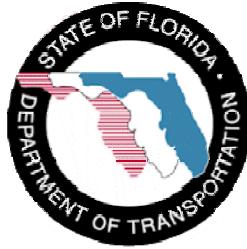


STATE OF FLORIDA



2006 ANNUAL PERSPECTIVE ON RIDE QUALITY OF NEW FLEXIBLE PAVEMENTS



FL/DOT/SMO/07-504

March 2007

STATE MATERIALS OFFICE

This report is a result of the dedicated effort and contribution by the following individuals:

Gregory Beckner
William Bryant
Salil Gokhale
Kyle Kroodsmma
Alexander Mraz
Abdenour (Nour) Nazef
Glenn Salvo
Robert Schaub
John Schiffermuller
Stacy Scott

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Executive Summary

The traveling public wants smooth, safe, and long lasting pavements. Initial pavement smoothness has been shown to improve the overall pavement performance. The Florida Department of Transportation (FDOT) has developed smoothness specifications for the acceptance of asphalt pavements on high-speed facilities based on smoothness results obtained with high-speed inertial profilers.

This report is a synthesis of statewide project smoothness data collected from October 26, 2005 through December 6, 2006. It provides the end user with basic statistics on the Ride quality of projects tested for Ride Acceptance (RA) and for Ride Evaluation (RE). RA testing is for project acceptance purposes as required by the smoothness specifications, whereas RE is conducted for information only.

The information presented herein is summarized on a statewide basis as well as by District, by roadway system type, by friction course type, and by contractor. Contractor statistics are further summarized by friction course type, binder type, and roadway access type. In addition, Appendix A provides Ride data by project for each District, and Appendix B provides a customer survey at the end of the report.

**** Title 23 U.S.C. Section 409, provides that this information provided to you is not subject to discovery nor is it admissible into evidence.**

Introduction

Pavement smoothness is probably the single most important indicator of performance from the standpoint of the traveling public, and a major determinant of roadway users' costs. Thus, attaining acceptable surface smoothness on newly constructed and rehabilitated pavements is an important goal for highway agencies.

FDOT RIDE QUALITY

Ride quality has been used by FDOT for evaluating new construction and overlays projects (Ride Acceptance and Ride Evaluation), and for monitoring long-term pavement performance at the network level. Most states including Florida use high-speed inertial profilers to measure smoothness. The commonly used measures of roughness (or smoothness) are the International Roughness Index (IRI) and Ride Number (RN). Since 1998, FDOT has been using the RN for project level acceptance, and evaluation in accordance with ASTM E-1489.

The FDOT has worked very closely with the Federal Highway Administration (FHWA) and the construction industry to improve pavement smoothness on Florida's state highways. To this end, a smoothness task team was created with representatives from FDOT, FHWA and the paving industry to develop and implement non-contact profiler based smoothness specifications. Sub-article 330-12.6 of the FDOT Standard Specifications sets the requirements for Acceptance Testing for Pavement Smoothness by Laser Profiler.

RIDE QUALITY EVALUATION PROCESS

The Pavement Condition Unit of the State Materials Office (SMO) is responsible for conducting smoothness evaluation using an inertial high-speed laser profiler. Florida test method FM 5-549 provides the method by which a pavement is evaluated for smoothness.

The test vehicle uses a three laser sensor system, and two accelerometers mounted in the front bumper of a full-size van. Two of the laser sensors are mounted equidistant from the bumper centerline so as to measure the longitudinal profiles in the left and right wheel paths of the traveled surface. These 32 kHz lasers measure the vertical distance from the pavement surface at an initial rate of 30 readings per inch as the vehicle travels at 60 mph. The data is filtered and reduced to a 6 inch recording interval. The accelerometers are mounted atop the two outside lasers to isolate the vehicle vertical motion and thus provide a "zero" reference plane. The vehicle is also equipped with a data acquisition system to collect and store the longitudinal profile data. A Distance Measuring Instrument (DMI) is connected to the vehicle transmission and is used to record the longitudinal distance traveled.

The vehicle is driven along the wheel paths of the pavement section to be evaluated. As the vehicle travels at highway speed, the sensors measure the vertical acceleration of the vehicle and the vertical distance between the sensors and the pavement surface, as well as the traveled distance. The sensor signals are combined through a computerized process to generate the longitudinal profiles in both wheel paths, from which the Profile Index (PI) statistic is derived (2). The resulting PI values are then processed through a non-linear mathematical transformation to yield RN value(s) for each 0.1 mile or any other desired reporting interval (1).

District project personnel may submit all requests for pavement evaluations using online request forms available at the SMO's website:

Intranet: <http://materials.dot.state.fl.us/smo/pavement/pavementhome.htm>

Internet: <http://www.dot.state.fl.us/statematerialsoffice/pavement/pavementhome.htm>

WHAT IS RIDE NUMBER?

The Pavement Serviceability Index (PSI) has been used by engineers since the AASHO road test in the 1950's as an estimate of the opinion of the traveling public of the roughness (or lack of smoothness) of roads. The Ride Number (RN) is a profile index similar to the PSI, and was a result of NCHRP research study 1-23 in the 1980's (1). It is an index that rates rideability of a road using a 0 to 5 scale, where an RN of 5.0 is considered to be a perfect ride quality road, and an RN of zero is an impassable road. The 0 to 5 scale was used because it was familiar to the highway community, as it corresponds to the mean panel rating that would be given to a pavement section based on drivers' perception of pavement roughness. The definition of these two end limits are given in section 4.3.2 of ASTM E-1489.

The RN is defined by the following equation:

$$RN = 5e^{-160 PI} \dots\dots\dots (1)$$

Where:

$$PI = \sqrt{\frac{PI_L^2 + PI_R^2}{2}} \dots\dots\dots (2)$$

PI_L = Profile Index in the Left wheel path (ft/ft)

PI_R = Profile Index in the Right wheel path (ft/ft)

Observations and General Notes

The following points/observations were made during the compilation of this report.

1. The statistics presented in this report represent project Ride Acceptance (RA) and Ride Evaluation (RE) data collected with SMO's laser profilers from October 26, 2005 through December 6, 2006. There are two (2) other laser profilers being operated by District 4/6 and the Turnpike District in addition to the profilers operated by the SMO staff. The information presented herein may not include all of the data collected with the profilers from District 4/6 and the Turnpike District.
2. The data analyzed herein consists of all lots greater than or equal to 0.01 mile and less than or equal to 0.1 mile in length.

Statewide Ride Distribution by System Type

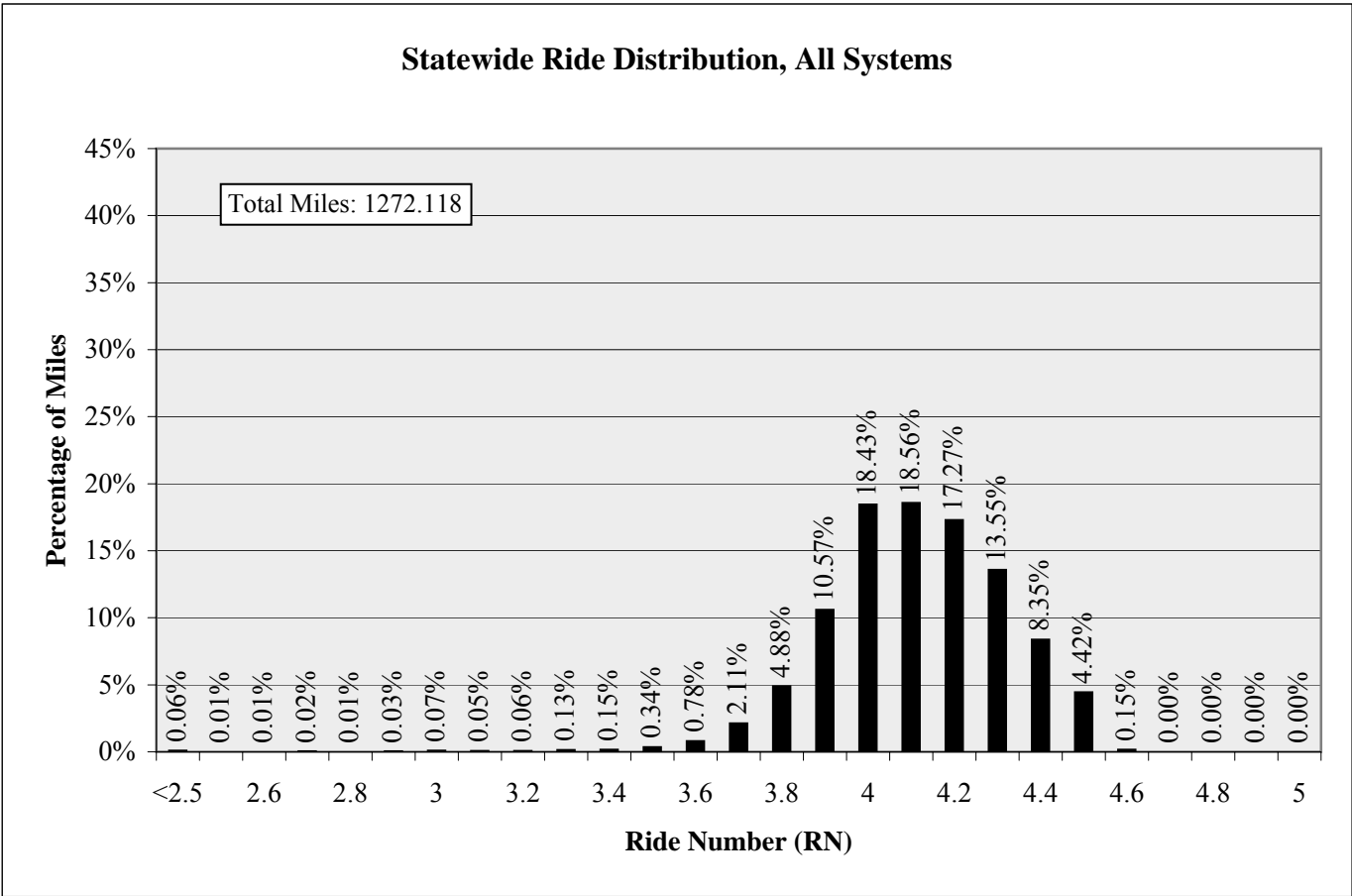


Figure 1 Statewide Ride Distribution, All Systems

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
All Systems	13057	1272.118	0.7	4.1	4.6	0.23	146	11.827

Primary

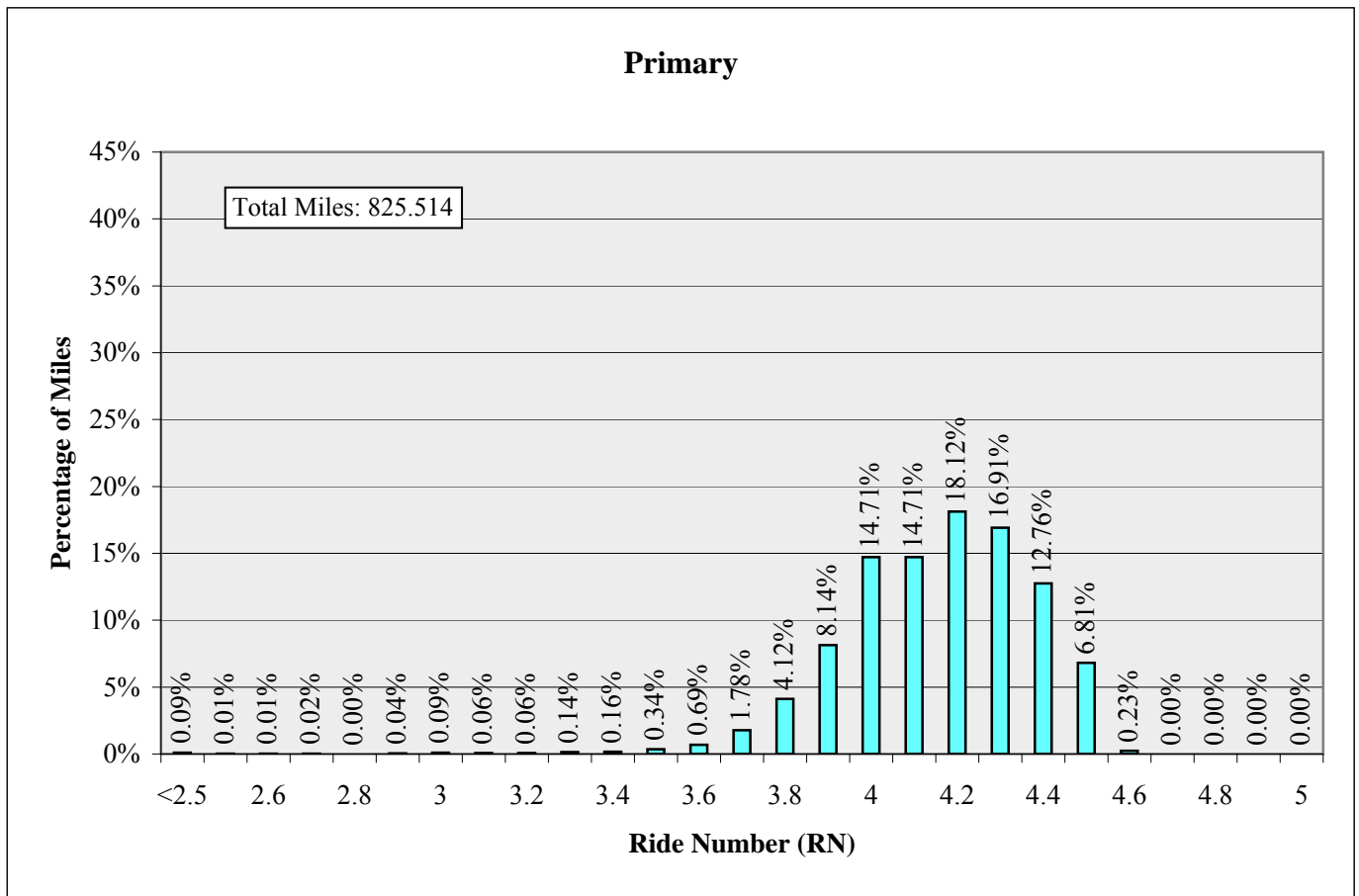


Figure 2 Statewide Ride Distribution, Primary

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Primary	8452	825.514	0.8	4.1	4.6	0.24	108	8.557

