This summary of Dr. Deckard’s addendum to his first report on truck turn-times highlights the main points and attempts to explain some of the technical elements of the analysis. Please refer to Dr. Deckard’s report for details.

The findings of this report indicate that:
- The arrival time-of-day and day-of-the-week are statistically significant in terms of their ability to account for variability in turn-times.
- However, while statistically significant, when compared to the “mill name” variable, arrival time-of-day and day-of-the-week account for relatively little of the observed variability in turn-times.
- Both Benchmark and Non-benchmark (ROS) mills demonstrate turn-time variance related to delivery time-of-day and day-of-the-week. However, at all times of day, Benchmark mills exhibit shorter turn-times than their Rest of Sample counterparts.
- Overall, there would appear to be important mill-specific factors other than arrival time-of-day- and day-of-the-week delivery surges that explain why some mills outperform others in their ability to rapidly turn trucks.

While the analysis of these new variables does explain some of the observed variance in turn-times, and call attention to notable spikes at certain times of day, it does little to explain why Benchmark mills consistently outperform the Non-benchmark group. In that sense, these findings lend additional support to the notion that Non-benchmark mills might be able to review their wood truck / wood yard systems and find economical means to achieve turn-times that are more in line with Benchmark mills.

PURPOSE
This study analyzes the impact that the arrival time-of-day and day-of-the-week have on truck turn-time at mills based on data that were collected for WSRI’s first turn-time study. (WSRI Technical Report 01-01). The analysis was conducted in response to specific requests from WSRI Board members about the impact of these variables and the desire of WSRI members to remained focused on wood supply elements that show room for improvement based on previous WSRI studies.

STUDY DESIGN AND DATA COLLECTION
The arrival time-of-day and day-of-the-week were recorded when data was collected for WSRI’s first study of turn-times. These variable were not, however, key punched or analyzed for the first report. Dr. Deckard extracted these data from the original data sheets and added them to the computer dataset.
DATA ANALYSIS
As in the original report, Deckard applies common statistical procedures to evaluate the relative importance of these variables in terms of their ability to explain the observed variances in total turn-times. In this report he discusses the impact that adding these two new variables has on the Univariate ANOVA (analysis of variance) model he developed for the first report. Combined, these new variables explain only 2.2 percent of the observed variability in turn-times predicted by this statistical technique (1.9 percent for time-of-day and .3 percent for day-of-the-week). The “mill name” variable is still the dominant variable contributing 16.9 percent.

Deckard also compares Benchmark (BM) and Non-benchmark (ROS) mills on the basis of this new information. Figure one illustrates the average turn-time achieved at each delivery time category for both the Benchmark and Non-benchmark mills and the combined sample (SAM). Additional graphs and tables present the BM and ROS data in detail.

RESULTS
At the individual mill level, arrival time-of-day explains more of the observed variability in turn-times than any other variable we have measured. However, both Benchmark and Non-benchmark mills are experiencing the arrival time effect and Benchmark mills somehow manage to cope with it better. In terms of the explanatory power of the variables WSRI has analyzed, “mill name” still carries more weight for the sample as a whole. Furthermore, the combined effect of all the variables we have applied to this ANOVA model is to explain only 24.7 percent of the variance in turn-times. Real confidence that someone has identified the crucial variables might begin to come when a model like this explains more than 50 percent.

Aside from the above, it is interesting to note the significantly higher turn-times observed at both Benchmark and Non-benchmark mills during the morning stack-up hours. It is equally interesting to note that the impact appears to be greater and last longer at Non-benchmark mills. No formal conclusions about this are drawn in this report. Readers are left to speculate on their own relative to this point.

USEFULLNESS TO WSRI MEMBERS AND THE WOOD SUPPLY SYSTEM
This follow-up to WSRI’s original study of truck idle-time at mills provides additional information that would allow specific mills, possibly in cooperation with loggers who supply them, to benchmark their performance relative to truck idle-time at wood receiving facilities. The arrival time-of-day and day-of-the-week analysis of this new data does not provide an explanation for why Benchmark mills in this sample outperform Non-benchmark mills, nor does it explain to any great degree why specific mills may have long average times. This additional information leaves the door open to accept the cost estimates presented in the first report as valid and should help those who are intrigued by the potential of those estimates to target their mill-specific reviews.