

# Erol Tutumluer

## List of Publications by Citations

**Source:** <https://exaly.com/author-pdf/9069822/erol-tutumluer-publications-by-citations.pdf>

**Version:** 2024-04-26

This document has been generated based on the publications and citations recorded by exaly.com. For the latest version of this publication list, visit the link given above.

The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

232  
papers

3,534  
citations

29  
h-index

48  
g-index

256  
ext. papers

4,122  
ext. citations

2.4  
avg, IF

5.76  
L-index

#	Paper	IF	Citations
232	Evaluation of image analysis techniques for quantifying aggregate shape characteristics. <i>Construction and Building Materials</i> , <b>2007</b> , 21, 978-990	6.7	180
231	Discrete Element Modeling for fouled railroad ballast. <i>Construction and Building Materials</i> , <b>2011</b> , 25, 3306-3312	6.7	137
230	Laboratory Characterization of Fouled Railroad Ballast Behavior. <i>Transportation Research Record</i> , <b>2009</b> , 2117, 93-101	1.7	103
229	Quantification of Coarse Aggregate Angularity Based on Image Analysis. <i>Transportation Research Record</i> , <b>2002</b> , 1787, 117-124	1.7	99
228	Effect of Coarse Aggregate Morphology on Permanent Deformation Behavior of Hot Mix Asphalt. <i>Journal of Transportation Engineering</i> , <b>2006</b> , 132, 580-589		88
227	Discrete element modelling of ballasted track deformation behaviour. <i>International Journal of Rail Transportation</i> , <b>2013</b> , 1, 57-73	2.1	83
226	Dynamic Analysis of Thin Asphalt Pavements by Using Cross-Anisotropic Stress-Dependent Properties for Granular Layer. <i>Transportation Research Record</i> , <b>2010</b> , 2154, 156-163	1.7	82
225	Aggregate Morphology Affecting Strength and Permanent Deformation Behavior of Unbound Aggregate Materials. <i>Journal of Materials in Civil Engineering</i> , <b>2008</b> , 20, 617-627	3	81
224	Geogrid-Aggregate Interlock Mechanism Investigated through Aggregate Imaging-Based Discrete Element Modeling Approach. <i>International Journal of Geomechanics</i> , <b>2012</b> , 12, 391-398	3.1	76
223	Nonlinear Pavement Foundation Modeling for Three-Dimensional Finite-Element Analysis of Flexible Pavements. <i>International Journal of Geomechanics</i> , <b>2009</b> , 9, 195-208	3.1	76
222	Anisotropic Modeling of Granular Bases in Flexible Pavements. <i>Transportation Research Record</i> , <b>1997</b> , 1577, 18-26	1.7	70
221	Characterization of geogrid reinforced ballast behavior at different levels of degradation through triaxial shear strength test and discrete element modeling. <i>Geotextiles and Geomembranes</i> , <b>2015</b> , 43, 393-402	5.2	65
220	Backcalculation of full-depth asphalt pavement layer moduli considering nonlinear stress-dependent subgrade behavior. <i>International Journal of Pavement Engineering</i> , <b>2005</b> , 6, 171-182	2.6	54
219	An integrated approach to dynamic analysis of railroad track transitions behavior. <i>Transportation Geotechnics</i> , <b>2014</b> , 1, 188-200	4	53
218	Geogrid in Flexible Pavements: Validated Mechanism. <i>Transportation Research Record</i> , <b>2008</b> , 2045, 102-109		53
217	Determination of Volume of Aggregates: New Image-Analysis Approach. <i>Transportation Research Record</i> , <b>2000</b> , 1721, 73-80	1.7	51
216	Evaluation of Aggregate Size and Shape by Means of Segmentation Techniques and Aggregate Image Processing Algorithms. <i>Transportation Research Record</i> , <b>2013</b> , 2335, 50-59	1.7	49