Toll Roads

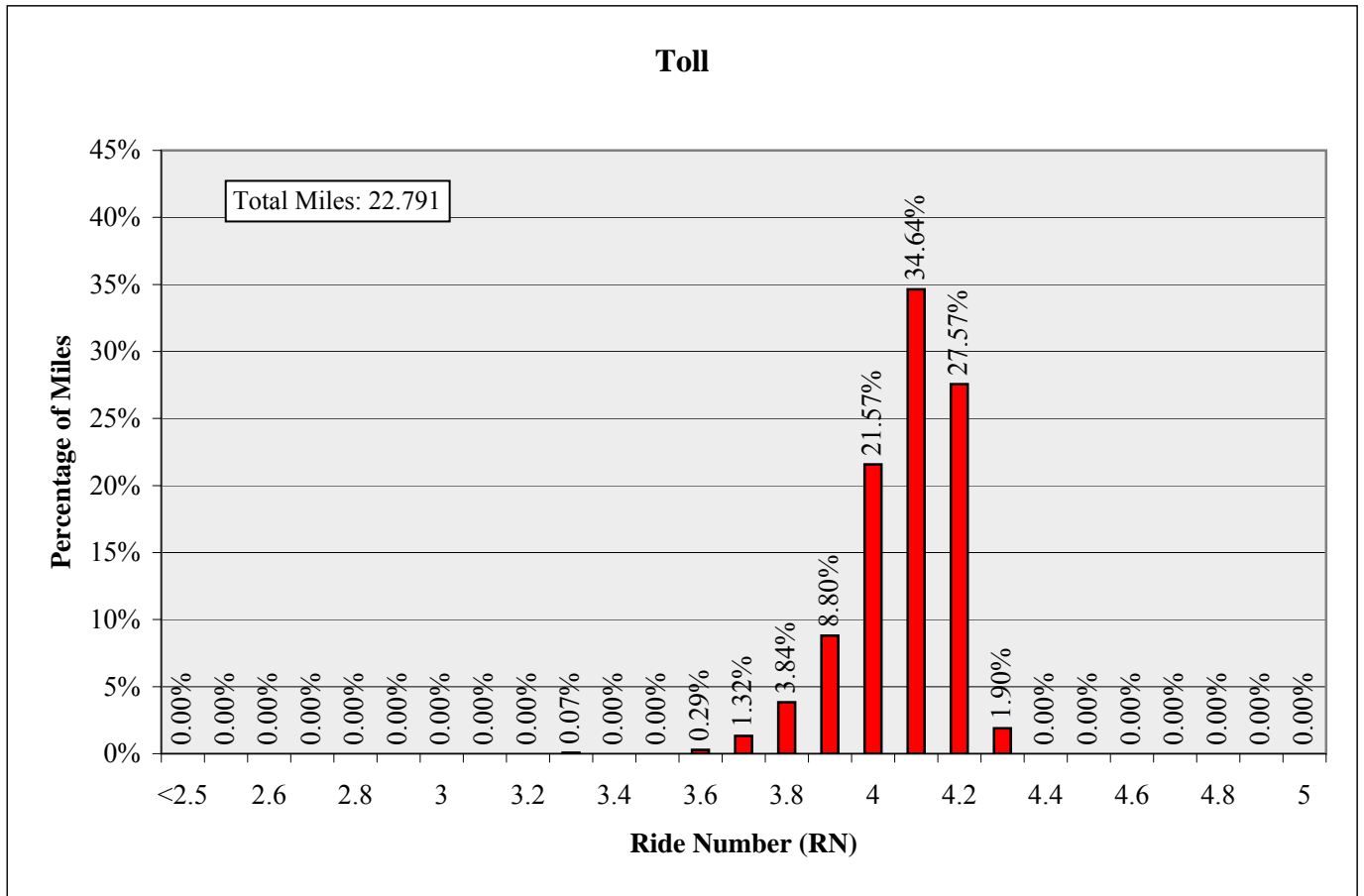


Figure 3 Statewide Ride Distribution, Toll Roads

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Toll	246	22.791	3.3	4.1	4.3	0.14	1	0.016

Interstate

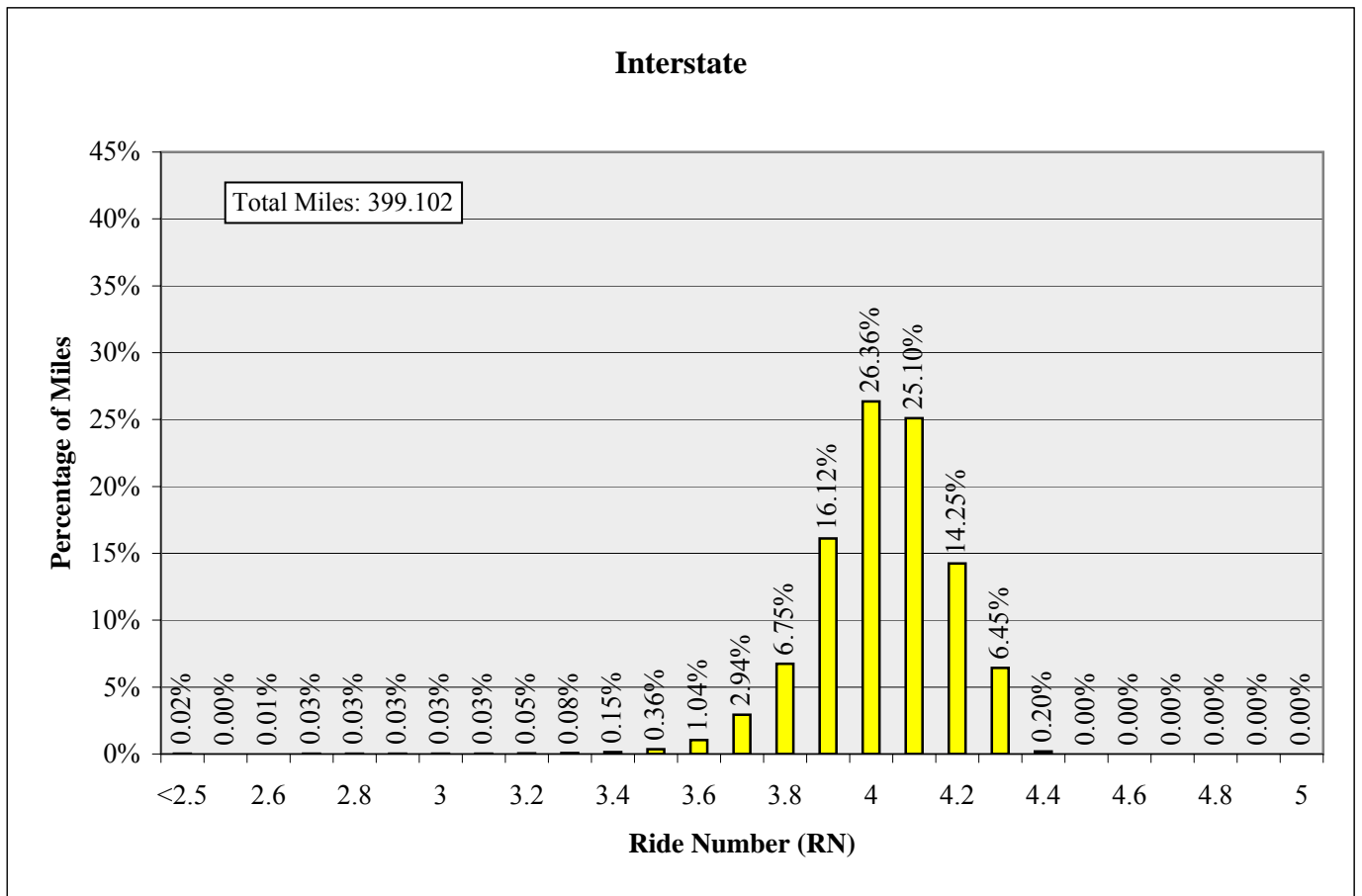


Figure 4 Statewide Ride Distribution, Interstate

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Interstate	4091	399.102	0.7	4.0	4.4	0.17	36	3.154

Turnpike

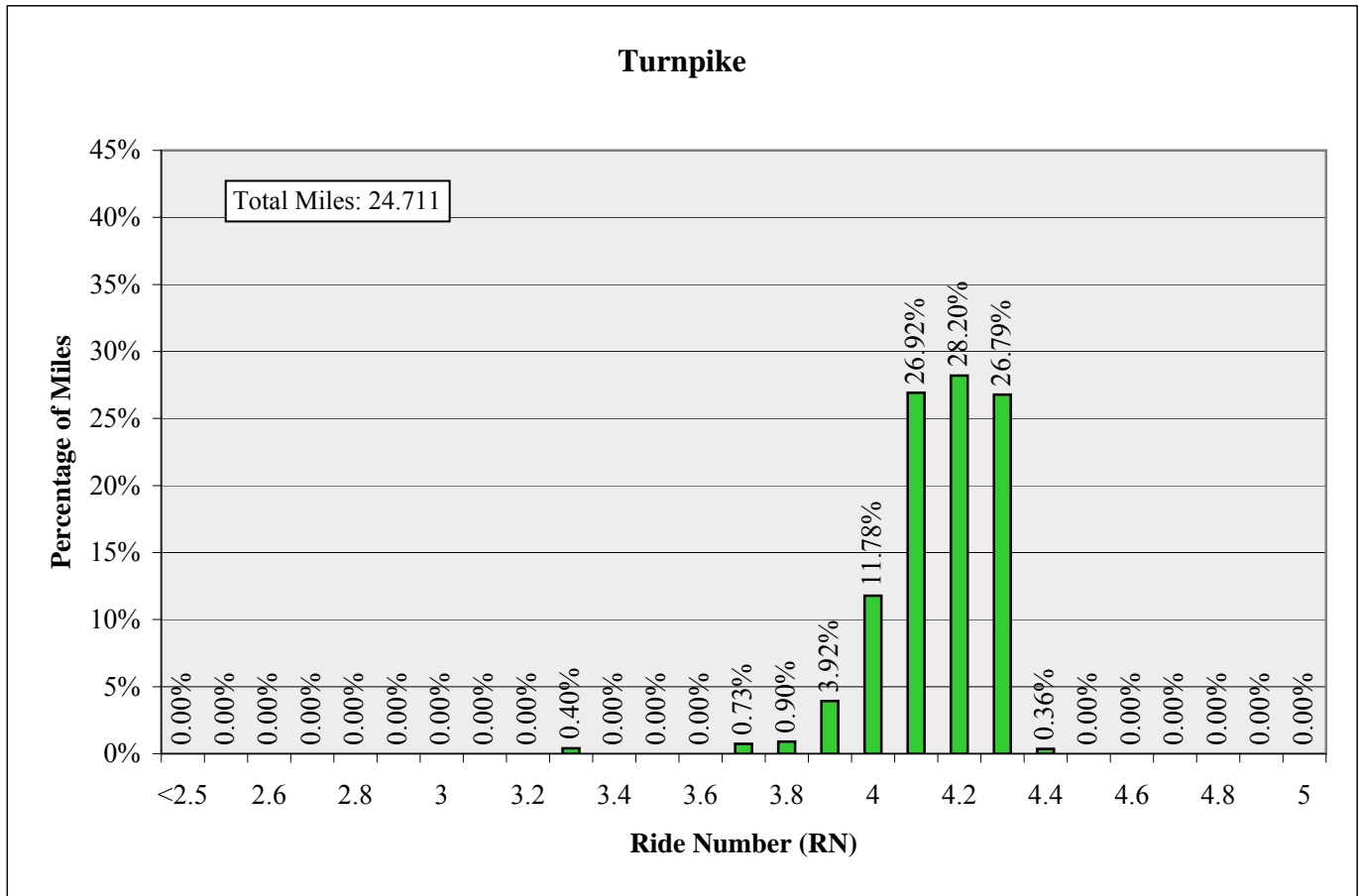


Figure 5 Statewide Ride Distribution, Turnpike

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Turnpike	268	24.711	3.3	4.1	4.4	0.14	1	0.100

Ride Distribution by Friction Course Type

FC 12.5

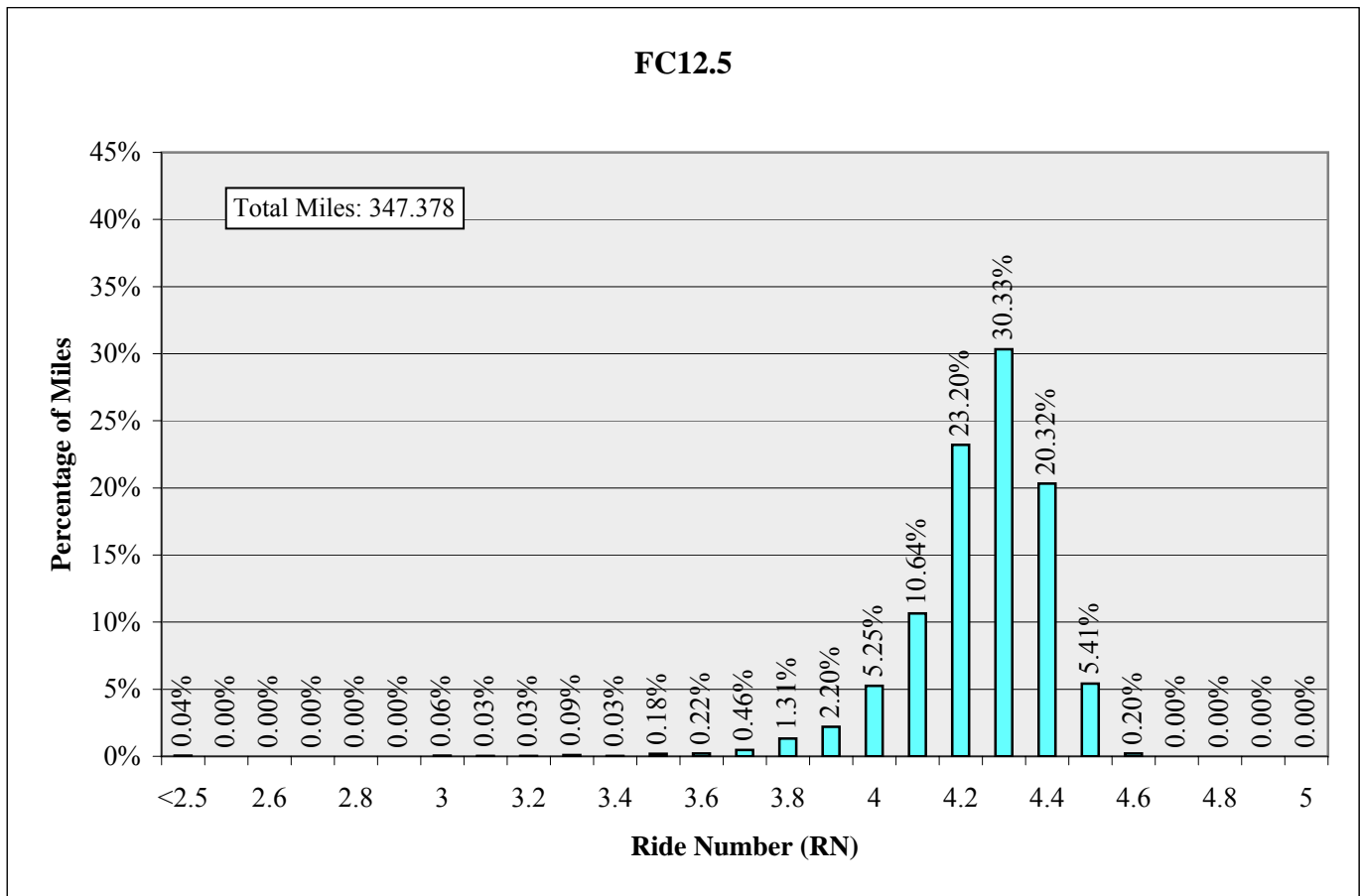


Figure 6 Statewide Ride Distribution, FC 12.5

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
FC12.5	3542	347.378	0.8	4.2	4.6	0.19	19	1.571

