life, 466
- Deterioration rate, pavement, 106, 211
 - performance variable, 63
- Diffusion of innovation studies, 91

Distress evaluation, 297, 334

- Distress pavement
 - indices, 63
 - severity, 350
 - surface, 211
 - survey, visual, 424

E–F

- Eddy current technology, 437
- Electromagnetic waves, 437
- Engineering principles, applications in pavement management systems, 106
- Equipment evaluation, 376
- Expert systems, 47, 106
- Federal Aviation Administration, 256
 - pavement condition inspection procedures, 228
- Federal Highway Administration (FHWA), 3, 198, 256, 484
 - pavement management system history, 13
 - pavement management system, impact of, 47

G–H

- Geographic information systems, 47, 211, 240
- Highway information systems, 148
- History, pavement management systems (See also Management systems, pavement—development), 47
 - airport, 228
 - Delaware Department of Transportation, 376
 - Federal Highway Administration, 3
 - Kentucky Transportation Cabinet, 167
 - Ohio Department of Transportation, 318
 - PAVER, U.S. Army, 256

I

- Illinois Department of Transportation, 185, 411
- Image processing, 424
- Indiana Department of Transportation, 228
- Infrastructure management, 91
- Institutional issues, pavement management
 - implementation, 132, 148, 185, 198, 256
 - implementation barriers, 91
- Integrated Airport Pavement Management System, 240
- Intervention levels, 334

J–L

- Joint/crack damage, 437
- Joint/crack spalling, 437

Kansas Department of Transportation, 350
Kentucky Transportation Cabinet, 167
Kingdom of Saudi Arabia, 359
Lagrange methods, 359
Load equivalency, 411
Load power factor, 411
Longitudinal equipment, 437

M

Maintenance management, 47, 318, 350, 359, 466
 airport, 228, 240, 297
 planning system, 334
 priorities, 32
 standardization and, 106, 211
 strategies, 376
Management systems, pavement analysis
 standardization, 484
 barriers to implementation of, 91, 132, 148, 185, 198, 256
 engineering principles in, 106
 evaluating, 148
 feedback systems, 185
 innovation, 132, 272
 models for, 32, 106, 148, 334, 359, 394
 priorities for, 32
 research for, 132
 standardization of, 19, 132, 211, 334, 350, 424, 484
 status of, 47
 training course in, 13
Management systems, pavement—development, 47, 350
 Delaware Department of Transportation, 376
 Kentucky Transportation, 167
 Illinois Department of Transportation, 185
 in Indiana, airports, 228
 North Dakota Department of Transportation, 198
 Ohio Department of Transportation, 318
 U.S. Army, 256
Management systems, pavement—history, 47
 airport, 228
 Delaware Department of Transportation, 376
 Federal Highway Administration, 3
 Kentucky Transportation Cabinet, 167
 Ohio Department of Transportation, 318
 PAVER, U.S. Army, 256
Management systems, pavement—
 implementing, 47, 318, 334
 airports, 228, 240
 Illinois Department of Transportation, 185
 Kentucky Transportation Cabinet, 167
 monitoring, 148
 North Dakota Department of Transportation, 198
 Ohio Department of Transportation, 318
 Rhode Island, 211
 U.S. Air Force, 272
 U.S. Army, 256

Markovian based optimization, 359
Metropolitan Transportation Commission,
 San Francisco, 91
Micro PAVER, 211
Models, pavement management systems
 activities, 32
 analytical, 148
 pavement performance, 106
 pavement surface, 394
 prediction, 334, 359

N

National Cooperative Highway Research
 Program, 19
Nondestructive testing, 297
North Dakota Department of Transportation,
 198

O-P

Ohio Department of Transportation, 318, 359
Optimization methods, 13, 117, 318, 359
Pavement design, 106, 334, 411
Pavement distresses, 167
Pavement Division, Federal Highway
 Administration, 13
Pavement management systems (See
 Management systems, pavement)
Pavement network optimization, 117
Pavement policy, 3
PAVER system, 211, 256, 272
Port Authority of New Jersey and New York,
 240
Prediction techniques, pavement performance,
 106, 198, 318, 334, 359