215	Validated Model for Predicting Field Performance of Aggregate Base Courses. <i>Transportation Research Record</i> , <b>2003</b> , 1837, 41-49	1.7	44
214	Laboratory Determination of Anisotropic Aggregate Resilient Moduli Using an Innovative Test Device. <i>Transportation Research Record</i> , <b>1999</b> , 1687, 13-21	1.7	44
213	Image-Aided Element Shape Generation Method in Discrete-Element Modeling for Railroad Ballast. <i>Journal of Materials in Civil Engineering</i> , <b>2014</b> , 26, 527-535	3	43
212	Gradation Effects Influencing Mechanical Properties of Aggregate Base Granular Subbase Materials in Minnesota. <i>Transportation Research Record</i> , <b>2012</b> , 2267, 14-26	1.7	42
211	Aggregate Physical Properties Affecting Modulus and Deformation Characteristics of Unsurfaced Pavements. <i>Journal of Materials in Civil Engineering</i> , <b>2012</b> , 24, 1144-1152	3	41
210	Evaluation of Aggregate Imaging Techniques for Quantification of Morphological Characteristics. <i>Transportation Research Record</i> , <b>2013</b> , 2335, 39-49	1.7	38
209	Geogrid Base Reinforcement with Aggregate Interlock and Modeling of Associated Stiffness Enhancement in Mechanistic Pavement Analysis. <i>Transportation Research Record</i> , <b>2009</b> , 2116, 85-95	1.7	37
208	Simulating Ballast Shear Strength from Large-Scale Triaxial Tests: Discrete Element Method. <i>Transportation Research Record</i> , <b>2013</b> , 2374, 126-135	1.7	33
207	Characterizing Ballast Degradation through Los Angeles Abrasion Test and Image Analysis. <i>Transportation Research Record</i> , <b>2014</b> , 2448, 142-151	1.7	32
206	Geogrid mechanism in low-volume flexible pavements: accelerated testing of full-scale heavily instrumented pavement sections. <i>International Journal of Pavement Engineering</i> , <b>2011</b> , 12, 121-135	2.6	31
205	Practices for Unbound Aggregate Pavement Layers <b>2013</b> ,		31
204	Framework for Development of an Improved Unbound Aggregate Base Rutting Model for Mechanistic-Empirical Pavement Design. <i>Transportation Research Record</i> , <b>2014</b> , 2401, 11-21	1.7	30
203	Aggregate base residual stresses affecting geogrid reinforced flexible pavement response. <i>International Journal of Pavement Engineering</i> , <b>2008</b> , 9, 275-285	2.6	29
202	Development of a mechanistic model for geosynthetic-reinforced flexible pavements. <i>Geosynthetics International</i> , <b>2005</b> , 12, 310-320	3.3	29
201	Image Analysis Technique for Aggregate Morphology Analysis with Two-Dimensional Fourier Transform Method. <i>Transportation Research Record</i> , <b>2012</b> , 2267, 3-13	1.7	28
200	Anisotropic Modular Ratios as Unbound Aggregate Performance Indicators. <i>Journal of Materials in Civil Engineering</i> , <b>2002</b> , 14, 409-416	3	28
199	Simulations of large-scale triaxial shear tests on ballast aggregates using sensing mechanism and real-time (SMART) computing. <i>Computers and Geotechnics</i> , <b>2019</b> , 110, 184-198	4.4	27
198	Critical particle size and ballast gradation studied by Discrete Element Modeling. <i>Transportation Geotechnics</i> , <b>2016</b> , 6, 38-44	4	27

197	Geogrid-Reinforced Low-Volume Flexible Pavements: Pavement Response and Geogrid Optimal Location. <i>Journal of Transportation Engineering</i> , <b>2012</b> , 138, 1083-1090		27
196	Degradation-Related Changes in Ballast Gradation and Aggregate Particle Morphology. <i>Journal of Geotechnical and Geoenvironmental Engineering - ASCE</i> , <b>2017</b> , 143, 04017032	3.4	26
195	Investigation of differential movement at railroad bridge approaches through geotechnical instrumentation. <i>Journal of Zhejiang University: Science A</i> , <b>2012</b> , 13, 814-824	2.1	25
194	Evaluation of Expansive Characteristics of Reclaimed Asphalt Pavement and Virgin Aggregate Used as Base Materials. <i>Transportation Research Record</i> , <b>2010</b> , 2167, 10-17	1.7	25
193	Quantifying Effects of Particle Shape and Type and Amount of Fines on Unbound Aggregate Performance through Controlled Gradation. <i>Transportation Research Record</i> , <b>2010</b> , 2167, 61-71	1.7	25
192	Aggregate Morphology Affecting Resilient Behavior of Unbound Granular Materials. <i>Transportation Research Record</i> , <b>2006</b> , 1952, 12-20	1.7	25
191	Micromechanical Particle Interactions in Railway Ballast through DEM Simulations of Direct Shear Tests. <i>International Journal of Geomechanics</i> , <b>2019</b> , 19, 04019031	3.1	24
190	Railroad Track Transitions with Multidepth Deflectometers and Strain Gauges. <i>Transportation Research Record</i> , <b>2014</b> , 2448, 105-114	1.7	24
189	Use of Advanced Aggregate Imaging Systems to Evaluate Aggregate Resistance to Breakage, Abrasion, and Polishing. <i>Transportation Research Record</i> , <b>2014</b> , 2401, 1-10	1.7	24
188	Gradation and Packing Characteristics Affecting Stability of Granular Materials: Aggregate Imaging-Based Discrete Element Modeling Approach. <i>International Journal of Geomechanics</i> , <b>2017</b> , 17, 04016064	3.1	24
187	Investigation of Aggregate Properties Influencing Railroad Ballast Performance. <i>Transportation Research Record</i> , <b>2013</b> , 2374, 180-189	1.7	24
186	Effect of Coarse Aggregate Morphology on the Resilient Modulus of Hot-Mix Asphalt. <i>Transportation Research Record</i> , <b>2005</b> , 1929, 1-9	1.7	24
185	Characterisation of unbound aggregate materials considering physical and morphological properties. <i>International Journal of Pavement Engineering</i> , <b>2017</b> , 18, 303-308	2.6	23
184	Technical and environmental evaluation of metallurgical slags as aggregate for sustainable pavement layer applications. <i>Transportation Geotechnics</i> , <b>2018</b> , 14, 61-69	4	22
183	Performance Evaluations of Unbound Aggregate Permanent Deformation Models for Various Aggregate Physical Properties. <i>Transportation Research Record</i> , <b>2015</b> , 2525, 20-30	1.7	21
182	Neural Network Modeling of Anisotropic Aggregate Behavior from Repeated Load Triaxial Tests. <i>Transportation Research Record</i> , <b>1998</b> , 1615, 86-93	1.7	21
181	Aggregate Morphology Affecting Resilient Behavior of Unbound Granular Materials		21
180	Investigation of Geogrid-Reinforced Railroad Ballast Behavior Using Large-Scale Triaxial Testing and Discrete Element Modeling. <i>Transportation Research Record</i> , <b>2014</b> , 2462, 98-108	1.7	20