FC 5

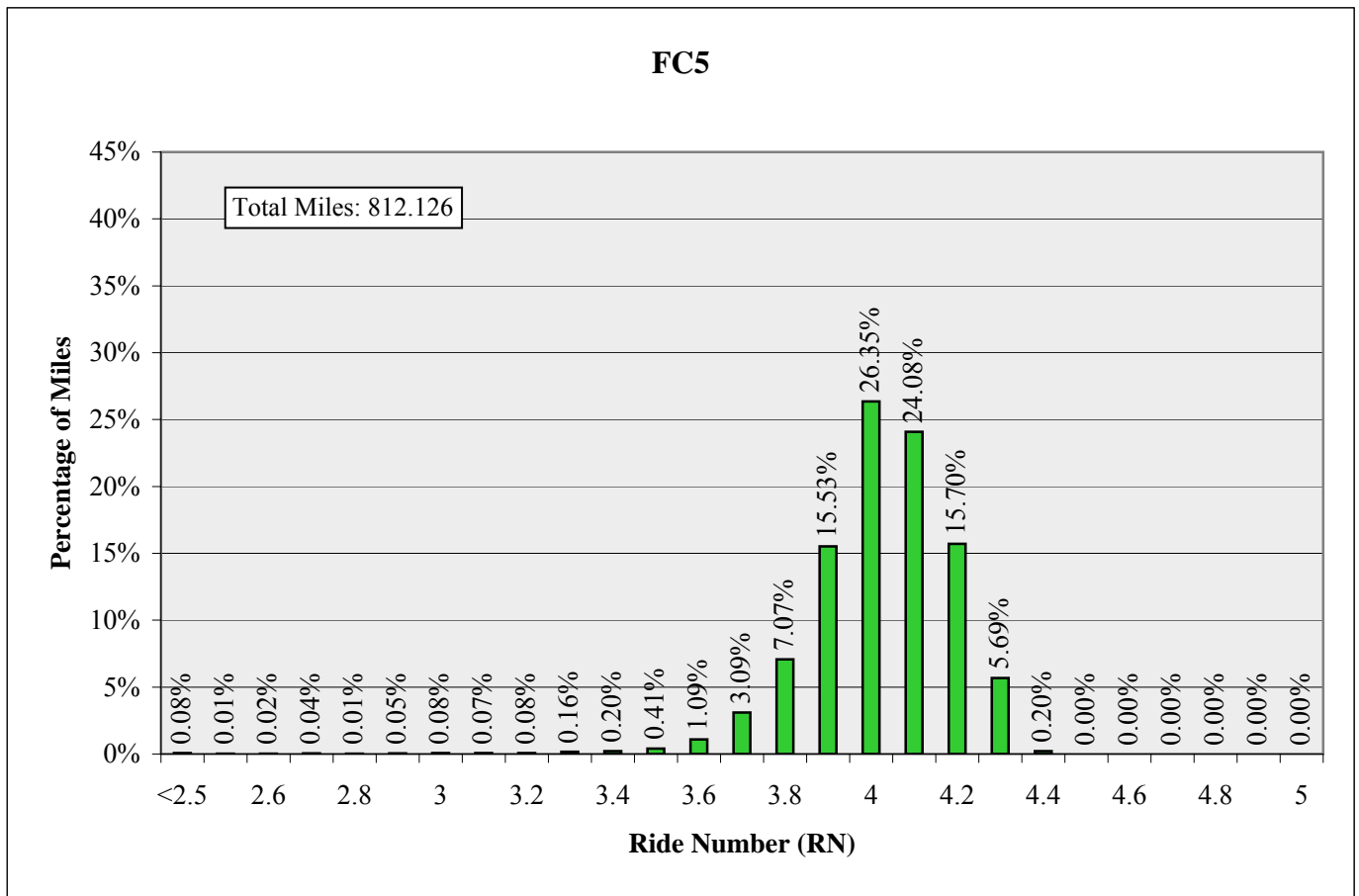


Figure 7 Statewide Ride Distribution, FC 5

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
FC5	8362	812.126	0.7	4.0	4.4	0.19	119	9.754

FC 9.5

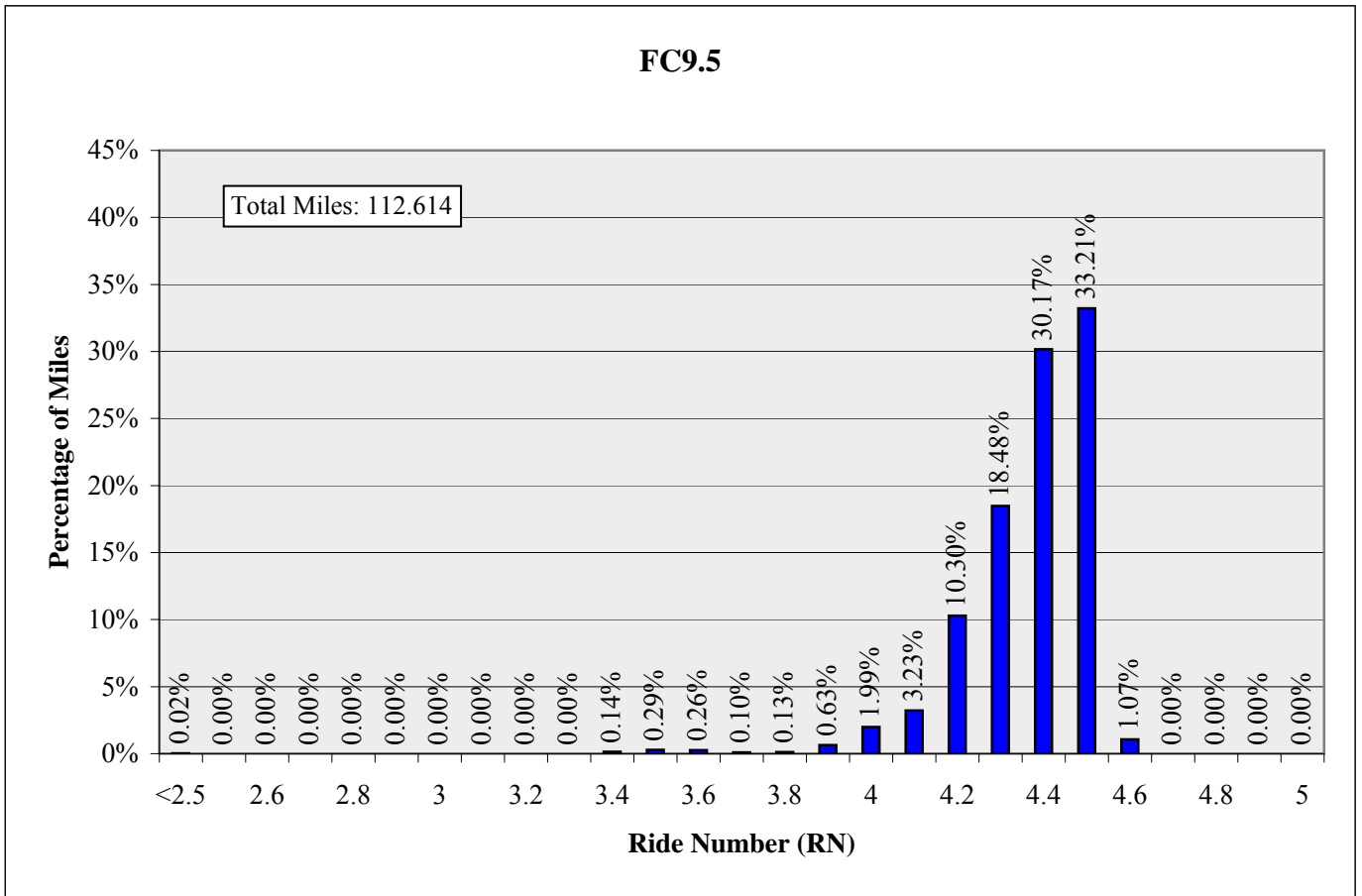


Figure 8 Statewide Ride Distribution, FC 9.5

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
FC9.5	1153	112.614	2.1	4.4	4.6	0.17	8	0.502

Statewide Statistics

Table 1 Statistical Summary for Friction Course Type, by System Type

	System Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
								Lots	Miles
FC12.5	Primary	3542	347.378	0.8	4.2	4.6	0.20	19	1.571
	Toll	0	0.000	0.0	0.0	0.0	0.00	0	0.000
	Interstate	0	0.000	0.0	0.0	0.0	0.00	0	0.000
	Turnpike	0	0.000	0.0	0.0	0.0	0.00	0	0.000
FC5	Primary	3757	365.522	1.2	4.0	4.4	0.20	81	6.484
	Toll	246	22.791	3.3	4.1	4.3	0.10	1	0.016
	Interstate	4091	399.102	0.7	4.0	4.4	0.20	36	3.154
	Turnpike	268	24.711	3.3	4.1	4.4	0.10	1	0.100
FC9.5	Primary	1153	112.614	2.1	4.4	4.6	0.20	8	0.502
	Toll	0	0.000	0.0	0.0	0.0	0.00	0	0.000
	Interstate	0	0.000	0.0	0.0	0.0	0.00	0	0.000
	Turnpike	0	0.000	0.0	0.0	0.0	0.00	0	0.000

Table 2 Statewide Statistical Summary for Friction Course Type, by Binder Type

	Binder Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
								Lots	Miles
FC12.5	Asphalt-Rubber	2222	217.786	0.8	4.3	4.6	0.20	13	1.057
	Polymer-Modified	1320	129.592	1.8	4.2	4.5	0.20	6	0.514
FC5	Asphalt-Rubber	4228	408.152	0.7	4.0	4.4	0.20	61	4.427
	Polymer-Modified	4134	403.974	1.5	4.0	4.4	0.20	58	5.327
FC9.5	Asphalt-Rubber	1012	98.856	3.4	4.4	4.6	0.20	7	0.480
	Polymer-Modified	141	13.758	2.1	4.3	4.5	0.20	1	0.022

Table 3 Statistical Summary for Friction Course Type, by Access Type

	Access Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
								Lots	Miles
FC12.5	Limited	0	0.000	0.0	0.0	0.0	0.00	0	0.000
	Non-Limited	3542	347.378	0.8	4.2	4.6	0.20	19	1.571
FC5	Limited	4662	451.321	0.7	4.0	4.4	0.20	44	3.575
	Non-Limited	3700	360.805	1.2	4.0	4.4	0.20	75	6.179
FC9.5	Limited	0	0.000	0.0	0.0	0.0	0.00	0	0.000
	Non-Limited	1153	112.614	2.1	4.4	4.6	0.20	8	0.502

Table 4 Lane Miles Tested by Friction Course Type

Total Lane Miles Tested								
Friction Course Type	District 1	District 2	District 3	District 4	District 5	District 6	District 7	District 8
FC12.5	82.347	158.419	76.695	0.000	17.728	0.000	12.189	0.000
FC5	181.649	142.776	51.033	0.000	330.988	0.000	80.969	24.711
FC9.5	68.364	0.000	0.000	0.000	32.369	0.000	11.881	0.000
Total	332.360	301.195	127.728	0.000	381.085	0.000	105.039	24.711

Statewide Contractor Statistics

Table 5 Statewide Statistical Summary for Contractors

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
Anderson Columbia	3992	392.988	0.8	4.1	4.5	0.20	27	2.325
Ranger	1158	111.585	1.2	4.0	4.4	0.21	27	2.493
Whitehurst	449	44.564	3.9	4.2	4.4	0.10	0	0.000
D.A.B.	119	11.291	3.7	4.2	4.5	0.12	0	0.000
A.P.A.C.	2233	217.028	0.7	4.0	4.5	0.19	25	2.120
Orlando Paving	268	24.711	3.3	4.1	4.4	0.14	1	0.100
Atlantic Coast	48	4.091	2.6	3.8	4.1	0.29	4	0.181
Ajax Paving Ind.	739	71.687	2.5	4.1	4.5	0.15	2	0.091
C.W. Roberts	727	71.612	3.6	4.4	4.6	0.11	0	0.000
Milestone Southern Paving	57	4.717	3.0	3.9	4.2	0.28	6	0.305
Dickerson Asphalt	19	1.725	3.5	4.0	4.3	0.22	1	0.014
Better Roads Inc.	1120	109.062	2.1	4.3	4.6	0.24	10	0.720
Elmo Greer	292	28.541	3.4	4.3	4.6	0.17	1	0.100

Table 5 Statewide Statistical Summary for Contractors, continued

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
P & S Paving	731	71.475	1.8	4.1	4.6	0.30	30	2.730
Lane	714	68.885	1.5	4.0	4.5	0.24	11	0.583
John C. Hipp	18	1.718	4.1	4.3	4.4	0.08	0	0.000
Hewitt Contracting Co.	329	32.249	3.3	3.9	4.2	0.13	1	0.065
Overstreet Paving	44	4.189	3.8	4.2	4.4	0.16	0	0.000

Table 6 Statewide Statistical Summary for Contractors, by Friction Course Type

	Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
								Lots	Miles
FCI2.5	Anderson Columbia	1015	99.547	0.8	4.2	4.5	0.23	9	0.657
	Ranger	6	0.600	3.2	3.7	4.0	0.28	2	0.200
	Whitehurst	449	44.564	3.9	4.2	4.4	0.10	0	0.000
	D.A.B.	96	9.509	4.0	4.2	4.5	0.09	0	0.000
	A.P.A.C.	422	41.155	3.0	4.2	4.4	0.16	1	0.100
	Ajax Paving Ind.	207	20.320	3.9	4.3	4.5	0.10	0	0.000
	C.W. Roberts	727	71.612	3.6	4.4	4.6	0.11	0	0.000
	Dickerson Asphalt	19	1.725	3.5	4.0	4.3	0.22	1	0.014
	Better Roads Inc.	156	15.277	3.0	4.2	4.5	0.27	6	0.600
	Elmo Greer	193	18.761	3.6	4.3	4.5	0.15	0	0.000
	P & S Paving	88	8.566	3.9	4.2	4.4	0.11	0	0.000
	Lane	102	9.835	3.8	4.2	4.3	0.11	0	0.000
	John C. Hipp	18	1.718	4.1	4.3	4.4	0.08	0	0.000
Overstreet Paving	44	4.189	3.8	4.2	4.4	0.16	0	0.000	

Table 6 Statewide Statistical Summary for Contractors, by Friction Course Type, continued

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Anderson Columbia	2977	293.441	2.7	4.0	4.4	0.17	18	1.668
Ranger	1152	110.985	1.2	4.0	4.4	0.21	25	2.293
D.A.B.	23	1.782	3.7	4.1	4.4	0.14	0	0.000
A.P.A.C.	1727	167.601	0.7	4.0	4.3	0.17	23	1.941
Orlando Paving	268	24.711	3.3	4.1	4.4	0.14	1	0.100
Atlantic Coast	48	4.091	2.6	3.8	4.1	0.29	4	0.181
Ajax Paving Ind.	532	51.367	2.5	4.1	4.3	0.13	2	0.091
Milestone Southern Paving	57	4.717	3.0	3.9	4.2	0.28	6	0.305
Better Roads Inc.	349	33.693	2.8	4.0	4.4	0.15	2	0.039
P & S Paving	412	40.320	1.8	4.0	4.3	0.28	26	2.488
Lane	488	47.169	1.5	4.0	4.4	0.24	11	0.583
Hewitt Contracting Co.	329	32.249	3.3	3.9	4.2	0.13	1	0.065

