

Effect of the Number of Lifts on Road Surface Smoothness for Urban Roadways

SEPMD Conference
Savannah
June 2005

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For
Florida DOT Pavement Management Office



LTPP results from NCHRP 20-50 indicate that the value of the IRI after overlay of resurfaced AC pavements is not dependent on:

- The IRI value prior to rehabilitation**
- Overlay thickness (or # of lifts)**
- Milling prior to overlay**
- AC Type**



**Florida DOT undertook study to verify
the LTPP findings
for Urban Superpave resurfacing
projects**



Analysis Used the following databases:

- **Construction Quality reporting**
- **Pavement Condition Survey**



From the beginning, there were problems with the data:

- **Inconsistencies in the terms used in the database made it impossible to automatically extract usable data.**
- **Due to the data input using many different people without strict quality control on the process.**



Consequently, a manual data extraction process was required.

Appropriate Superpave projects were identified using simple computer search rules and the data extracted manually and entered in spreadsheets.



**Upon completion of analysis dataset,
analyses of the data were performed
using SAS/STAT© software.**



ANOVA Results

Performance Measure	Evaluation Variable	F	P	Statistically Significant Relationship?
Ride Change	number of lifts	0.00	0.9948	NO
Ride Before	number of lifts	1.26	0.2684	NO
Ride After	number of lifts	3.96	0.0526	NO