179	Machine vision based characterization of particle shape and asphalt coating in Reclaimed Asphalt Pavement. <i>Transportation Geotechnics</i> , <b>2016</b> , 6, 26-37	4	19
178	Influence of Size and Shape Properties of Railroad Ballast on Aggregate Packing: Statistical Analysis. <i>Transportation Research Record</i> , <b>2014</b> , 2448, 94-104	1.7	19
177	Bender Elements Successfully Quantified Stiffness Enhancement Provided by Geogrid Aggregate Interlock. <i>Transportation Research Record</i> , <b>2017</b> , 2656, 31-39	1.7	19
176	Railway Ballast Permeability and Cleaning Considerations. <i>Transportation Research Record</i> , <b>2017</b> , 2607, 24-32	1.7	18
175	Aggregate Surface Areas Quantified through Laser Measurements for South African Asphalt Mixtures. <i>Journal of Transportation Engineering</i> , <b>2012</b> , 138, 1006-1015		18
174	Characterization of Railroad Ballast Behavior under Repeated Loading: Results from New Large Triaxial Test Setup. <i>Transportation Research Record</i> , <b>2013</b> , 2374, 169-179	1.7	18
173	Sandwich Model to Evaluate Railroad Asphalt Trackbed Performance under Moving Loads. <i>Transportation Research Record</i> , <b>2009</b> , 2117, 57-65	1.7	18
172	Role of Initial Particle Arrangement in Ballast Mechanical Behavior. <i>International Journal of Geomechanics</i> , <b>2018</b> , 18, 04017158	3.1	17
171	Full-Scale Model Testing on Ballasted High-Speed Railway: Dynamic Responses and Accumulated Settlements. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 125-135	1.7	17
170	Evaluation of Ballast Behavior under Different Tie Support Conditions using Discrete Element Modeling. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 106-115	1.7	16
169	Using Accelerated Pavement Testing to Evaluate Reclaimed Asphalt Pavement Materials for Pavement Unbound Granular Layers. <i>Journal of Materials in Civil Engineering</i> , <b>2017</b> , 29, 04016205	3	16
168	Validated Mechanistic Model for Geogrid Base Reinforced Flexible Pavements. <i>Journal of Transportation Engineering</i> , <b>2009</b> , 135, 915-926		16
167	Dense-graded aggregate base gradation influencing rutting model predictions. <i>Transportation Geotechnics</i> , <b>2017</b> , 13, 43-51	4	15
166	Validation of a Three-Dimensional Finite Element Model using Airfield Pavement Multiple Wheel Load Responses. <i>Road Materials and Pavement Design</i> , <b>2010</b> , 11, 387-408	2.6	15
165	Artificial Neural Networks for Analyzing Concrete Airfield Pavements Serving the Boeing B-777 Aircraft. <i>Transportation Research Record</i> , <b>1999</b> , 1684, 110-117	1.7	15
164	Automated crack severity level detection and classification for ballastless track slab using deep convolutional neural network. <i>Automation in Construction</i> , <b>2021</b> , 124, 103484	9.6	15
163	Effect of plasticity index and dust ratio on moisture-density and strength characteristics of aggregates. <i>Transportation Geotechnics</i> , <b>2016</b> , 9, 69-79	4	15
162	Moving load on track with Asphalt trackbed. <i>Vehicle System Dynamics</i> , <b>2010</b> , 48, 737-749	2.8	14