FCS

Table 6 Statewide Statistical Summary for Contractors, by Friction Course Type, continued

	Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
								Lots	Miles
FC9.5	A.P.A.C.	84	8.272	3.5	4.3	4.5	0.16	1	0.079
	Better Roads Inc.	615	60.092	2.1	4.4	4.6	0.15	2	0.081
	Elmo Greer	99	9.780	3.4	4.4	4.6	0.15	1	0.100
	P & S Paving	231	22.589	3.5	4.3	4.6	0.19	4	0.242
	Lane	124	11.881	3.7	4.2	4.5	0.14	0	0.000



1.1 District 1 Ride Distribution

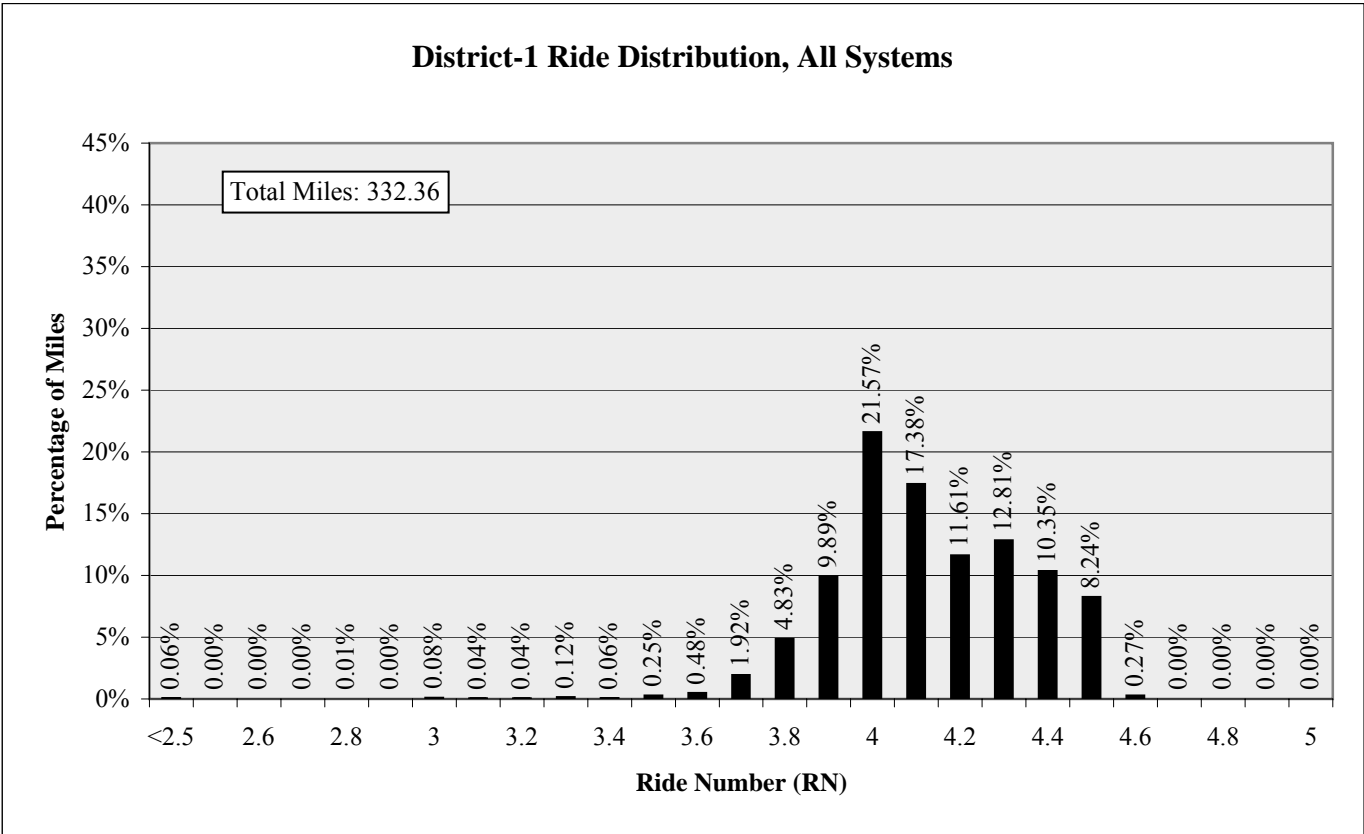


Figure 9 District 1 Ride Distribution, All Systems

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
All Systems	3420	332.360	0.7	4.1	4.6	0.24	32	2.137

1.2 Ride Distribution by System Type

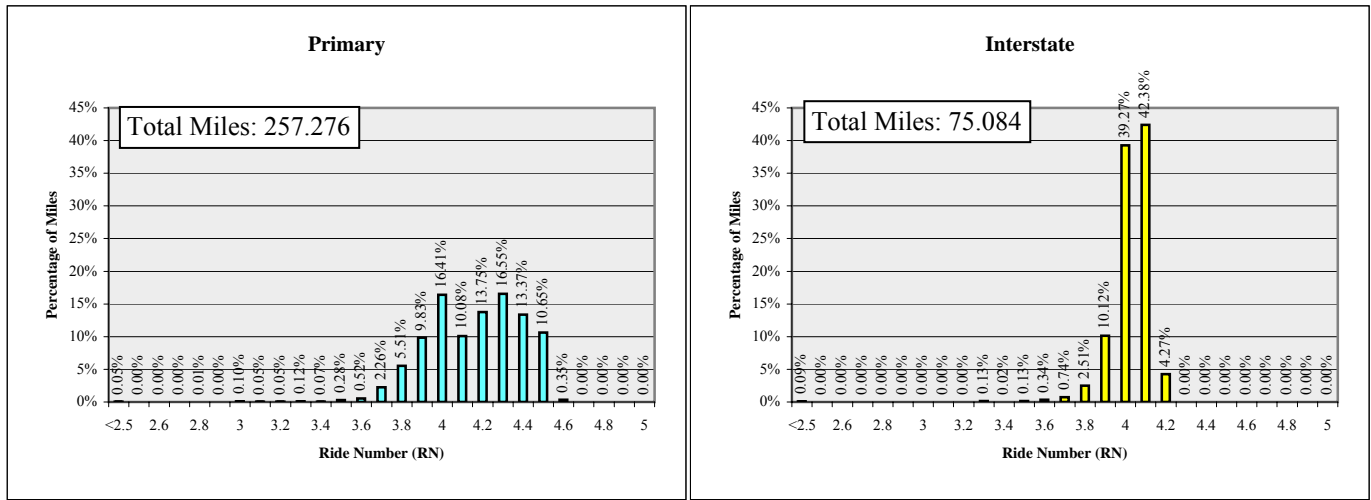


Figure 10 District 1 Ride Distribution, by System Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Primary	2641	257.276	1.5	4.2	4.6	0.25	28	1.857
Interstate	779	75.084	0.7	4.0	4.2	0.16	4	0.280

1.3 Ride Distribution by Friction Course Type

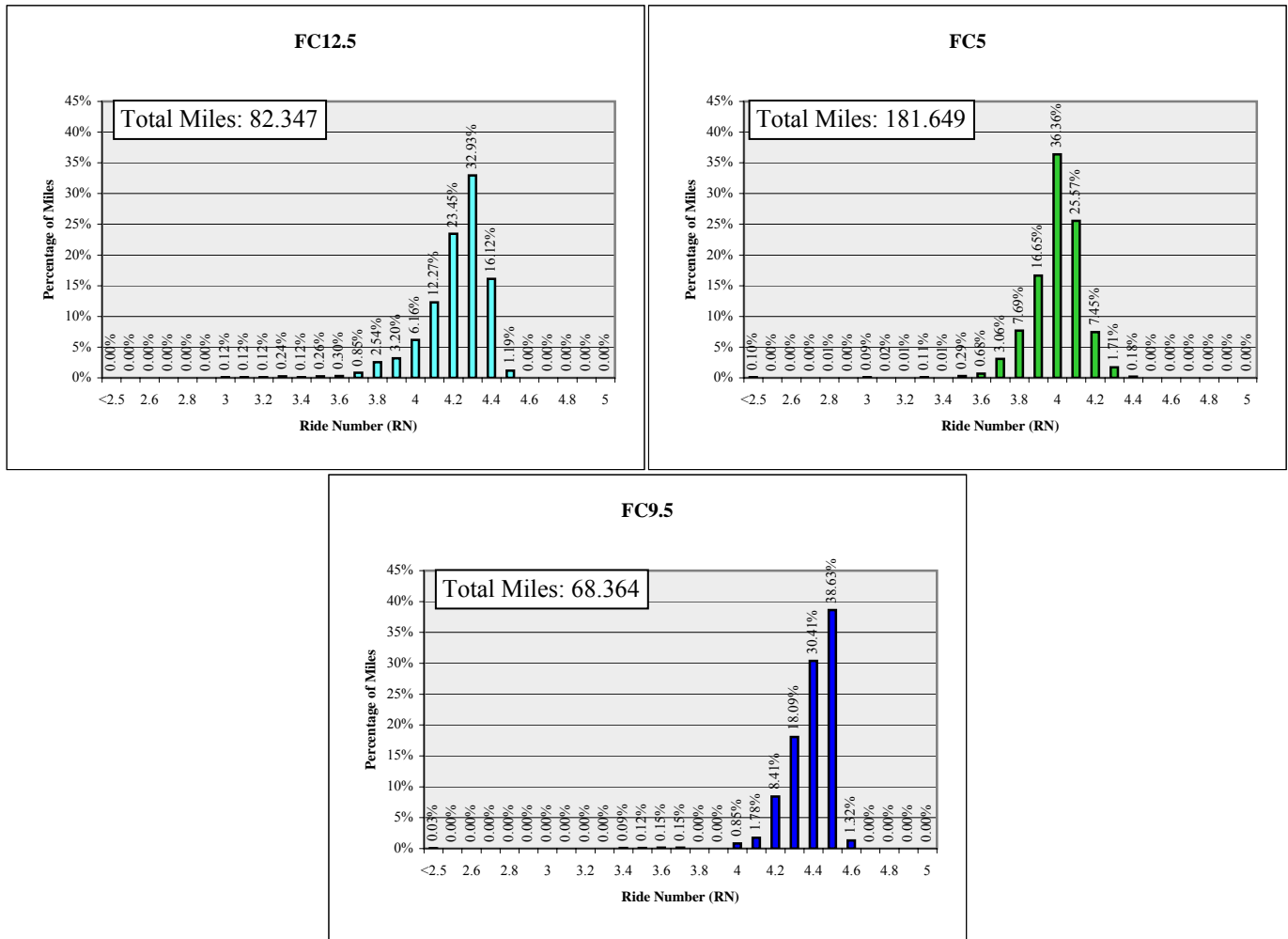


Figure 11 District 1 Ride Distribution, by Friction Course Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
FC12.5	841	82.347	3.0	4.2	4.5	0.18	9	0.814
FC5	1880	181.649	0.7	4.0	4.4	0.18	20	1.163
FC9.5	699	68.364	2.1	4.4	4.6	0.16	3	0.160

1.4 District 1 Contractor Statistics

Table 7 District 1 Contractor Statistics

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
Ranger	6	0.600	3.2	3.7	4.0	0.28	2	0.200
A.P.A.C.	1274	124.506	0.7	4.0	4.5	0.19	8	0.620
Ajax Paving Ind.	298	28.355	3.9	4.2	4.5	0.13	0	0.000
Dickerson Asphalt	19	1.725	3.5	4.0	4.3	0.22	1	0.014
Better Roads Inc.	1120	109.062	2.1	4.3	4.6	0.24	10	0.720
Elmo Greer	113	11.108	3.8	4.3	4.4	0.13	0	0.000
Lane	590	57.004	1.5	4.0	4.4	0.23	11	0.583

Table 8 District 1 Contractor Statistics, by Friction Course Type

	Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
								Lots	Miles
FC12.5	Ranger	6	0.600	3.2	3.7	4.0	0.28	2	0.200
	A.P.A.C.	238	23.482	3.6	4.2	4.4	0.16	0	0.000
	Ajax Paving Ind.	207	20.320	3.9	4.3	4.5	0.10	0	0.000
	Dickerson Asphalt	19	1.725	3.5	4.0	4.3	0.22	1	0.014
	Better Roads Inc.	156	15.277	3.0	4.2	4.5	0.27	6	0.600
	Elmo Greer	113	11.108	3.8	4.3	4.4	0.13	0	0.000
	Lane	102	9.835	3.8	4.2	4.3	0.11	0	0.000
FC5	A.P.A.C.	952	92.752	0.7	4.0	4.2	0.16	7	0.541
	Ajax Paving Ind.	91	8.035	3.9	4.1	4.2	0.08	0	0.000
	Better Roads Inc.	349	33.693	2.8	4.0	4.4	0.15	2	0.039
	Lane	488	47.169	1.5	4.0	4.4	0.24	11	0.583
FC9.5	A.P.A.C.	84	8.272	3.5	4.3	4.5	0.16	1	0.079
	Better Roads Inc.	615	60.092	2.1	4.4	4.6	0.15	2	0.081

2.1 District 2 Ride Distribution

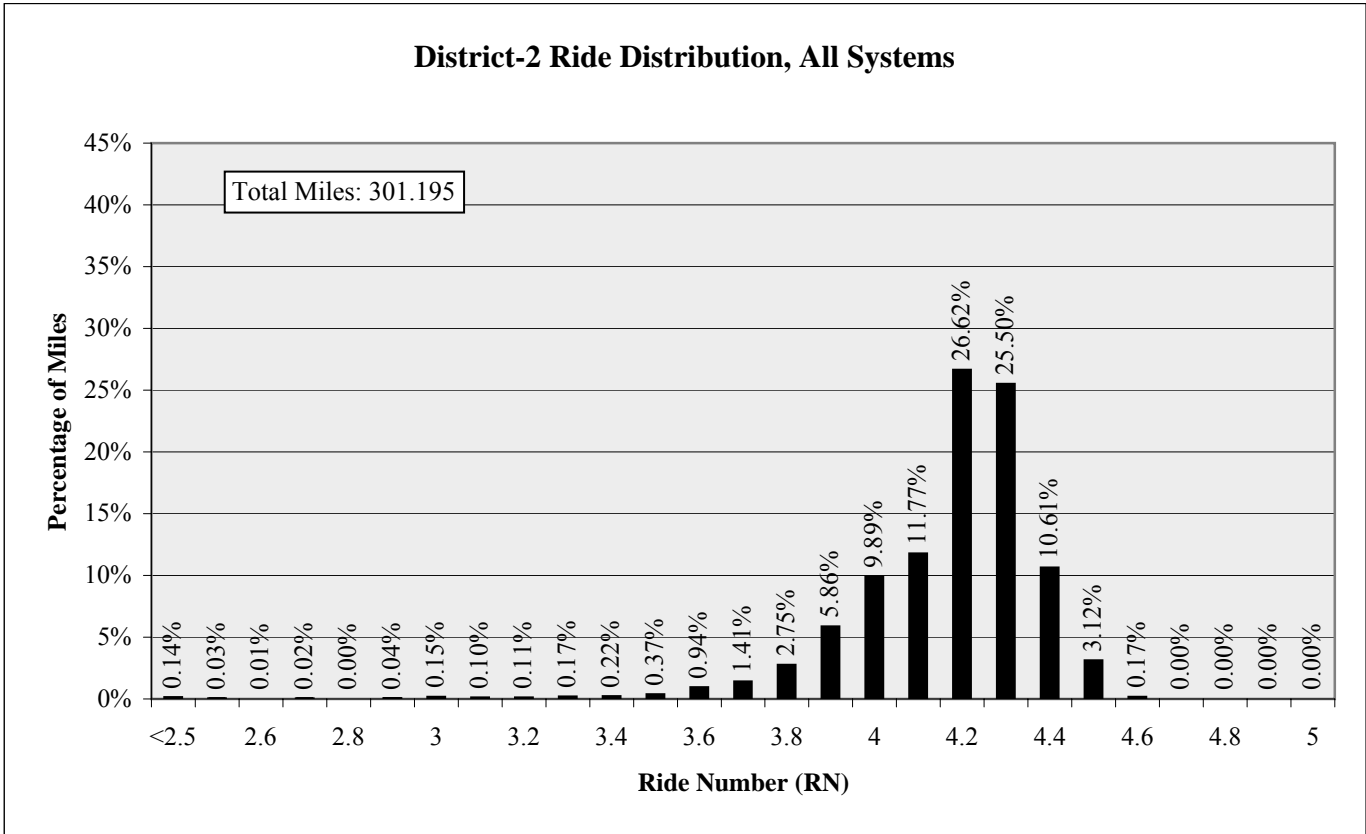


Figure 12 District 2 Ride Distribution, All Systems

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
All Systems	3082	301.195	0.8	4.2	4.6	0.24	50	4.082