Figure 1. Frequency Distribution for Ride Change for Single Lift

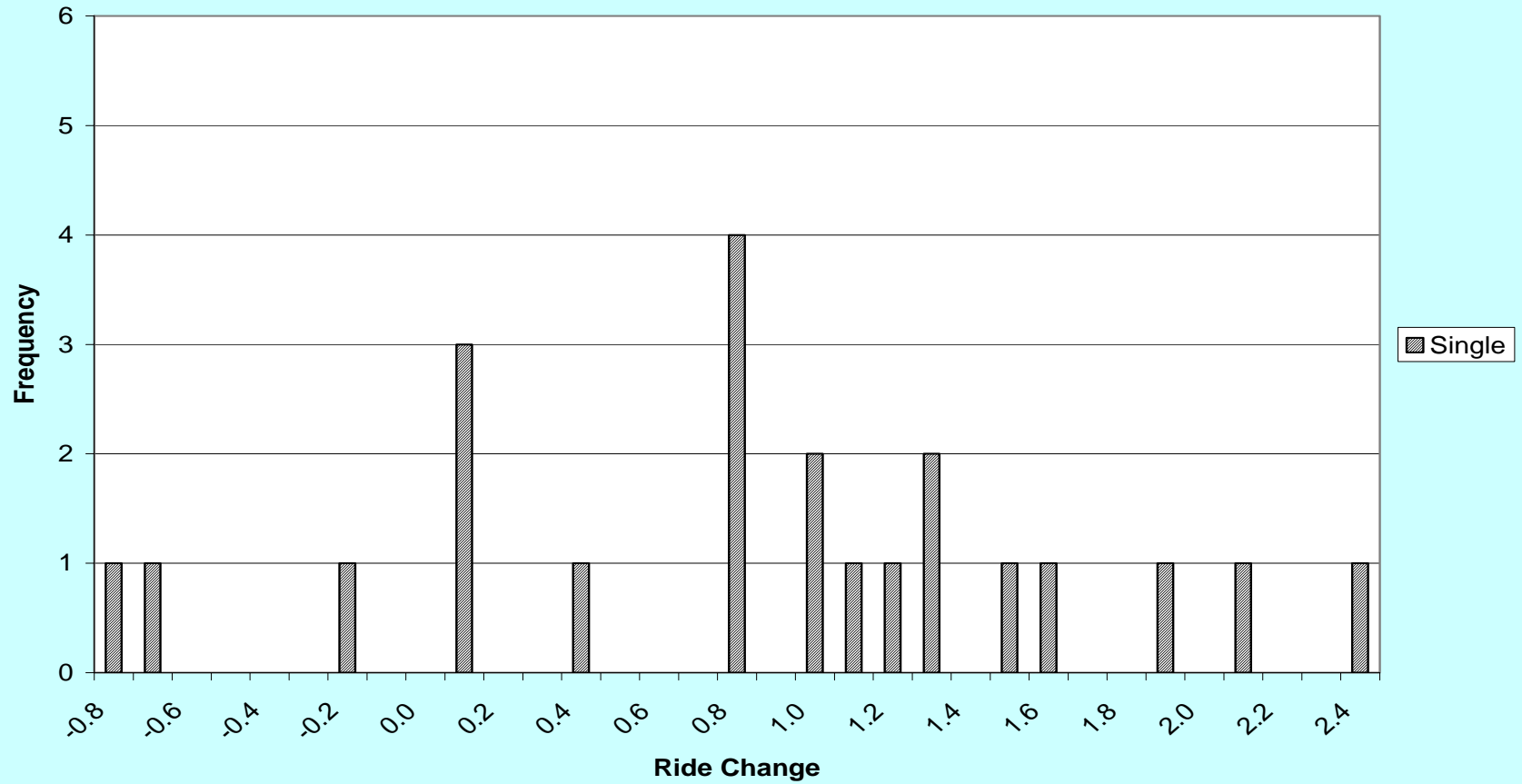


Figure 2. Frequency Distribution for Ride Change for Multiple Lifts