161	Polyurethane Coating of Railroad Ballast Aggregate for Improved Performance <b>2010</b> ,		14
160	Discrete Element Modeling of Aggregate Behavior in Fouled Railroad Ballast <b>2009</b> ,		14
159	Multiple Wheel Load Interaction in Flexible Pavements. <i>Transportation Research Record</i> , <b>2008</b> , 2068, 49-60	1.7	14
158	Field Validation of Airport Pavement Granular Layer Rutting Predictions. <i>Transportation Research Record</i> , <b>2006</b> , 1952, 48-57	1.7	14
157	Unbound Aggregate Rutting Models for Stress Rotations and Effects of Moving Wheel Loads		14
156	Effect of Coarse Aggregate Morphology on the Resilient Modulus of Hot-Mix Asphalt		14
155	Horizontal stiffness evaluation of geogrid-stabilized aggregate using shear wave transducers. <i>Geotextiles and Geomembranes</i> , <b>2019</b> , 47, 177-186	5.2	14
154	Implications of Field Loading Patterns on Different Tie Support Conditions using Discrete Element Modeling: Dynamic Responses. <i>Transportation Research Record</i> , <b>2019</b> , 2673, 509-520	1.7	12
153	Discrete Element Modeling of Full-Scale Ballasted Track Dynamic Responses from an Innovative High-Speed Rail Testing Facility. <i>Transportation Research Record</i> , <b>2019</b> , 2673, 107-116	1.7	12
152	Evaluation of Railway Ballast Permeability Using Machine Vision Based Degradation Analysis. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 62-73	1.7	12
151	Triaxial testing and discrete-element modelling of geogrid-stabilised rail ballast. <i>Proceedings of the Institution of Civil Engineers: Ground Improvement</i> , <b>2018</b> , 171, 223-231	1	12
150	Imaging-based direct measurement of aggregate surface area and its application in asphalt mixture design. <i>International Journal of Pavement Engineering</i> , <b>2010</b> , 11, 415-428	2.6	12
149	Mechanistic-Empirical Evaluation of Aggregate Base and Granular Subbase Quality Affecting Flexible Pavement Performance in Minnesota. <i>Transportation Research Record</i> , <b>2011</b> , 2227, 97-106	1.7	12
148	Evaluation of lateral stability of railway tracks due to ballast degradation. <i>Construction and Building Materials</i> , <b>2021</b> , 278, 122342	6.7	12
147	Frost depth prediction for seasonal freezing area in Eastern Turkey. <i>Cold Regions Science and Technology</i> , <b>2016</b> , 124, 118-126	3.8	12
146	Morphological Characterization of Railroad Ballast Degradation Trends in the Field and Laboratory. <i>Transportation Research Record</i> , <b>2016</b> , 2545, 89-99	1.7	12
145	Analysing the effect of principal stress rotation on railway track settlement by discrete element method. <i>Geotechnique</i> , <b>2020</b> , 70, 803-821	3.4	12
144	Understanding track substructure behavior: Field instrumentation data analysis and development of numerical models. <i>Transportation Geotechnics</i> , <b>2018</b> , 17, 109-121	4	12

143	Fines inclusion in a crushed limestone unbound aggregate base course material with 25.4-mm maximum particle size. <i>Transportation Geotechnics</i> , <b>2017</b> , 10, 96-108	4	11
142	Effects of Ballast Degradation on Permanent Deformation Behavior From Large-Scale Triaxial Tests <b>2014</b> ,		11
141	Resilient Modulus Behavior Estimated from Aggregate Source Properties <b>2011</b> ,		11
140	Modeling Nonlinear, Stress-Dependent Pavement Foundation Behavior Using A General-Purpose Finite Element Program <b>2006</b> , 29		11
139	Modeling of elastic anisotropy due to one-dimensional plastic consolidation of clays. <i>Computers and Geotechnics</i> , <b>1994</b> , 16, 311-349	4.4	11
138	Unbound Aggregate Rutting Models for Stress Rotations and Effects of Moving Wheel Loads. <i>Transportation Research Record</i> , <b>2005</b> , 1913, 41-49	1.7	10
137	Strength characteristics of crushed gravel and limestone aggregates with up to 12% plastic fines evaluated for pavement base/subbase applications. <i>Transportation Geotechnics</i> , <b>2019</b> , 18, 25-38	4	10
136	Crushed Limestone Aggregate Strength Influenced by Gradation, Fines Content, and Dust Ratio. <i>Journal of Transportation Engineering Part B: Pavements</i> , <b>2018</b> , 144, 04018002	1.4	9
135	Ballast Settlement Ramp to Mitigate Differential Settlement in a Bridge Transition Zone. <i>Transportation Research Record</i> , <b>2015</b> , 2476, 45-52	1.7	9
134	Anisotropic Aggregate Base Inputs for Mechanistic Pavement Analysis Considering Effects of Moving Wheel Loads. <i>Journal of Materials in Civil Engineering</i> , <b>2005</b> , 17, 505-512	3	9
133	Evaluation of Visual Based Aggregate Shape Classifications Using the University of Illinois Aggregate Image Analyzer (UIAIA) <b>2006</b> , 203		9
132	Modulus Anisotropy and Shear Stability of Geofiber-Stabilized Sands. <i>Transportation Research Record</i> , <b>2004</b> , 1874, 125-135	1.7	9
131	Application of LADAR in the Analysis of Aggregate Characteristics <b>2012</b> ,		9
130	Attempt at Resilient Modulus Modeling Using Artificial Neural Networks		9
129	Field Validation of Airport Pavement Granular Layer Rutting Predictions		9
128	Laboratory fatigue performance of under-ballast mats under varying loads and support conditions. <i>Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit</i> , <b>2019</b> , 233, 606-613	1.4	9
127	Application of the UIUC model for predicting ballast settlement to unsaturated ballasts under moving wheel loads. <i>Transportation Geotechnics</i> , <b>2019</b> , 18, 149-162	4	9
126	A Smartphone-Based Image Analysis Technique for Ballast Aggregates <b>2016</b> ,		8