2.2 Ride Distribution by System Type

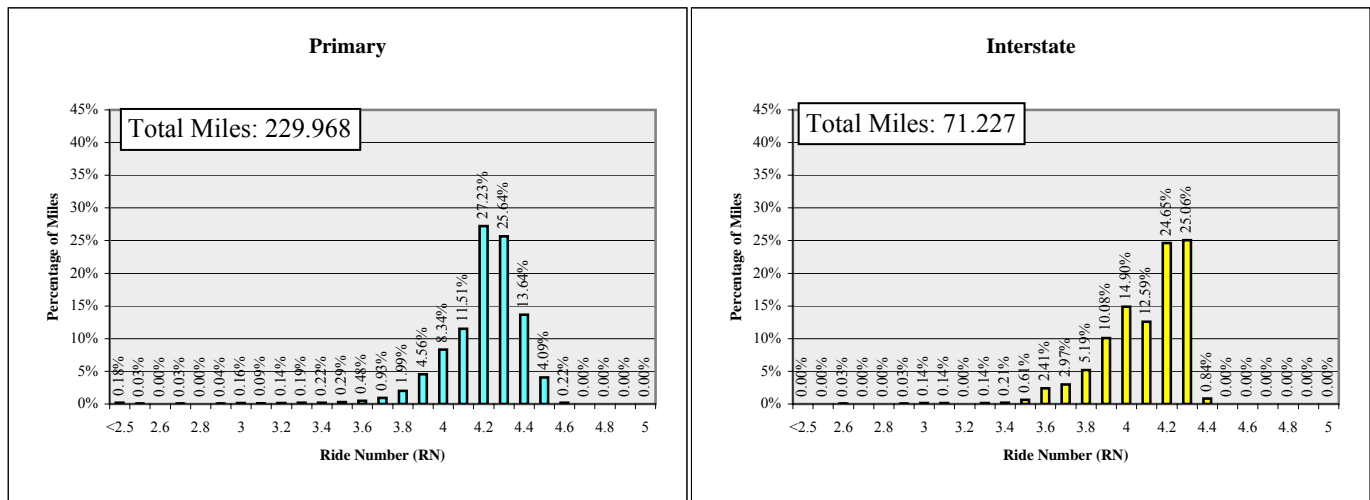


Figure 13 District 2 Ride Distribution, by System Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Primary	2348	229.968	0.8	4.2	4.6	0.24	38	3.150
Interstate	734	71.227	2.6	4.1	4.4	0.22	12	0.932

2.3 Ride Distribution by Friction Course Type

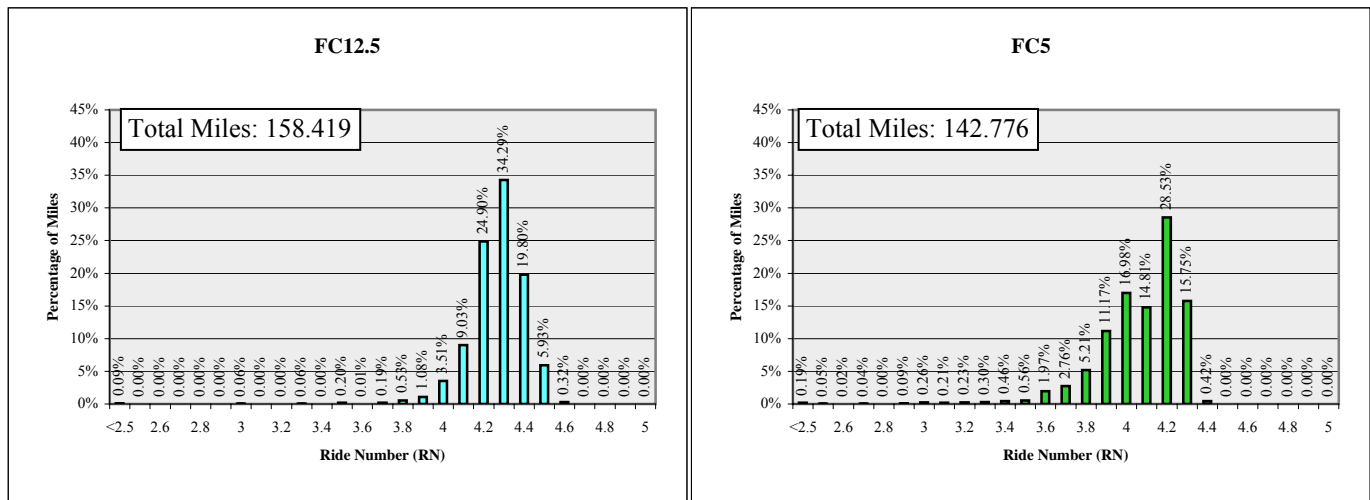


Figure 14 District 2 Ride Distribution, by Friction Course Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
FC12.5	1614	158.419	0.8	4.3	4.6	0.19	9	0.657
FC5	1468	142.776	1.8	4.1	4.4	0.24	41	3.425

2.4 District 2 Contractor Statistics

Table 9 District 2 Contractor Statistics

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
Anderson Columbia	1454	143.201	0.8	4.2	4.5	0.18	8	0.557
Whitehurst	449	44.564	3.9	4.2	4.4	0.10	0	0.000
A.P.A.C.	539	51.888	3.0	4.0	4.4	0.21	11	1.051
Atlantic Coast	48	4.091	2.6	3.8	4.1	0.29	4	0.181
C.W. Roberts	241	23.761	4.0	4.4	4.6	0.11	0	0.000
Milestone Southern Paving	57	4.717	3.0	3.9	4.2	0.28	6	0.305
P & S Paving	276	27.255	1.8	3.9	4.2	0.31	21	1.988
John C. Hipp	18	1.718	4.1	4.3	4.4	0.08	0	0.000

Table 10 District 2 Contractor Statistics, by Friction Course Type

	Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
								Lots	Miles
FC12.5	Anderson Columbia	722	70.703	0.8	4.3	4.5	0.24	8	0.557
	Whitehurst	449	44.564	3.9	4.2	4.4	0.10	0	0.000
	A.P.A.C.	184	17.673	3.0	4.2	4.4	0.16	1	0.100
	C.W. Roberts	241	23.761	4.0	4.4	4.6	0.11	0	0.000
	John C. Hipp	18	1.718	4.1	4.3	4.4	0.08	0	0.000
FC5	Anderson Columbia	732	72.498	3.8	4.2	4.4	0.08	0	0.000
	A.P.A.C.	355	34.215	3.0	3.9	4.3	0.17	10	0.951
	Atlantic Coast	48	4.091	2.6	3.8	4.1	0.29	4	0.181
	Milestone Southern Paving	57	4.717	3.0	3.9	4.2	0.28	6	0.305
	P & S Paving	276	27.255	1.8	3.9	4.2	0.31	21	1.988



3.1 District 3 Ride Distribution

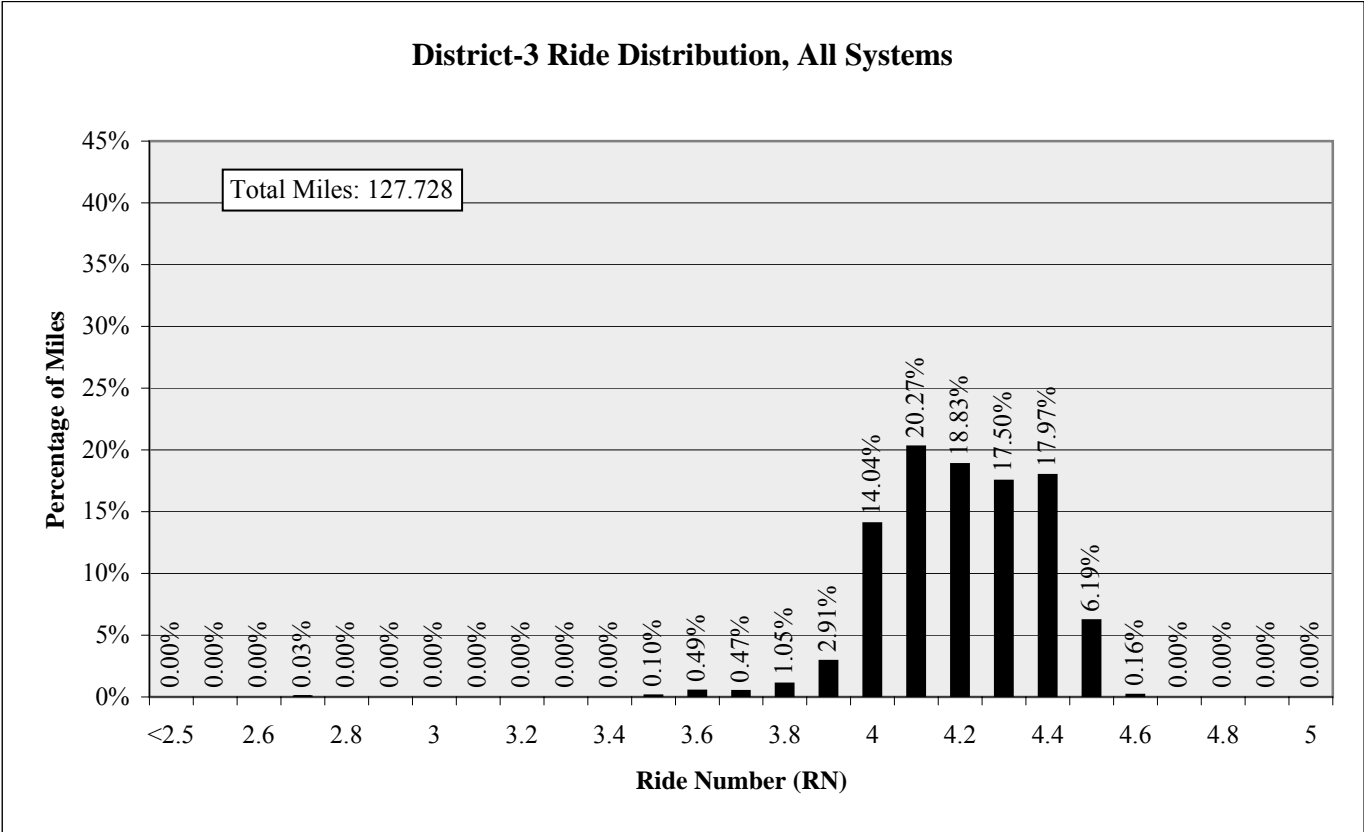


Figure 15 District 3 Ride Distribution, All Systems

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
All Systems	1306	127.728	2.7	4.2	4.6	0.18	3	0.168

3.2 Ride Distribution by System Type

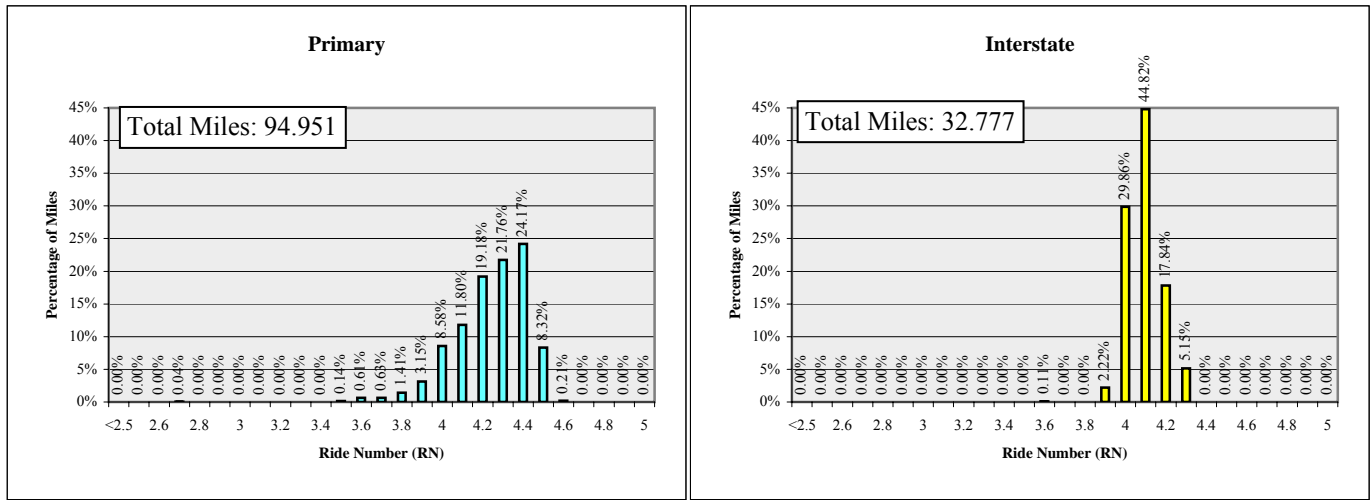


Figure 16 District 3 Ride Distribution, by System Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Primary	965	94.951	2.7	4.2	4.6	0.19	3	0.168
Interstate	341	32.777	3.6	4.1	4.3	0.09	0	0.000