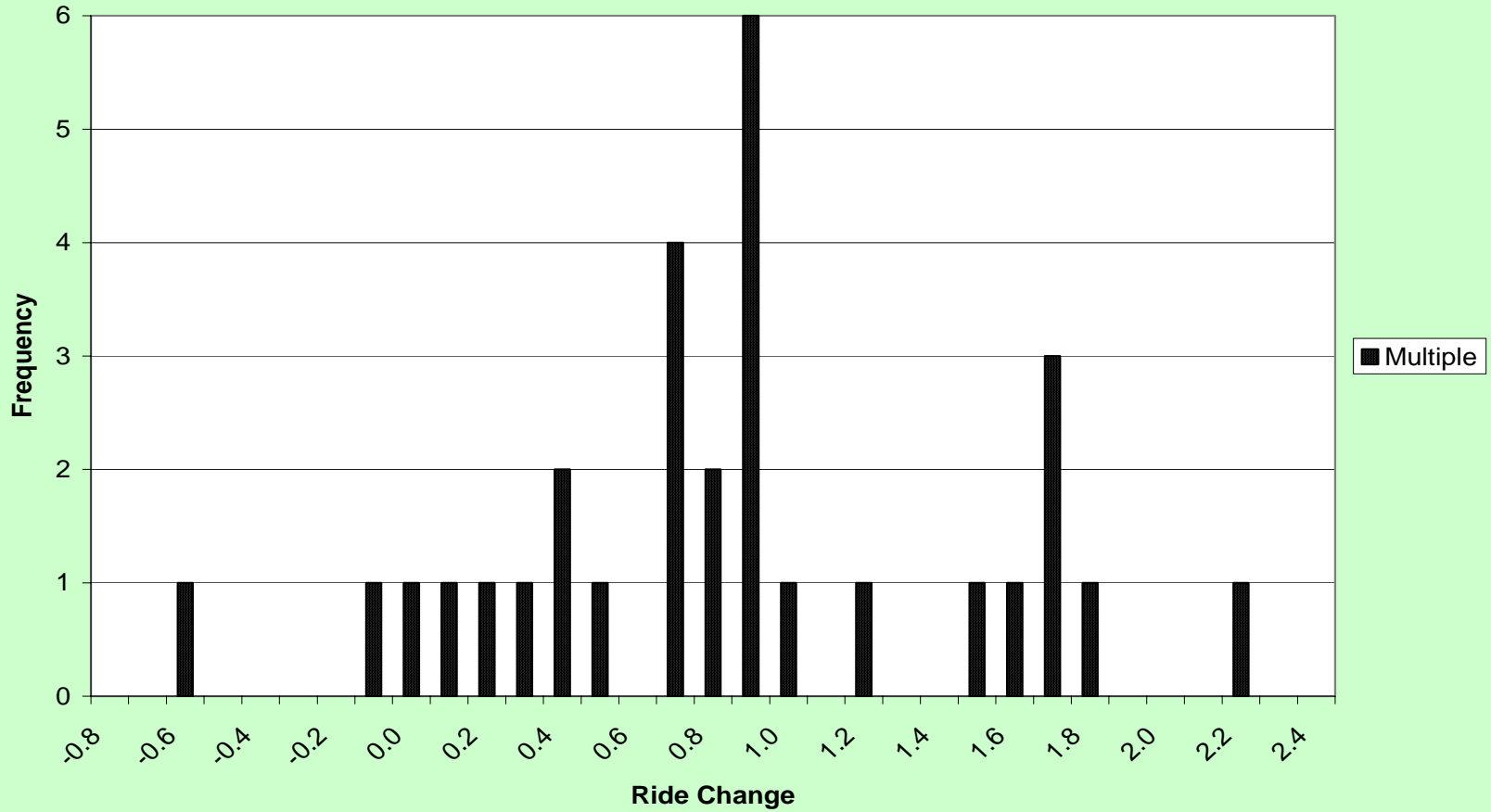


Figure 3. Frequency Distribution for Ride After for Single Lift

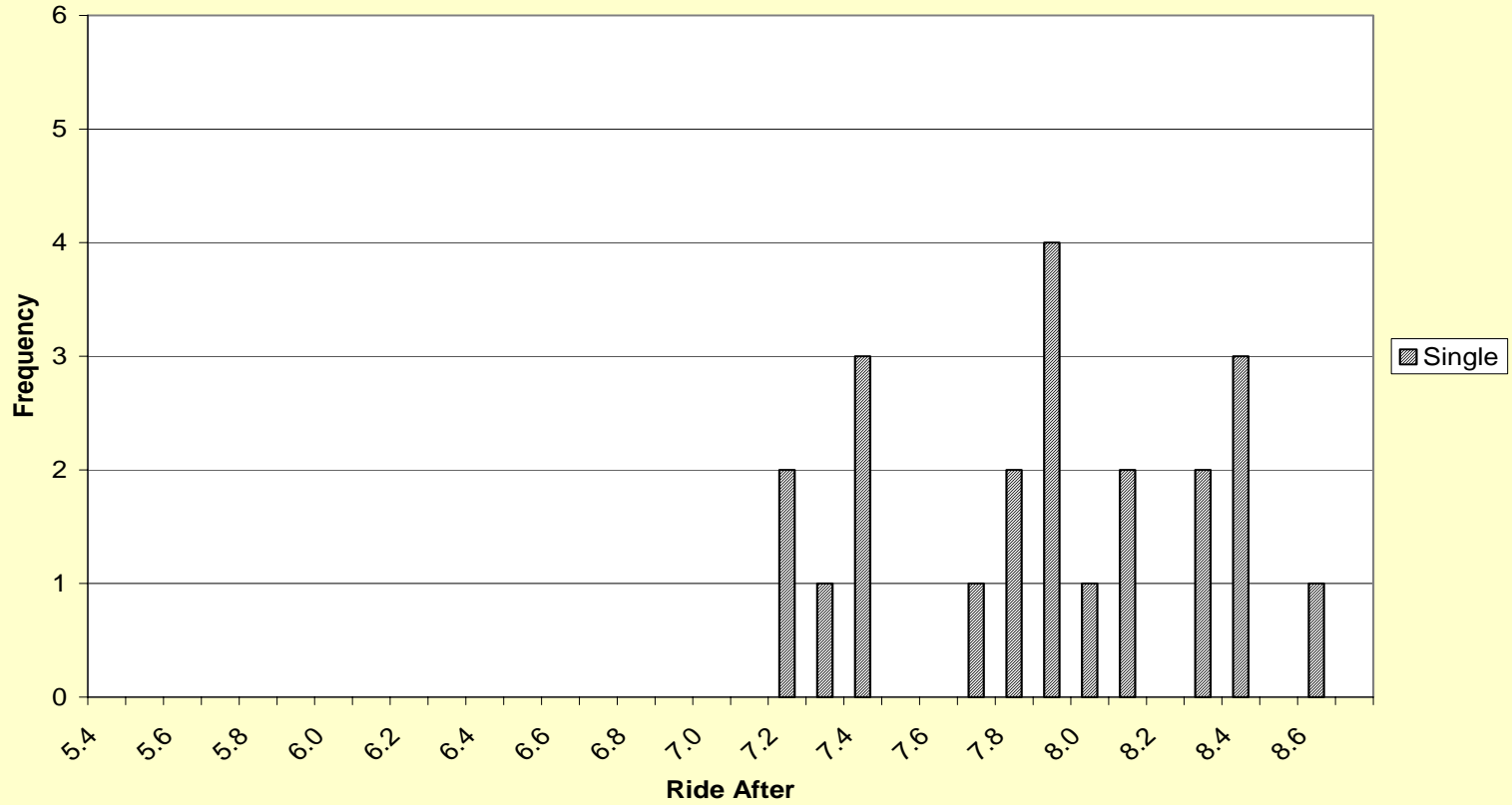