125	Elastic wave characterization of controlled low-strength material using embedded piezoelectric transducers. <i>Construction and Building Materials</i> , <b>2016</b> , 127, 210-219	6.7	8
124	Pavement Working Platforms Constructed with Large-Size Unconventional Aggregates. <i>Transportation Research Record</i> , <b>2016</b> , 2578, 1-11	1.7	8
123	Laboratory validation of a gradation design concept for sustainable applications of unbound granular materials in pavement construction. <i>Construction and Building Materials</i> , <b>2016</b> , 129, 125-139	6.7	8
122	Evaluation of Chemically Stabilized Quarry Byproduct Applications in Base and Subbase Layers through Accelerated Pavement Testing. <i>Transportation Research Record</i> , <b>2019</b> , 2673, 259-270	1.7	8
121	Characterization and Stabilization of Quarry Byproducts for Sustainable Pavement Applications. <i>Transportation Research Record</i> , <b>2015</b> , 2509, 1-9	1.7	8
120	A Validated Discrete Element Modeling Approach for Studying Geogrid-Aggregate Reinforcement Mechanisms <b>2011</b> ,		8
119	Investigation and Mitigation of Differential Movement at Railway Transitions for US High Speed Passenger Rail and Joint Passenger/Freight Corridors <b>2012</b> ,		8
118	State of the Art: Anisotropic Characterization of Unbound Aggregate Layers in Flexible Pavements <b>2008</b> ,		8
117	Effect of Gradation on Nonlinear Stress-Dependent Behavior of a Sandy Flexible Pavement Subgrade. <i>Journal of Transportation Engineering</i> , <b>2007</b> , 133, 582-589		8
116	Field Performance Evaluation of Sustainable Aggregate By-product Applications <b>2018</b> ,		8
115	Aggregate Properties Affecting Shear Strength and Permanent Deformation Characteristics of Unbound Base Course Materials. <i>Journal of Materials in Civil Engineering</i> , <b>2020</b> , 32, 04019332	3	8
114	Influence of Maximum Particle Size, Fines Content, and Dust Ratio on the Behavior of Base and Subbase Coarse Aggregates. <i>Transportation Research Record</i> , <b>2017</b> , 2655, 20-26	1.7	7
113	Deformation and Dynamic Load Amplification Trends at Railroad Bridge Approaches: Effects Caused by High-Speed Passenger Trains. <i>Transportation Research Record</i> , <b>2017</b> , 2607, 43-53	1.7	7
112	Geogrid Stabilization of Unbound Aggregates Evaluated Through Bender Element Shear Wave Measurement in Repeated Load Triaxial Testing. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 113-125	1.7	7
111	Performance Evaluation of Uncrushed Aggregates in Unsurfaced Road Applications through Accelerated Pavement Testing. <i>Transportation Research Record</i> , <b>2012</b> , 2282, 67-78	1.7	7
110	Falling Weight Deflectometer Testing to Determine Relative Damage in Asphalt Pavement Unbound Aggregate Layers. <i>Transportation Research Record</i> , <b>2009</b> , 2104, 12-23	1.7	7
109	Attempt at Resilient Modulus Modeling Using Artificial Neural Networks. <i>Transportation Research Record</i> , <b>1996</b> , 1540, 1-6	1.7	7
108	Stabilization of a Clayey Soil with Ladle Metallurgy Furnace Slag Fines. <i>Materials</i> , <b>2020</b> , 13,	3.5	7



107	Bender Element Field Sensor for the Measurement of Pavement Base and Subbase Stiffness Characteristics. <i>Transportation Research Record</i> , <b>2021</b> , 2675, 394-407	1.7	7
106	Gradation Effects on the Strength Properties of Cement and Fly Ash Stabilized Quarry By-Products <b>2016</b> ,		6
105	Embedded shear wave transducer for estimating stress and modulus of As-constructed unbound aggregate base layer. <i>Construction and Building Materials</i> , <b>2018</b> , 183, 465-471	6.7	6
104	Microstructural Mechanisms of Early Age Cracking Behavior of Concrete: Fracture Energy Approach. <i>Journal of Engineering Mechanics - ASCE</i> , <b>2011</b> , 137, 439-446	2.4	6
103	Effectiveness of Geogrid Base-Reinforcement in Low-Volume Flexible Pavements <b>2008</b> ,		6
102	Rutting prediction in airport pavement granular base/subbase: A stress history based approach. <i>Transportation Geotechnics</i> , <b>2016</b> , 9, 139-160	4	6
101	Spatial variability of compacted aggregate bases. <i>Transportation Geotechnics</i> , <b>2018</b> , 17, 56-65	4	6
100	Results of Soaked and Unsoaked California Bearing Rate Tests on Unbound Aggregates with Varying Amounts of Fines and Dust Ratios. <i>Transportation Research Record</i> , <b>2017</b> , 2655, 13-19	1.7	5
99	Local stiffness characteristic of geogrid-stabilized aggregate in relation to accumulated permanent deformation behavior. <i>Geotextiles and Geomembranes</i> , <b>2019</b> , 47, 402-407	5.2	5
98	A Framework to Utilize Shear Strength Properties for Evaluating Rutting Potentials of Unbound Aggregate Materials. <i>Procedia Engineering</i> , <b>2016</b> , 143, 911-920		5
97	Spatial Verification of Modulus for Pavement Foundation System. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 333-346	1.7	5
96	Overlay Thickness Design for Low-Volume Roads: Mechanistic-Empirical Approach with Nondestructive Deflection Testing and Pavement Damage Models. <i>Transportation Research Record</i> , <b>2015</b> , 2509, 46-56	1.7	5
95	Characterizing Resilient Behavior of Naturally Occurring Bituminous Sands for Road Construction. <i>Journal of Materials in Civil Engineering</i> , <b>2010</b> , 22, 1085-1092	3	5
94	Neural Network Algorithms for the Correction of Concrete Slab Stresses from Linear Elastic Layered Programs. <i>Transportation Research Record</i> , <b>1997</b> , 1568, 44-51	1.7	5
93	Shear strength properties of naturally occurring bituminous sands <b>2009</b> ,		5
92	Automated Segmentation and Morphological Analyses of Stockpile Aggregate Images using Deep Convolutional Neural Networks. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 285-298	1.7	5
91	Field Imaging and Volumetric Reconstruction of Riprap Rock and Large-Sized Aggregates: Algorithms and Application. <i>Transportation Research Record</i> , <b>2019</b> , 2673, 575-589	1.7	4
90	Durability Aspects of Chemically Stabilized Quarry By-Product Applications in Pavement Base and Subbase. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 339-350	1.7	4