3.3 Ride Distribution by Friction Course Type

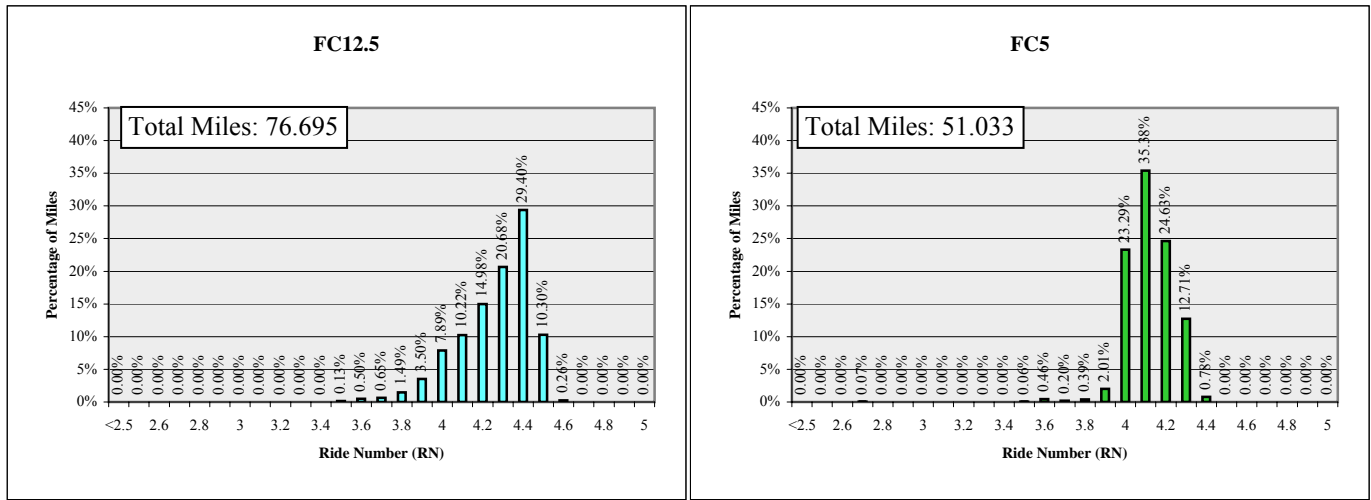


Figure 17 District 3 Ride Distribution, by Friction Course Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
FC12.5	779	76.695	3.5	4.3	4.6	0.18	1	0.100
FC5	527	51.033	2.7	4.1	4.4	0.13	2	0.068

3.4 District 3 Contractor Statistics

Table 11 District 3 Contractor Statistics

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Anderson Columbia	820	79.877	79.9	4.1	4.4	0.14	3	0.168
C.W. Roberts	486	47.851	47.9	4.4	4.6	0.11	0	0.000

Table 12 District 3 Contractor Statistics, by Friction Course Type

	Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
								Lots	Miles
FC12.5	Anderson Columbia	293	28.844	3.5	4.1	4.4	0.16	1	0.100
	C.W. Roberts	486	47.851	3.6	4.4	4.6	0.11	0	0.000
FC5	Anderson Columbia	527	51.033	2.7	4.1	4.4	0.13	2	0.068

District

4

Note: The State Materials Office has not evaluated any projects in District 4 during the period of time covered by this report.



5.1 District 5 Ride Distribution

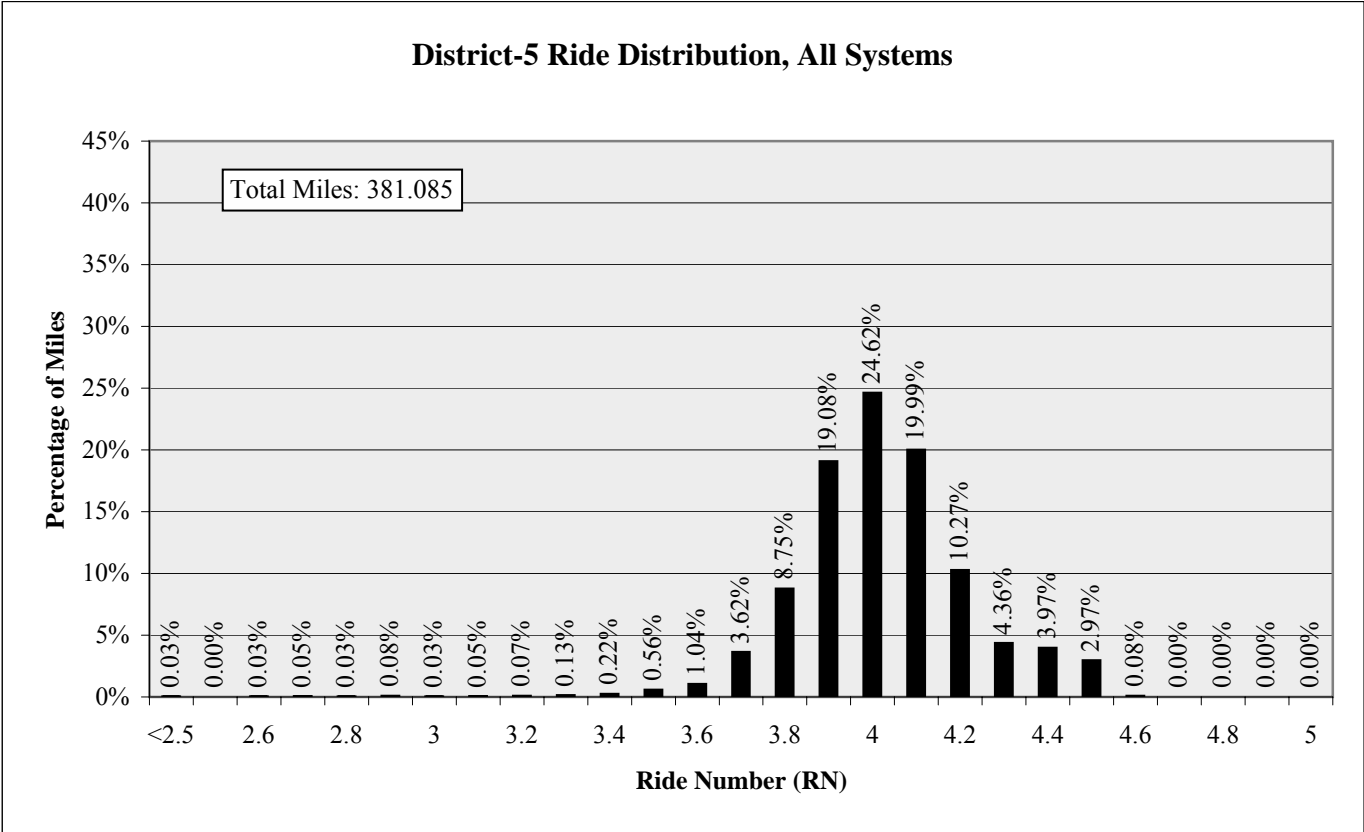


Figure 18 District 5 Ride Distribution, All Systems

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
All Systems	3908	381.085	1.2	4.0	4.6	0.21	53	4.816

5.2 Ride Distribution by System Type

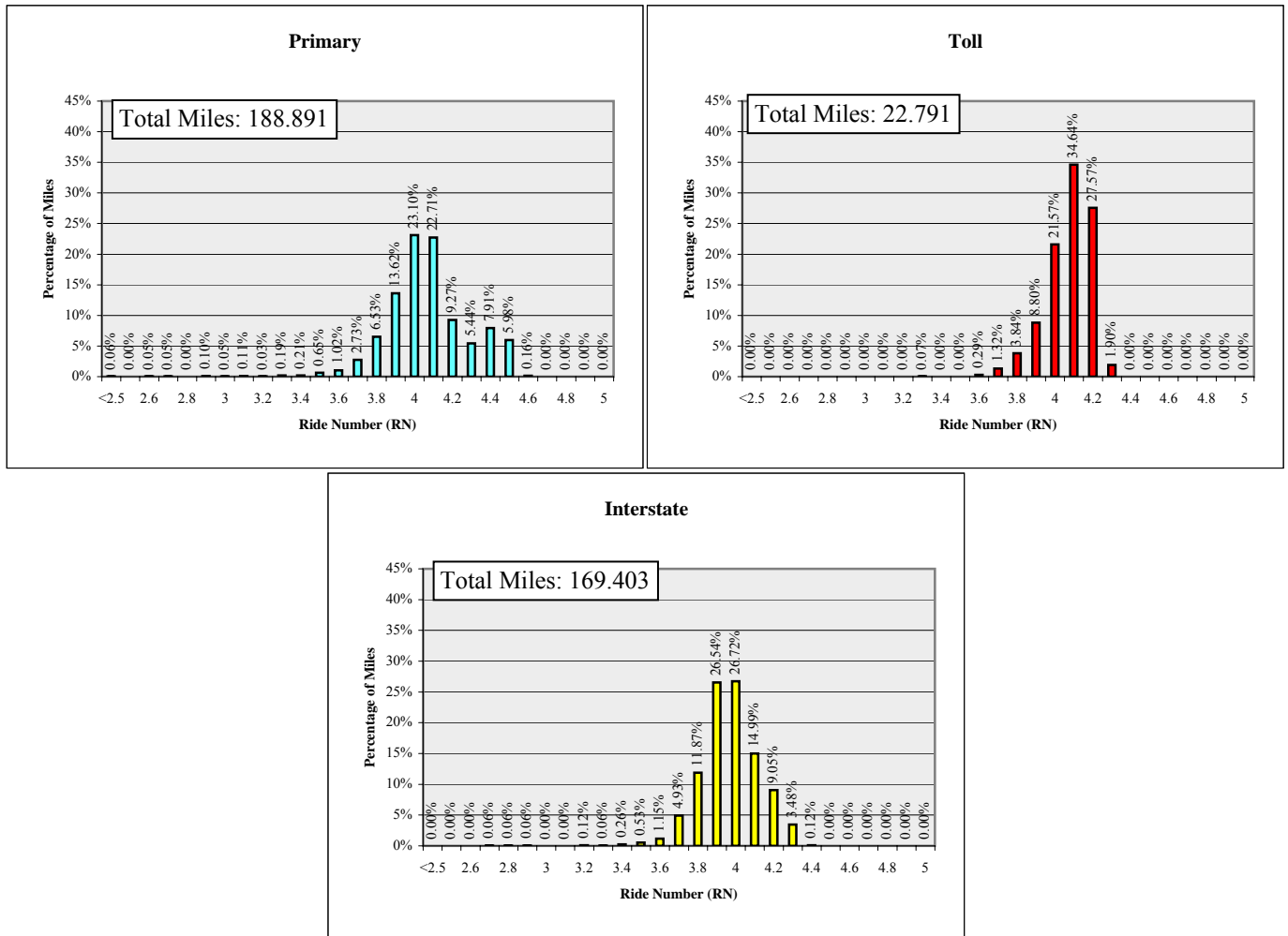


Figure 19 District 5 Ride Distribution, by System Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Primary	1936	188.891	1.2	4.1	4.6	0.24	32	2.858
Toll	246	22.791	3.3	4.1	4.3	0.14	1	0.016
Interstate	1726	169.403	2.7	4.0	4.4	0.16	20	1.942

5.3 Ride Distribution by Friction Course Type

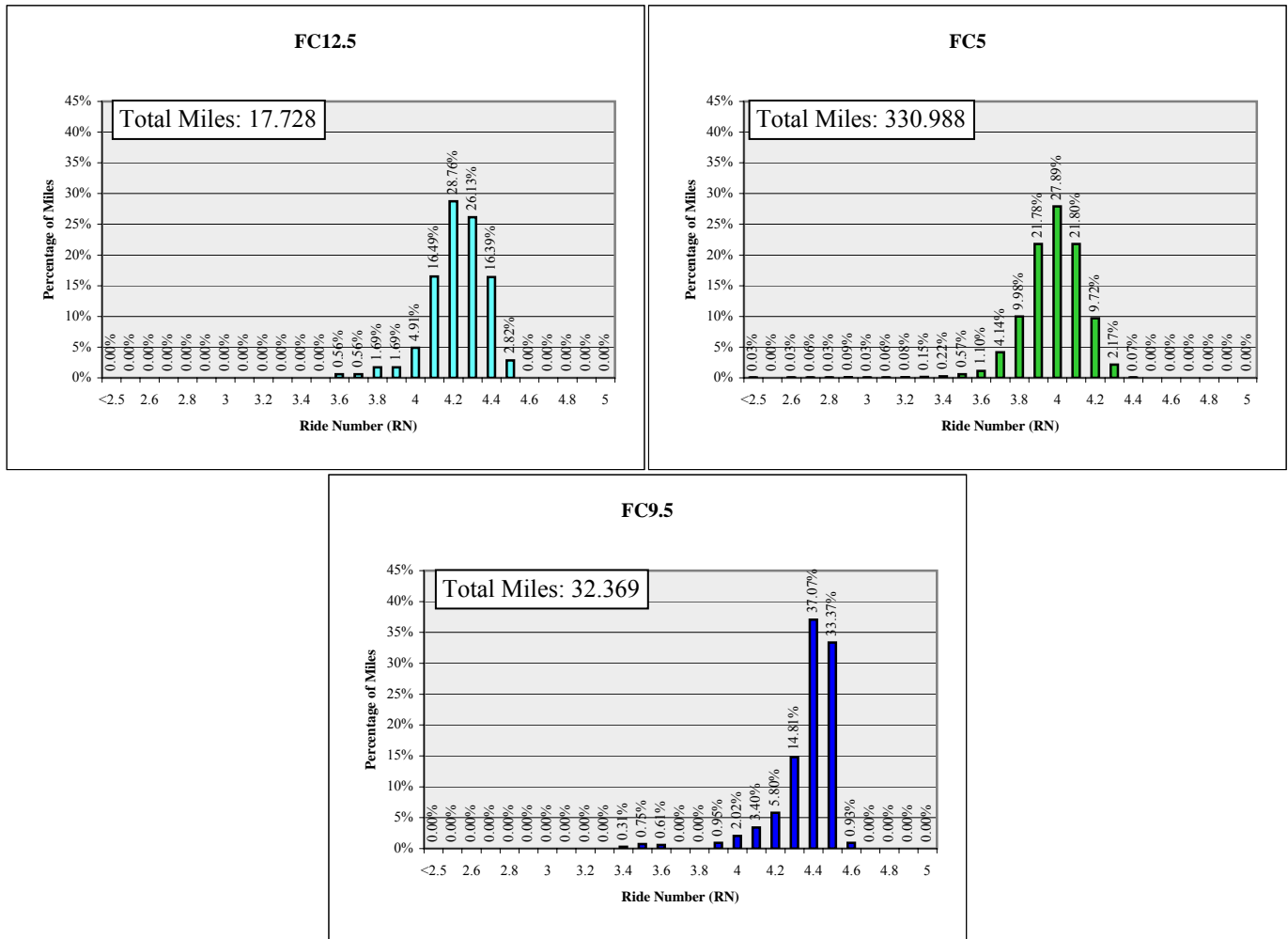


Figure 20 District 5 Ride Distribution, by Friction Course Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
FC12.5	184	17.728	3.6	4.2	4.5	0.15	0	0.000
FC5	3394	330.988	1.2	4.0	4.4	0.17	48	4.474
FC9.5	330	32.369	3.4	4.4	4.6	0.18	5	0.342

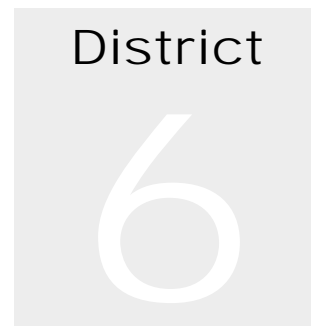
5.4 District 5 Contractor Statistics

Table 13 District 5 Contractor Statistics

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
Anderson Columbia	1718	169.910	2.7	3.9	4.3	0.13	16	1.600
Ranger	1152	110.985	1.2	4.0	4.4	0.21	25	2.293
D.A.B.	39	3.291	3.7	4.2	4.5	0.18	0	0.000
A.P.A.C.	36	2.997	3.3	3.9	4.1	0.15	1	0.016
Elmo Greer	179	17.433	3.4	4.3	4.6	0.18	1	0.100
P & S Paving	455	44.220	3.3	4.2	4.6	0.22	9	0.742
Hewitt Contracting Co.	329	32.249	3.3	3.9	4.2	0.13	1	0.065

Table 14 District 5 Contractor Statistics, by Friction Course Type

	Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
								Lots	Miles
FC12.5	D.A.B.	16	1.509	4.1	4.3	4.5	0.11	0	0.000
	Elmo Greer	80	7.653	3.6	4.2	4.5	0.18	0	0.000
	P & S Paving	88	8.566	3.9	4.2	4.4	0.11	0	0.000
FC5	Anderson Columbia	1718	169.910	2.7	3.9	4.3	0.13	16	1.600
	Ranger	1152	110.985	1.2	4.0	4.4	0.21	25	2.293
	D.A.B.	23	1.782	3.7	4.1	4.4	0.14	0	0.000
	A.P.A.C.	36	2.997	3.3	3.9	4.1	0.15	1	0.016
	P & S Paving	136	13.065	3.3	4.0	4.3	0.18	5	0.500
	Hewitt Contracting Co.	329	32.249	3.3	3.9	4.2	0.13	1	0.065
FC9.5	Elmo Greer	99	9.780	3.4	4.4	4.6	0.15	1	0.100
	P & S Paving	231	22.589	3.5	4.3	4.6	0.19	4	0.242



Note: The State Materials Office has not evaluated any projects in District 6 during the period of time covered by this report.