Figure 4. Frequency Distribution for Ride After for Multiple Lifts

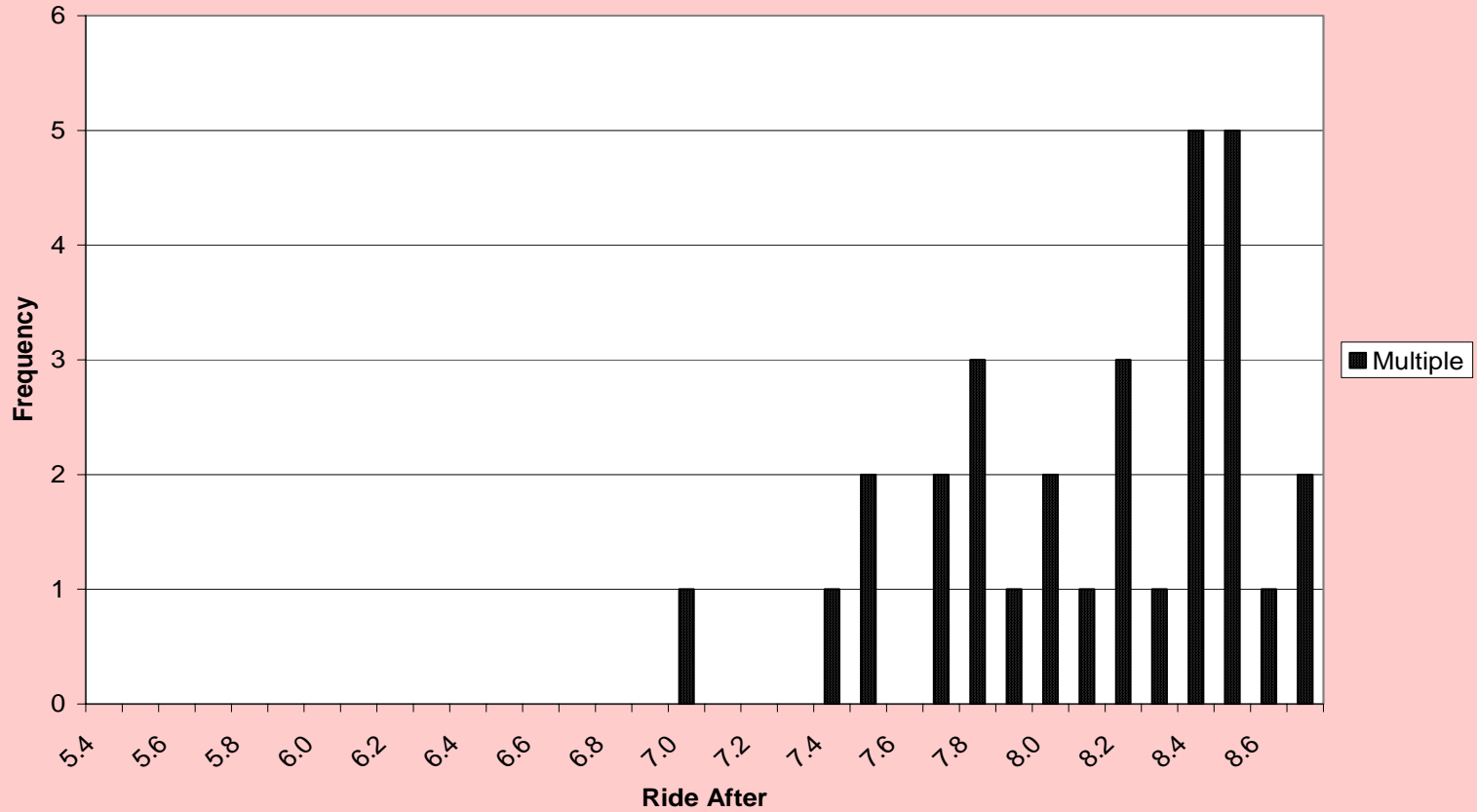


Figure 5. Frequency Distribution for Ride Before for Single Lift