89	Cement-Treated Bases Containing Reclaimed Asphalt Pavement, Quarry By-Products, and Fibers. <i>Transportation Research Record</i> , <b>2016</b> , 2580, 10-17	1.7	4
88	Framework to Improve the Pavement ME Design Unbound Aggregate Rutting Model by Using Field Data. <i>Transportation Research Record</i> , <b>2016</b> , 2591, 57-69	1.7	4
87	Stone blowing as a remedial measure to mitigate differential movement problems at railroad bridge approaches. <i>Proceedings of the Institution of Mechanical Engineers, Part F: Journal of Rail and Rapid Transit</i> , <b>2019</b> , 233, 63-72	1.4	4
86	Particle Shape, Type, and Amount of Fines and Moisture Affecting Resilient Modulus Behavior of Unbound Aggregates <b>2010</b> ,		4
85	Permanent Deformation Behavior of Naturally Occurring Bituminous Sands. <i>Transportation Research Record</i> , <b>2008</b> , 2059, 31-40	1.7	4
84	Effect of Aircraft Load Wander on Unbound Aggregate Pavement Layer Stiffness and Deformation Behavior <b>2008</b> ,		4
83	Advanced Characterization of Granular Materials for Mechanistic Based Pavement Design <b>2000</b> , 51		4
82	Quantification of Railway Ballast Degradation by Abrasion Testing and Computer-Aided Morphology Analysis. <i>Journal of Materials in Civil Engineering</i> , <b>2021</b> , 33, 04020411	3	4
81	Support Condition and Traffic Loading Patterns Influencing Laboratory Determination of Under Ballast Mat Bedding Modulus and Insertion Loss. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 74-84	1.7	4
80	Evaluating Constructed Aggregate Layers of Working Platforms and Flexible Pavements: Adequacy of In-Place Quality Control and Quality Assurance Techniques. <i>Transportation Research Record</i> , <b>2017</b> , 2655, 1-12	1.7	3
79	Railway ballast anisotropy testing via true triaxial apparatus. <i>Transportation Geotechnics</i> , <b>2020</b> , 23, 100355		3
78	Effect of Dust Ratios on the Strength of Aggregates with Low Plasticity Fines <b>2016</b> ,		3
77	Moisture Effects on Degraded Ballast Shear Strength Behavior <b>2016</b> ,		3
76	Ballast Support Condition Affecting Crosstie Performance Investigated Through Discrete Element Method <b>2018</b> ,		3
75	Performance Evaluations of Pavement Working Platforms Constructed with Large-Sized Unconventional Aggregates <b>2015</b> ,		3
74	In-Situ Hydraulic Properties of Unbound Aggregate Layers Measured Using Gas Permeameter Test (GPT) Device <b>2013</b> ,		3
73	Rutting of Airport Pavement Granular Layers <b>2004</b> , 334		3
72	Analysis of Temperature Effects on Pavement Response at Denver International Airport <b>2000</b> , 125		3