7.1 District 7 Ride Distribution

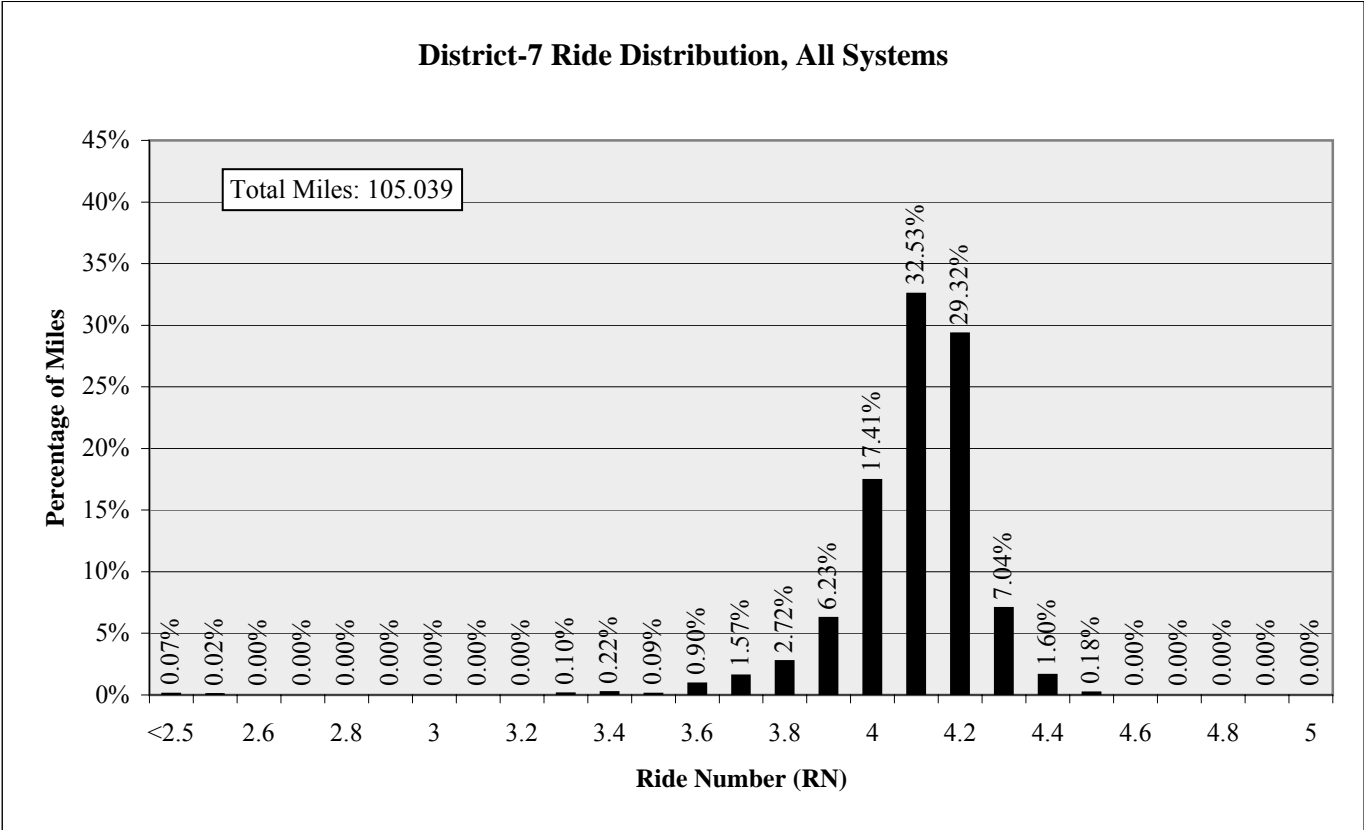


Figure 21 District 7 Ride Distribution, All Systems

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
All Systems	1073	105.039	2.2	4.1	4.5	0.17	7	0.524

7.2 Ride Distribution by System Type

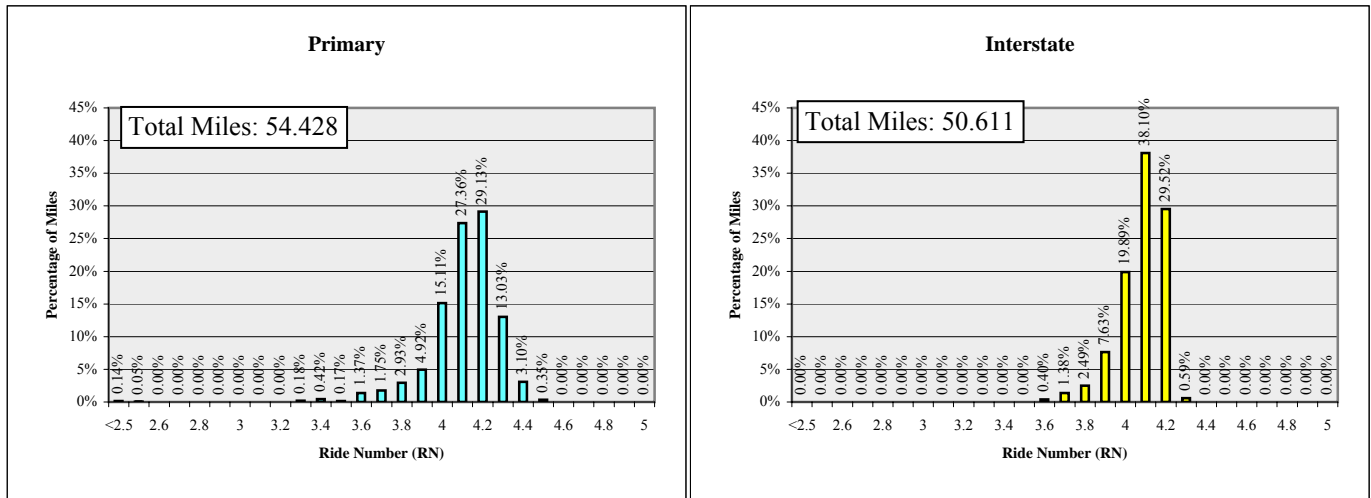


Figure 22 District 7 Ride Distribution, by System Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Primary	562	54.428	2.2	4.1	4.5	0.20	7	0.524
Interstate	511	50.611	3.6	4.1	4.3	0.12	0	0.000

7.3 Ride Distribution by Friction Course Type

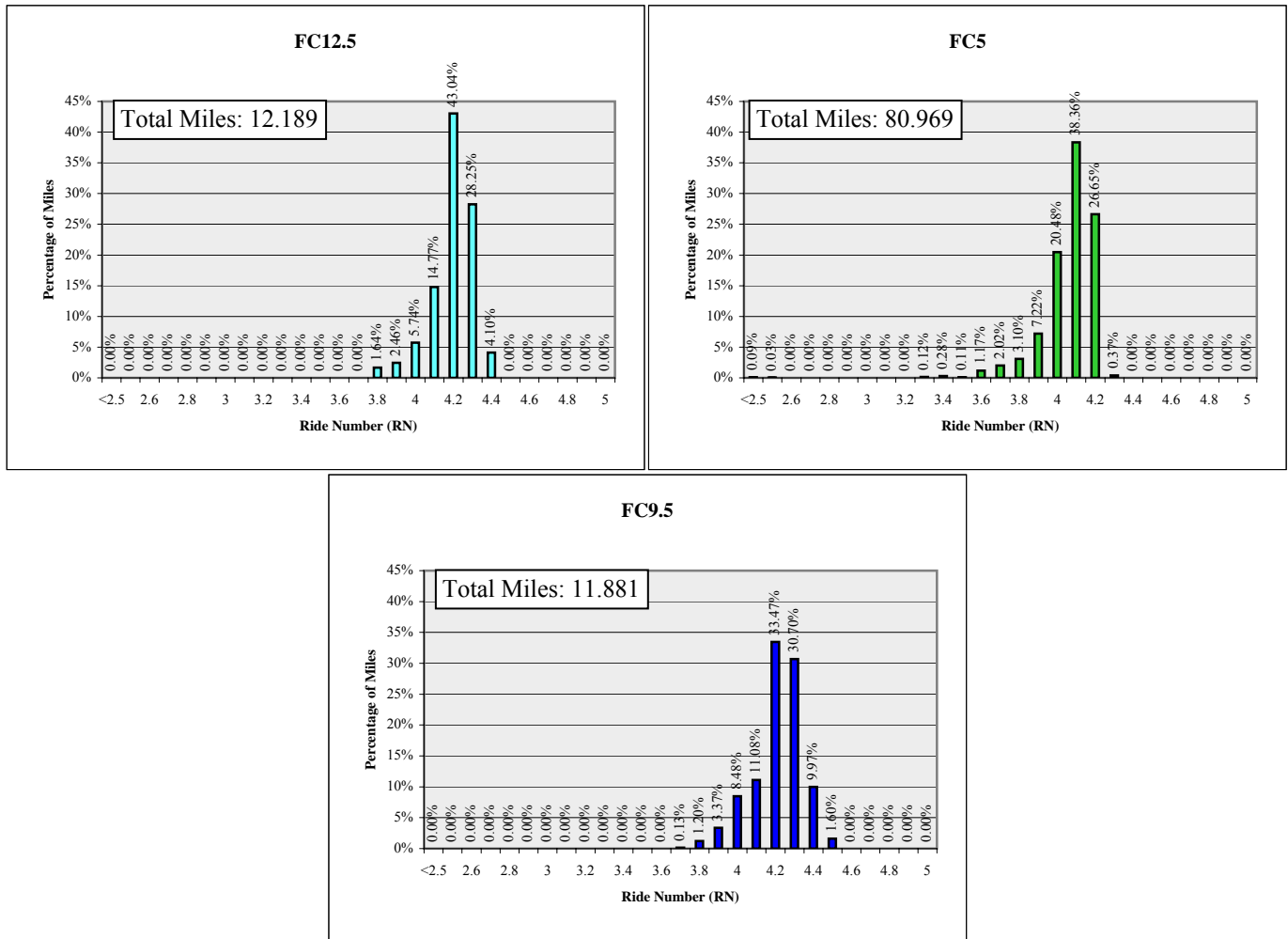


Figure 23 District 7 Ride Distribution, by Friction Course Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
FC12.5	124	12.189	3.8	4.2	4.4	0.12	0	0.000
FC5	825	80.969	2.2	4.1	4.3	0.16	7	0.524
FC9.5	124	11.881	3.7	4.2	4.5	0.14	0	0.000

7.4 District 7 Contractor Statistics

Table 15 District 7 Contractor Statistics

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
D.A.B.	80	8.000	4.0	4.2	4.4	0.07	0	0.000
A.P.A.C.	384	37.637	2.2	4.0	4.3	0.18	5	0.433
Ajax Paving Ind.	441	43.332	2.5	4.1	4.3	0.14	2	0.091
Lane	124	11.881	3.7	4.2	4.5	0.14	0	0.000
Overstreet Paving	44	4.189	3.8	4.2	4.4	0.16	0	0.000

Table 16 District 7 Contractor Statistics, by Friction Course Type

	Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
								Lots	Miles
FC12.5	D.A.B.	80	8.000	4.0	4.2	4.4	0.07	0	0.000
	Overstreet Paving	44	4.189	3.8	4.2	4.4	0.16	0	0.000
FC5	A.P.A.C.	384	37.637	2.2	4.0	4.3	0.18	5	0.433
	Ajax Paving Ind.	441	43.332	2.5	4.1	4.3	0.14	2	0.091
FC9.5	Lane	124	11.881	3.7	4.2	4.5	0.14	0	0.000



8.1 District 8 (Turnpike) Ride Distribution

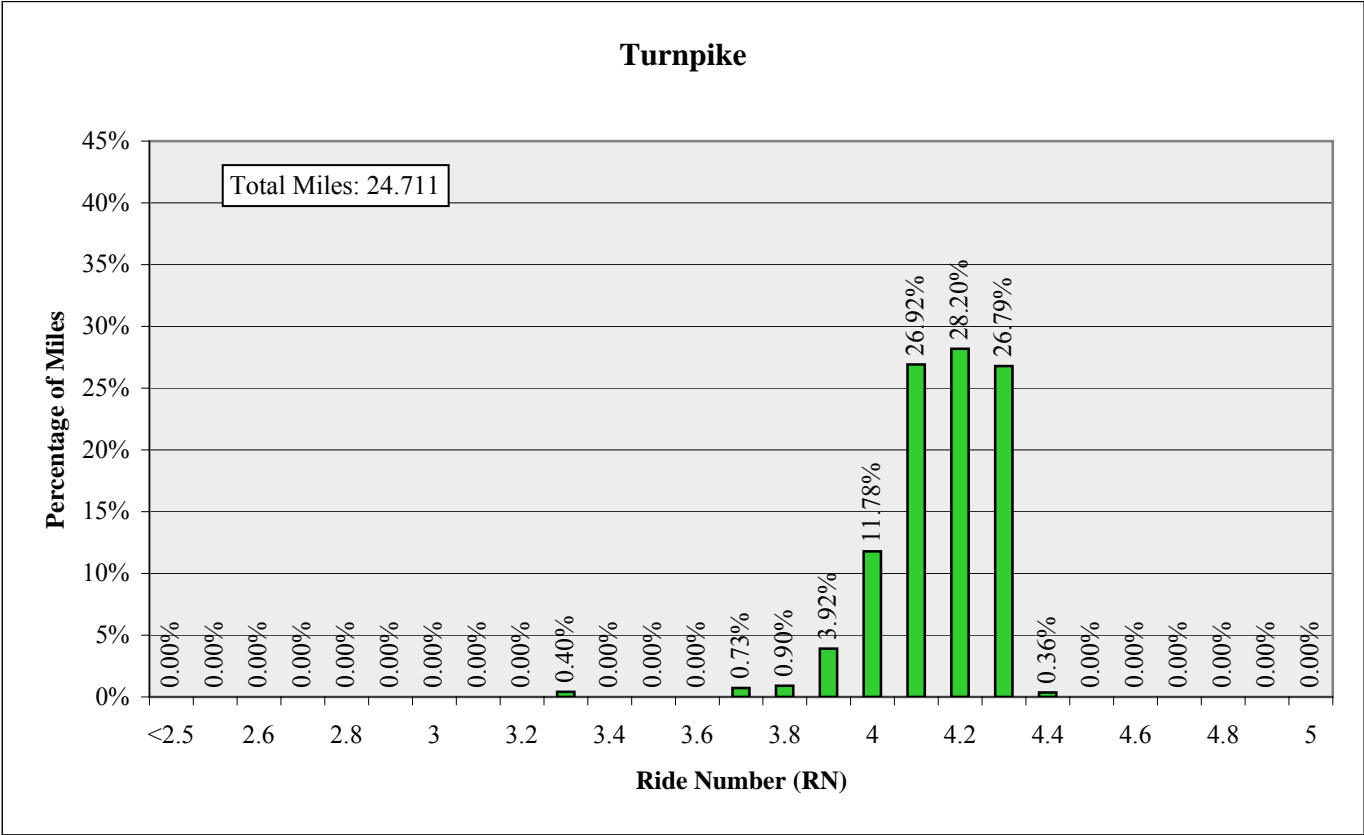


Figure 24 District 8 Ride Distribution, Turnpike

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
Turnpike	268	24.711	3.3	4.1	4.4	0.14	1	0.100