Q-R

Quadrees, 394
Reconstruction, 297, 376
Reference system, pavement management, 3
Regulations, pavement management systems, 3,
 13, 47, 198, 256, 484
Rehabilitation, pavement, 32, 47, 211, 297, 318
 parameters for implementing, 350
 programs, 466
 scheduling, 198
 strategies, 117, 228, 376
Remaining service life, pavement, 63, 484
 strategy analysis method and, 466
Report generation, 318, 376
 standards for, 350
Rhode Island, pavement management system,
 211
Rideability index, 167
Ride quality, 466
Road Work, 411
Roughness, definitions, 350
Roughness index, 167
Roughness measurement, 334, 350
Rut depth, 334, 437, 466

S

- San Francisco, Metropolitan Transportation Commission, 91
- Saudi Arabia, Kingdom of, 359
- Sensing, non-contact, 394
- Serviceability, 411
- Service life, 63, 466, 488
- Skid resistance, 334, 437
- Spinup/spindown technology, 437
- Standards, pavement management systems, 132, 211, 334, 350, 394
 - analysis, 484
 - concepts for, 19
 - distress measurements, 424
 - engineering, 106
 - skid trailer, 437
- State highway agencies, 63, 148, 240, 466, 484
 - Delaware Department of Transportation, 376
 - Illinois Department of Transportation, 185, 411
 - Indiana Department of Transportation, 228
 - institutional issues, 91, 132, 148, 185, 198, 256
 - Kansas Department of Transportation, 350
 - Kentucky Transportation Cabinet, 167
 - North Dakota Department of Transportation, 198
 - Ohio Department of Transportation, 318, 359
 - Rhode Island, 211
- Statistical procedures, for updating degradation models, 359
- Stochastic optimization system, 359
- Surface condition, pavement, 63
- Surface distress, 211
- Surface model, pavement, 394

T-V

- Training, pavement management, 13, 376
- Transportation Research Board, 13
- U.S. Air Force, 272
- U.S. Army, pavement management system, 256, 297
- Ultrasonic technology, 437
- User interface, 148
- Visual distress survey, 334, 424
- Voice recognition systems, 47
- Voids detection, 437

Author Index

- Allen, D. L., 167
- Al-Qadi, I. L., 437
- Amirkhanian, S. N., 47
- Baladi, G. Y., 63, 466, 484
- Bowen, G. E., 211
- Carmichael, R. F., III, 19
- Cation, K. A., 198
- Clark, G. N., 350
- Darter, M. I., 117
- Dirckx, P., 334
- Eaddy, D. L., 272
- Eckrose, R. A., 228
- Grau, R. W., 297
- Grogan, W. P., 297
- Haas, C. T. M., 394
- Haas, R. C. G., 32, 132, 394
- Hachiya, Y., 297
- Hall, J. P., 117, 185
- Hall, J. W., 297
- Harper, W. V., 359
- Heleven, L. J. E., 334
- Hendrickson, C. T., 394
- Hudson, W. R., 19, 132, 411
- Hudson, S. W., 19
- Kennedy, J. C., Jr., 318
- Kim, Y. R., 272
- Kuo, W.-H., 63, 466, 484
- Lee, H., 424
- Lee, K. W., 211
- Majidzadeh, K., 318, 359
- Matsen, D. W., 376
- McNeil, S., 394
- McNerney, M. T., 411
- Mohseni, A., 117
- Moore, R. K., 350
- Murrell, S. D., 240
- Nostrand, W. A., 13
- Novak, E. C., Jr., 63, 466, 484
- Papet, L. M., 3
- Paterson, W. D. O., 148
- Rada, G. R., 240, 376
- Reynolds, W. G., 228
- Rizenbergs, R. L., 167
- Robinson, R., 148
- Saraf, C. L., 318
- Saraswatula, S. R., 47
- Schwartz, C. W., 240
- Sebaaly, P. E., 437
- Shahin, M. Y., 256
- Sharpe, G. W., 167
- Smith, H. A., 376
- Smith, R. E., 91
- Stubstad, R. N., 106
- Ullidtz, P., 106
- Wambold, J. C., 437