71	Wander Patterns for Commercial Aircraft at Denver International Airport <b>2001</b> , 158		3
70	Near Geogrid Stiffness Quantification in Airport Pavement Base Layers Using Bender Element Field Sensor. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 703-715	0.3	3
69	I-RIPRAP Computer Vision Software for Automated Size and Shape Characterization of Riprap in Stockpile Images. <i>Transportation Research Record</i> ,036119812110013	1.7	3
68	Properties of aggregate fines influencing modulus and deformation behaviour of unbound aggregates. <i>International Journal of Pavement Engineering</i> , <b>2021</b> , 22, 498-513	2.6	3
67	Airfield Pavement Damage Evaluation Due to New-Generation Aircraft Wheel Loading and Wander Patterns. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 82-92	1.7	3
66	Soaking Effects on Strength Characteristics of Crushed Gravel and Limestone Unbound Aggregates. <i>Transportation Research Record</i> , <b>2018</b> , 2672, 34-45	1.7	3
65	Airport Pavement Stiffness Monitoring and Assessment of Mechanical Stabilization using Bender Element Field Sensor. <i>Transportation Research Record</i> ,036119812210846	1.7	3
64	Mechanistic Assessment of Layered Pavement Foundation System Using Validated Intelligent Compaction Measurements <b>2019</b> ,		2
63	Use of a Variable Energy Penetrometer and Geo-Endoscopic Imaging in the Performance Assessment of Working Platforms Constructed with Large Size Unconventional Aggregates <b>2016</b> ,		2
62	Railway Ballast Strength and Permeability Affecting Track Performance Under Dry and Wet Conditions <b>2018</b> ,		2
61	Implementation framework of the UIUC aggregate base rutting model. <i>International Journal of Pavement Engineering</i> , <b>2019</b> , 1-13	2.6	2
60	Influence of Aggregate Base Layer Variability on Pavement Performance. <i>Transportation Research Record</i> , <b>2014</b> , 2457, 58-71	1.7	2
59	Field Performance Evaluation of Pavement Construction Platforms Utilizing Unconventional Large Size Aggregates Packed with Quarry Byproducts, and Higher Fines Aggregate Subgrade Layers <b>2017</b> ,		2
58	Sustainable Alternatives in Low Volume Road Base Course Applications Evaluated through Accelerated Pavement Testing <b>2015</b> ,		2
57	DEM Approach for Engineering Aggregate Gradation and Shape Properties Influencing Mechanical Behavior of Unbound Aggregate Materials <b>2014</b> ,		2
56	Laboratory Validation of Coal Dust Fouled Ballast Discrete Element Model <b>2010</b> ,		2
55	Considerations for Nonlinear Analyses of Pavement Foundation Geomaterials in the Finite Element Modeling of Flexible Pavements <b>2007</b> ,		2
54	Stress Path Testing for Proper Characterization of Unbound Aggregate Base Behavior. <i>Transportation Research Record</i> , <b>2001</b> , 1757, 92-99	1.7	2

53	Effects of Simultaneous Temperature and Gear Loading on the Response of Concrete Airfield Pavements Serving the Boeing B-777 Aircraft <b>2000</b> , 25		2
52	Granular Material Radial Deformation Measurements with a Circumferential Extensometer in Repeated Load Triaxial Testing. <i>Transportation Research Record</i> , <b>1998</b> , 1614, 61-69	1.7	2
51	Durability Aspects of Stabilized Quarry By-product Pavement Base and Subbase Applications <b>2019</b> ,		2
50	Size and Shape Determination of Riprap and Large-sized Aggregates Using Field Imaging <b>2020</b> ,		2
49	A Validated Train-Track-Bridge Model with Nonlinear Support Conditions at Bridge Approaches. <i>Infrastructures</i> , <b>2021</b> , 6, 59	2.6	2
48	Advanced full-scale laboratory dynamic load testing of a ballasted high-speed railway track. <i>Transportation Geotechnics</i> , <b>2021</b> , 29, 100559	4	2
47	Effectiveness of Chemical Grouting and Stone Blowing as Remedial Measures to Mitigate Differential Movement at Railroad Track Transitions <b>2016</b> ,		2
46	Performance Checks for Unbound Aggregate Base Permanent Deformation Prediction Models under Dynamic Stress States Induced by Moving Wheel Loading. <i>Procedia Engineering</i> , <b>2016</b> , 143, 979-990		2
45	Engineering Characteristics and Stabilization Performance of Aggregate Quarry By-Products From Different Sources and Crushing Stages. <i>Frontiers in Built Environment</i> , <b>2019</b> , 5,	2.2	2
44	Field Performance Evaluations of Sustainable Aggregate By-product Applications. <i>Lecture Notes in Civil Engineering</i> , <b>2019</b> , 3-23	0.3	1
43	Characterization of Cement Treated Base Course Using Reclaimed Asphalt Pavement, Aggregate By-Products, and Macro-Synthetic Fibers <b>2016</b> ,		1
42	Evaluation of Compacted Aggregate Base Course Layers <b>2014</b> ,		1
41	Evaluating Railroad Ballast Degradation Trends Using Machine Vision and Machine Learning Techniques <b>2017</b> ,		1
40	Investigation of Deformation Trends Observed in Pavement Test Section Unbound Aggregate Layers Due to Heavy Aircraft Loading with Wander <b>2017</b> ,		1
39	Laboratory and Field Measured Moduli of Unsurfaced Pavements on Weak Subgrade <b>2012</b> ,		1
38	Unbound Aggregate Deformation Behavior due to Traffic Wander: Investigation Using Discrete Element Modeling. <i>Transportation Research Record</i> , <b>2010</b> , 2154, 164-175	1.7	1
37	Implications of Complex Axle Loading and Multiple Wheel Load Interaction in Low Volume Roads <b>2008</b> ,		1
36	Analysis of Granular Bases Using Discrete Deformable Blocks. <i>Journal of Transportation Engineering</i> , <b>1998</b> , 124, 573-581		1