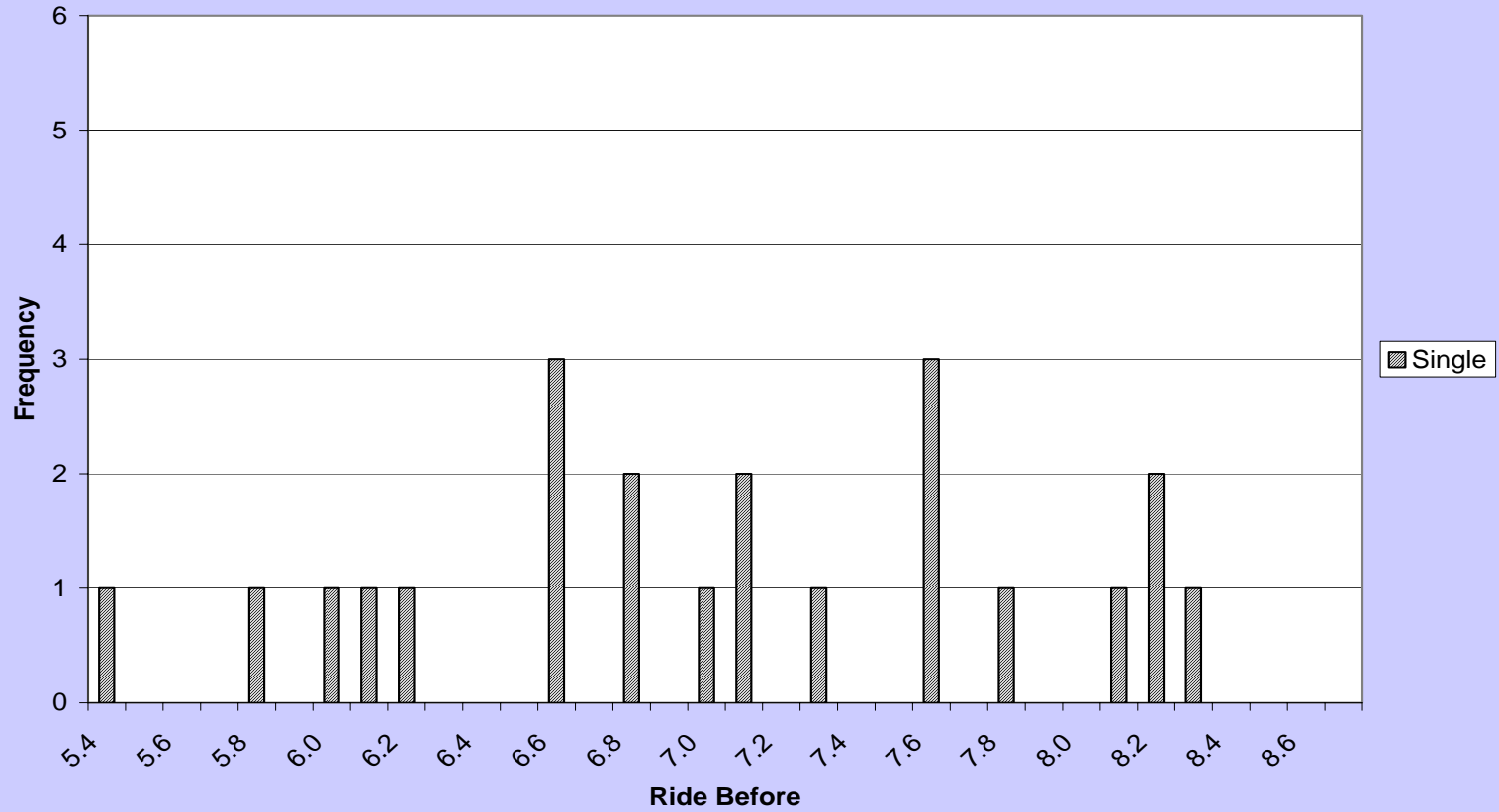
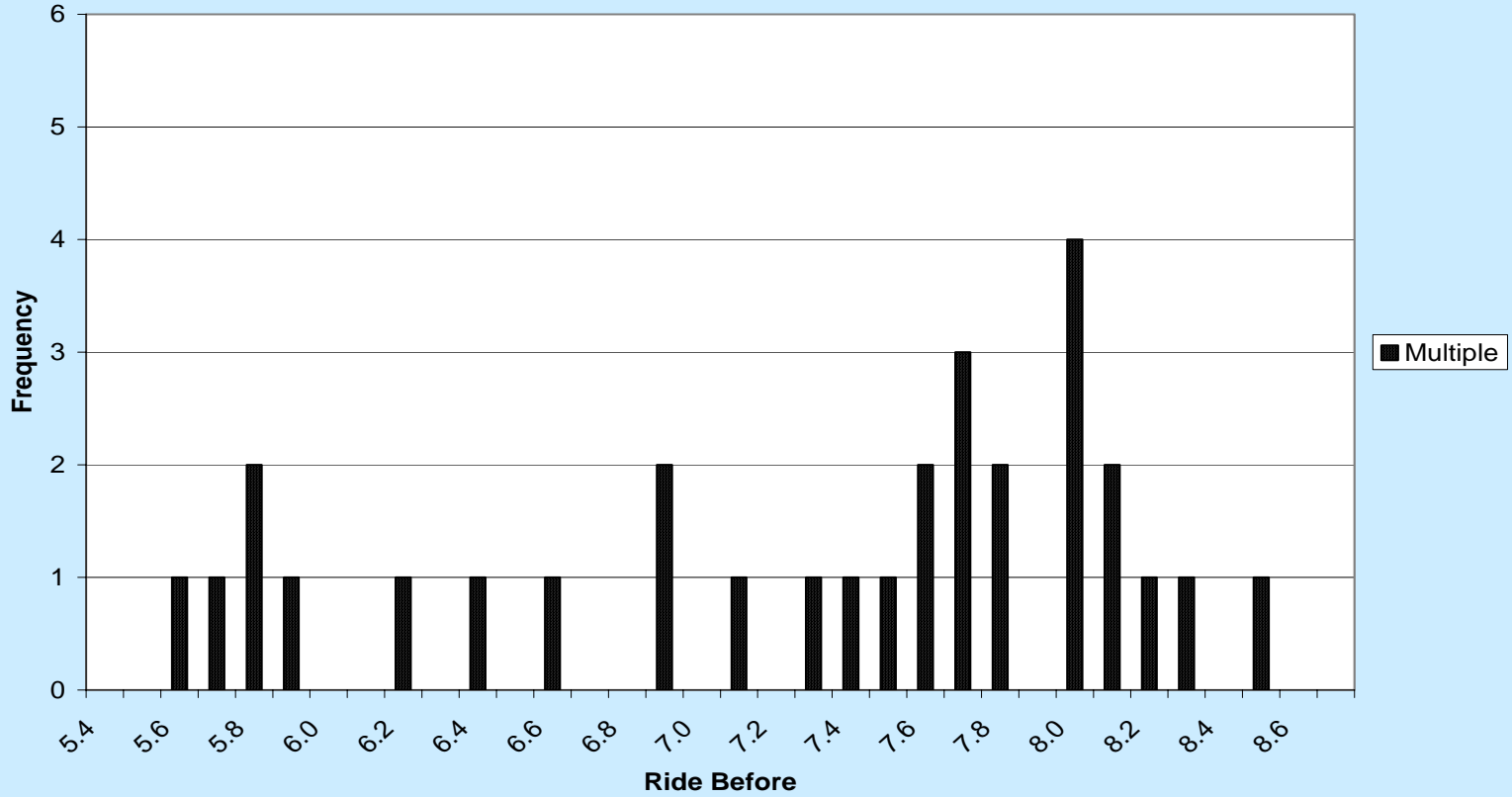


Figure 6. Frequency Distribution for Ride Before for Multiple Lifts



There was no statistical basis found in this study for concluding that the number of lifts of asphalt used in construction has an impact on the change in ride rating.