8.2 Ride Distribution by Friction Course Type

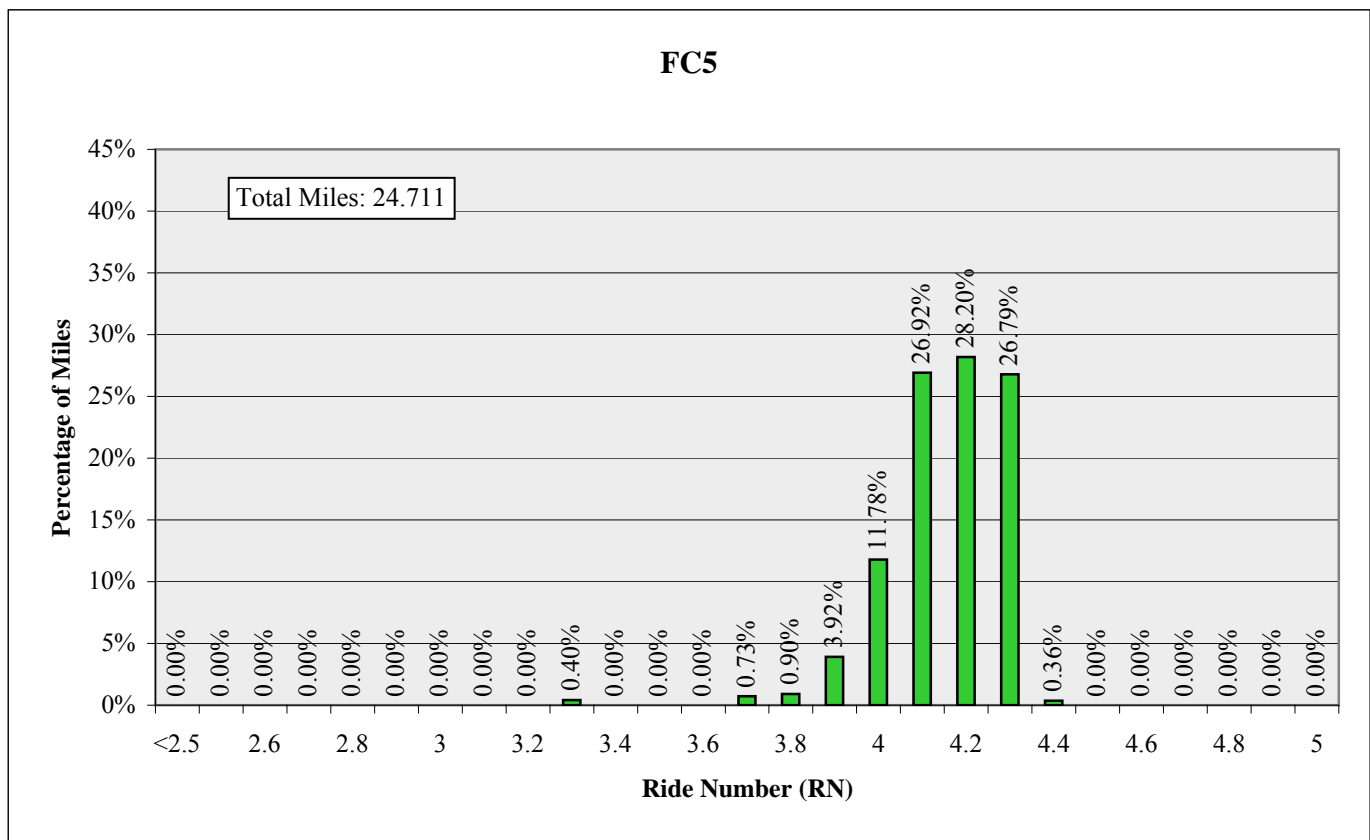


Figure 25 District 8 Ride Distribution, by Friction Course Type

Type	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
FC5	268	24.711	3.3	4.1	4.4	0.14	1	0.100

Note: District 8 is comprised of the Turnpike only. Therefore a separate graph of ride distribution by system type has not been shown.

8.3 District 8 Contractor Statistics

Table 17 District 5 Contractor Statistics

Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
Orlando Paving	268	24.711	3.3	4.1	4.4	0.14	1	0.100

Table 18 District 8 Contractor Statistics, by Friction Course Type

	Contractor	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
								Lots	Miles
FCS	Orlando Paving	268	24.711	3.3	4.1	4.4	0.14	1	0.100

APPENDIX

A

PROJECT SPECIFIC INFORMATION BY DISTRICT

District

1

District 1 Project Information

District - 1								
FIN No.	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
19384825201	324	31.819	4.0	4.5	4.6	0.07	0	0.000
19399825201	233	22.322	2.8	4.0	4.2	0.12	2	0.039
19410025201	207	20.320	3.9	4.3	4.5	0.10	0	0.000
19443725201	138	13.502	3.0	4.2	4.5	0.27	6	0.600
19443735201	18	1.775	3.9	4.3	4.5	0.12	0	0.000
19534225201	100	9.968	3.7	4.2	4.4	0.15	0	0.000
19560625201	120	11.732	3.7	3.9	4.1	0.10	0	0.000
19686325201	19	1.725	3.5	4.0	4.3	0.22	1	0.014
19713925201	57	5.263	3.0	4.0	4.4	0.18	1	0.062
19715625201	22	2.172	3.8	4.1	4.3	0.12	0	0.000
19729125201	80	7.663	3.9	4.2	4.3	0.10	0	0.000
19730725201	85	7.988	1.5	3.7	3.9	0.35	6	0.378
19730925201	116	11.333	3.5	3.9	4.2	0.11	2	0.200
19733225201	28	2.638	3.5	3.8	4.0	0.12	1	0.061
19735725201	33	3.237	3.7	4.0	4.4	0.17	0	0.000
19736825201	155	15.237	3.0	4.0	4.2	0.13	2	0.110
19737525201	105	10.277	3.6	4.2	4.4	0.14	0	0.000
19738825201	105	10.298	3.8	4.1	4.3	0.09	0	0.000
19740525201	86	8.383	3.2	3.9	4.1	0.13	2	0.033
20073215201	56	5.272	3.6	3.9	4.1	0.11	0	0.000

District - 1 continued								
FIN No.	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
20101525201	91	8.035	3.9	4.1	4.2	0.08	0	0.000
40404515201	94	9.084	3.4	4.4	4.6	0.14	1	0.059
40420115201	116	11.371	3.9	4.2	4.4	0.11	0	0.000
40420315201	141	13.758	2.1	4.3	4.5	0.21	1	0.022
40674515201	56	5.431	3.7	4.3	4.5	0.12	0	0.000
41186215201	632	61.777	0.7	4.0	4.2	0.16	4	0.280
41264015201	84	8.272	3.5	4.3	4.5	0.16	1	0.079
41264315201	113	11.108	3.8	4.3	4.4	0.13	0	0.000
41735115201	6	0.600	3.2	3.7	4.0	0.28	2	0.200

District

2

District 2 Project Information

District - 2								
FIN No.	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN \leq 3.5	
							Lots	Miles
20777925201	18	1.718	4.1	4.3	4.4	0.08	0	0.000
20782325201	10	0.984	3.5	3.8	4.0	0.20	3	0.300
20784435201	12	1.021	3.7	4.1	4.3	0.15	0	0.000
20795625201	196	19.477	3.5	4.2	4.5	0.14	1	0.014
20837125201	48	4.502	0.8	4.2	4.5	0.52	1	0.022
20930115201	48	4.091	2.6	3.8	4.1	0.29	4	0.181
20973325201	57	4.717	3.0	3.9	4.2	0.28	6	0.305
20981835201	140	13.761	3.9	4.3	4.5	0.10	0	0.000
20995825201	89	8.605	3.4	3.9	4.2	0.14	2	0.200
21022125201	32	3.086	3.8	4.1	4.4	0.15	0	0.000
21022355201	88	8.607	3.6	4.2	4.3	0.14	0	0.000
21027325201	276	27.255	1.8	3.9	4.2	0.31	21	1.988
21038425201	231	22.837	3.9	4.2	4.4	0.10	0	0.000
21043225201	218	21.727	3.9	4.2	4.4	0.09	0	0.000
21050525201	136	13.466	4.0	4.4	4.5	0.09	0	0.000
21054525201	105	10.295	4.0	4.4	4.6	0.13	0	0.000
21077525201	13	1.227	3.9	4.2	4.5	0.15	0	0.000
21078135201	100	9.718	1.5	4.3	4.5	0.31	1	0.021
21086525201	215	21.034	1.8	4.3	4.5	0.22	2	0.200
21088925201	312	30.972	3.8	4.2	4.3	0.06	0	0.000

District - 2 continued								
FIN No.	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
21094925201	52	4.959	3.0	4.2	4.4	0.21	1	0.100
21325125201	266	25.610	3.0	3.9	4.3	0.17	8	0.751
21352025201	420	41.526	3.9	4.2	4.4	0.08	0	0.000



District 3 Project Information

District - 3								
FIN No.	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
21794815201	186	18.256	2.7	4.2	4.4	0.18	2	0.068
21915025201	12	1.111	4.0	4.2	4.4	0.12	0	0.000
40393015201	486	47.851	3.6	4.4	4.6	0.11	0	0.000
40887815201	341	32.777	3.6	4.1	4.3	0.09	0	0.000
40900615201	281	27.733	3.5	4.1	4.4	0.16	1	0.100

District

4

District 4 Project Information

Note: The State Materials Office has not evaluated any projects in District 4 during the period of time covered by this report.

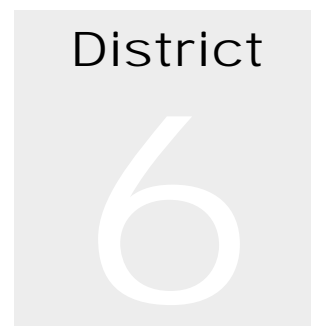
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District

5

District 5 Project Information

District - 5								
FIN No.	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
23929415201	87	8.124	1.2	3.6	4.1	0.42	18	1.651
23967615201	329	32.249	3.3	3.9	4.2	0.13	1	0.065
24085615201	88	8.566	3.9	4.2	4.4	0.11	0	0.000
24249315201	118	10.962	2.9	4.1	4.3	0.18	3	0.242
24269515201	403	39.312	3.5	4.1	4.4	0.14	2	0.200
40460115201	36	2.997	3.3	3.9	4.1	0.15	1	0.016
40863815201	23	1.782	3.7	4.1	4.4	0.14	0	0.000
41180615201	1205	119.129	2.7	3.9	4.3	0.13	15	1.500
41198115201	78	7.636	3.8	4	4.2	0.10	0	0.000
41347415201	12	0.962	3.3	3.6	3.8	0.15	5	0.500
41357115201	513	50.781	3.3	4	4.2	0.10	1	0.100
41358215201	46	4.467	4	4.1	4.3	0.08	0	0.000
41358715201	66	6.537	3.6	3.9	4.2	0.14	0	0.000
41359515201	268	26.256	3.5	4.1	4.3	0.12	2	0.200
41359615201	214	21.039	3.5	4.4	4.6	0.18	3	0.215
41360015201	210	19.794	3.8	4.1	4.3	0.10	0	0.000
41550815202	17	1.550	3.5	4.1	4.5	0.27	1	0.027
41550915201	137	13.413	3.4	4.4	4.6	0.16	1	0.100
41551015201	42	4.020	3.6	4.2	4.5	0.20	0	0.000
41551615201	16	1.509	4.1	4.3	4.5	0.11	0	0.000



District 6 Project Information

Note: The State Materials Office has not evaluated any projects in District 6 during the period of time covered by this report.



District 7 Project Information

District - 7								
FIN No.	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
25482215201	44	4.189	3.8	4.2	4.4	0.16	0	0.000
40374315201	327	32.431	3.6	4.1	4.3	0.12	0	0.000
40654315201	80	8.000	4	4.2	4.4	0.07	0	0.000
40891315201	93	9.007	3.9	4.2	4.4	0.11	0	0.000
40891325201	31	2.874	3.7	4.2	4.5	0.22	0	0.000
40892015201	114	10.901	2.5	4	4.2	0.19	2	0.091
41127615201	200	19.457	2.2	4	4.2	0.22	5	0.433
41341315201	184	18.180	3.7	4	4.3	0.11	0	0.000



District 8 Project Information

District - 8								
FIN No.	Total No of Lots	Total No of Miles	Minimum	Mean	Maximum	St. Dev	RN ≤ 3.5	
							Lots	Miles
41366915201	268	24.711	3.3	4.1	4.4	0.14	1	0.100

Customer Survey

In an effort to continuously improve our customer service, the Pavement Material Systems Section of the State Materials Office requests your input by filling out and returning this survey form.

(Optional)

Your Name: _____ Title: _____
Company/Office/Organization: _____
Address: _____ City/State/Zip: _____
Phone: _____ e-mail: _____

Please rate each of the following factors using the scale provided. A "1" corresponds to **Very Poor**, and a "5" corresponds to **Excellent**.

Usefulness of Content	1	2	3	4	5
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Organization of Information	1	2	3	4	5
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarity of Graphical Information	1	2	3	4	5
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Format of Tables	1	2	3	4	5
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall Value of this Report	1	2	3	4	5
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please provide an answer to the following questions. Use an additional sheet(s) if needed.

What was the most useful/informative part of this report? _____

What was the least useful/informative part of this report? _____

What changes would you recommend to improve this report? _____

Detach and mail to:
State Materials Office
Attn: Stacy Scott
5007 NE 39th Ave.
Gainesville, FL 32609

Or Email to: Stacy.scott@dot.state.fl.us