35	Bender Element Field Sensors for Base Course Stiffness Measurements in Airport Pavements. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 861-876	0.3	1
34	Sustainable field applications of quarry byproducts mixed with large size unconventional aggregates <b>2017</b> , 1127-1134		1
33	Sustainable Use of Oil Sands for Geotechnical Construction and Road Building. <i>Journal of ASTM International</i> , <b>2012</b> , 9, 103651		1
32	Validation of a Three-Dimensional Finite Element Model using Airfield Pavement Multiple Wheel Load Responses		1
31	Sustainable Application of Quarry Byproducts Mixed with Large Size Unconventional Aggregates for Improved Performance. <i>Sustainable Civil Infrastructures</i> , <b>2018</b> , 262-273	0.2	1
30	Vision for Mechanistic-Empirical Railway Track System and Component Analysis and Design. <i>Transportation Research Record</i> ,036119812110098	1.7	1
29	Optimizing Stability and Stiffness Through Aggregate Base Gradation. <i>Transportation Research Record</i> , <b>2016</b> , 2578, 12-20	1.7	1
28	Field Performance Evaluations of Large Sized Unconventional and Recycled Aggregates for Subgrade Improvement <b>2016</b> , 877-890		1
27	Nondestructive Deflection Testing based Mechanistic-empirical Overlay Thickness Design Approach for Low Volume Roads: Case Studies. <i>Procedia Engineering</i> , <b>2016</b> , 143, 945-953		1
26	Bender Element Shear Wave Measurement Based Local Stiffness Characteristics Related to Permanent Deformation Behavior of Geogrid-Stabilized Aggregate Specimens <b>2020</b> ,		1
25	Local Stiffness Quantification of Geogrid Stabilized Aggregates in Relation to Deformation Behavior <b>2018</b> , 109-114		1
24	A Roadmap for Sustainable Smart Track Wireless Continuous Monitoring of Railway Track Condition. <i>Sustainability</i> , <b>2021</b> , 13, 7456	3.6	1
23	Triaxial testing of new and degraded ballast under dry and wet conditions. <i>Transportation Geotechnics</i> , <b>2022</b> , 34, 100744	4	1
22	Effect of Ballast Degradation on Track Dynamic Behavior Using Discrete Element Modeling. <i>Transportation Research Record</i> ,036119812210839	1.7	1
21	Data-Driven Railway Crosstie Support Condition Prediction Using Deep Residual Neural Network: Algorithm and Application. <i>Transportation Research Record</i> ,036119812110494	1.7	0
20	Use of a 3D Structured-Light Scanner to Determine Volume, Surface Area, and Shape of Aggregates. <i>Journal of Materials in Civil Engineering</i> , <b>2021</b> , 33, 04021240	3	0
19	Stiffness evaluation of compacted geo-materials using crosshole-type dynamic cone penetrometer (CDP), rPLT, and LFWD. <i>Construction and Building Materials</i> , <b>2021</b> , 303, 124015	6.7	0
18	Modeling cyclic behavior of unbound aggregates using two-surface plasticity theory. <i>Construction and Building Materials</i> , <b>2022</b> , 325, 126774	6.7	0

17	Monitoring Particle Movement under Compaction using SmartRock Sensor: A Case Study of Granular Base Layer Compaction. <i>Transportation Geotechnics</i> , <b>2022</b> , 34, 100764	4	○
16	Aggregate Subgrade Improvements Using Quarry By-Product Fines: A Case Study. <i>Transportation Research Record</i> ,036119812210839	1.7	○
15	Geomaterial Characterizations of Full Scale Pavement Test Sections for Mechanistic Analysis and Design <b>2007</b> , 1		
14	Riprap Stockpile Size and Shape Analyses Using Computer Vision. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 903-913	0.3	
13	Experimental Investigation of the Stabilization Performance of Geogrids for Unpaved Roads with Low Bearing Capacity Subgrade. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 717-728	0.3	
12	Dynamic Behavior Modeling of Full-Scale High-Speed Ballasted Track Using Discrete Element Method. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 435-447	0.3	
11	Advanced Testing and Characterization of Shear Modulus and Deformation Characteristics of Oil Sand Materials. <i>Journal of Testing and Evaluation</i> , <b>2014</b> , 42, 20130049	1	
10	Evaluation of Railroad Ballast Field Degradation Using an Image Analysis Approach. <i>Sustainable Civil Infrastructures</i> , <b>2018</b> , 106-120	0.2	
9	Sustainable Use of Oil Sands for Geotechnical Construction and Road Building <b>2012</b> , 73-94		
8	Sustainable Use of Oil Sands for Geotechnical Construction and Road Building <b>2012</b> , 73-94		
7	Aggregate Base/Granular Subbase Quality Affecting Fatigue Cracking of Conventional Flexible Pavements in Minnesota <b>2012</b> , 707-717		
6	Mechanistic Analyses and Modeling of Pavement Sections Utilizing Sustainable Aggregate Quarry By-Product Applications. <i>Transportation Research Record</i> , <b>2020</b> , 2674, 614-627	1.7	
5	C-FLEX Advanced Finite Element Analysis Program for Flexible Pavement Analysis and Design. <i>Transportation Research Record</i> ,0361198122110067	1.7	
4	Durability of Stabilized Quarry By-Products in Base and Subbase Applications. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 659-671	0.3	
3	Finite Element Analysis of Nonlinear Elastic Behavior of Unbound Aggregate Materials Under Repeated Loading. <i>Lecture Notes in Civil Engineering</i> , <b>2022</b> , 253-264	0.3	
2	Fines content, plasticity index and dust ratio influencing the modulus and permanent deformation behavior of aggregates. <i>Transportation Geotechnics</i> , <b>2021</b> , 30, 100630	4	
1	Design Considerations for a Permanent Granular Subbase Under Concrete Pavements: Stability, Drainability and Durability Requirements. <i>Transportation Research Record</i> ,036119812210825	1.7	