

Work Schedules and Sleep Patterns of Railroad Train & Engine Service Workers: Description of the Survey Data

The Federal Railroad Administration (FRA) sponsored a study of the work schedules and sleep patterns of railroad train and engine service (T&E) employees. The purpose of this document is to describe the study's data files that are available at www.fra.dot.gov. A separate technical report describes the study methods and findings in detail (see reference below). The Office of Management and Budget (OMB) approved this collection of information under OMB control number 2130-0577 on April 30, 2008. Data collection for this study occurred in May/June 2008. These data were collected *exclusively* for statistical purposes and may not be used for any other purpose.

Survey Methodology

The study collected data from a random sample of actively working U.S. railroad T&E personnel. The study used two survey instruments, a background survey and a daily log. Copies of both instruments are a part of this document. The background survey gathered demographic information, descriptive data for the T&E worker's job type and work schedule, and a self-assessment of overall well-being. Study participants used the daily log to record sleep and work periods on both regular workdays and non-workdays for a 2-week period.

The response rate for the survey was 33 percent. The accompanying files contain data for the 250 usable responses.

Data File and Description of Data Organization

Data from each participant's background survey and daily log are available in a single Excel workbook named "T&E Worker Data.xlsx." The background survey data is in one worksheet of the Excel workbook while the sleep and alertness ratings as well as the daily log data are in two additional worksheets. A unique participant identification number appears in all three worksheets providing a common reference among the different worksheets. Another worksheet in the data file describes the contents of each data field as well as the format of each data field.

Adjustments to the Data

Protecting the identity of the survey participants necessitated some modifications to the original dataset. A few categories of data are reported as ranges rather than as the raw reported data. For example, this is the case with the age data. For others, such as years of experience, top coding was used to prevent identification of respondents with over 40 total years of experience. Sex of the participant does not appear in the data because of the small number of women in the sample. Comparison of the survey instruments, which appear on the following pages, with the data file will reveal where these adjustments were made. Blank fields indicate no response from the participant.

Use of the Data

These data files are the property of the FRA. The data is being made available for researchers and others who are interested in the safety and health of the study population and in the relationship between work schedules and fatigue. Use of the data in books, journal articles, dissertations, theses and other publications (print or electronic) is authorized provided that the data is cited as "Federal Railroad Administration. (2011). Data files: Work schedules and sleep patterns of railroad train and engine service workers. U.S. Department of Transportation:

Washington, DC”, and that the FRA is notified of the publication (ATTN: Thomas G. Raslear, Federal Railroad Administration, Mail Stop 20, 1200 New Jersey Avenue, SE, Washington, DC, 20590).

Gertler, J. & DiFiore, A. (2009). *Work schedules and sleep patterns of railroad train and engine service workers*. (Report No. DOT/FRA/ORD-09/22). Washington, DC: Federal Railroad Administration.

Survey of Work Schedules and Sleep Patterns of Train and Engine Service Employees

Important: Please Read Before Making Entries in Daily Log

Using the Daily Log

The log is divided into 14 sections. Start a new section for each new day. On the section divider page, write the date. Please start with Day 1. Begin your log on a day that you will be working. It is important that you provide data for **14 consecutive days**. If you have scheduled a vacation during this 14-day period, do not begin the log until after the vacation.

Complete the log for every day of the study, not just the days that you work. **We need a record of your sleep for all 14 days.**

Try to make entries in the log upon arising and at the start and end of each work period. If for any reason you do not record data at the appointed time, fill out your log as soon as possible to the best of your ability. The study results will not be meaningful without complete log book entries from you.

Draw a vertical line in the appropriate column for the time period of each activity or sleep period and write the start and end times next to the line. Please use military time.

The log contains a sample entry for 2 days. Please review this example to make sure that you understand how to make entries in the log.

Sleep Periods (complete daily)

Record your main sleep periods as well as any supplementary sleep periods or naps. Enter sleep quality ratings for your longest sleep period ending on each day. If your sleep is interrupted due to family or other circumstance for more than 15 minutes, please record this on the log by showing two separate sleep periods. Treat interruptions of less than 15 minutes as continuous sleep.

Next to the vertical line in the sleep column of the activity page, write an "A" to indicate that you slept away from home or "H" to indicate that you slept at home.

You may report a nap concurrently with work, limbo time, or interim release if this occurs.

Explain anything unusual about your sleep in the Comments section.

Work Periods

Make entries on the activity page to record your travel to/from your reporting point (Commute), your work period (Work), and limbo time or period of interim release, if any. Record as commute, the period from leaving home or lodging until you arrived at your reporting location. **If you arrive at your reporting point in advance of your sign on time, record this time as work. Similarly, if you do not leave company property immediately following the end of your service, record this time as work.**

If you start a work period today that will end tomorrow, rate your alertness today when you report for work and tomorrow when you complete the work period.

Explain anything unusual about your work period in the Comments section.

Study Compensation

You must return a completed background survey and 14 days of sleep and work schedule information to receive the compensation. You will receive a \$75 gift certificate to a retail establishment as compensation for your participation in this study. Complete the last page of the log book to indicate your preference for the study compensation. You should receive your gift certificate within 4 weeks of returning your materials.

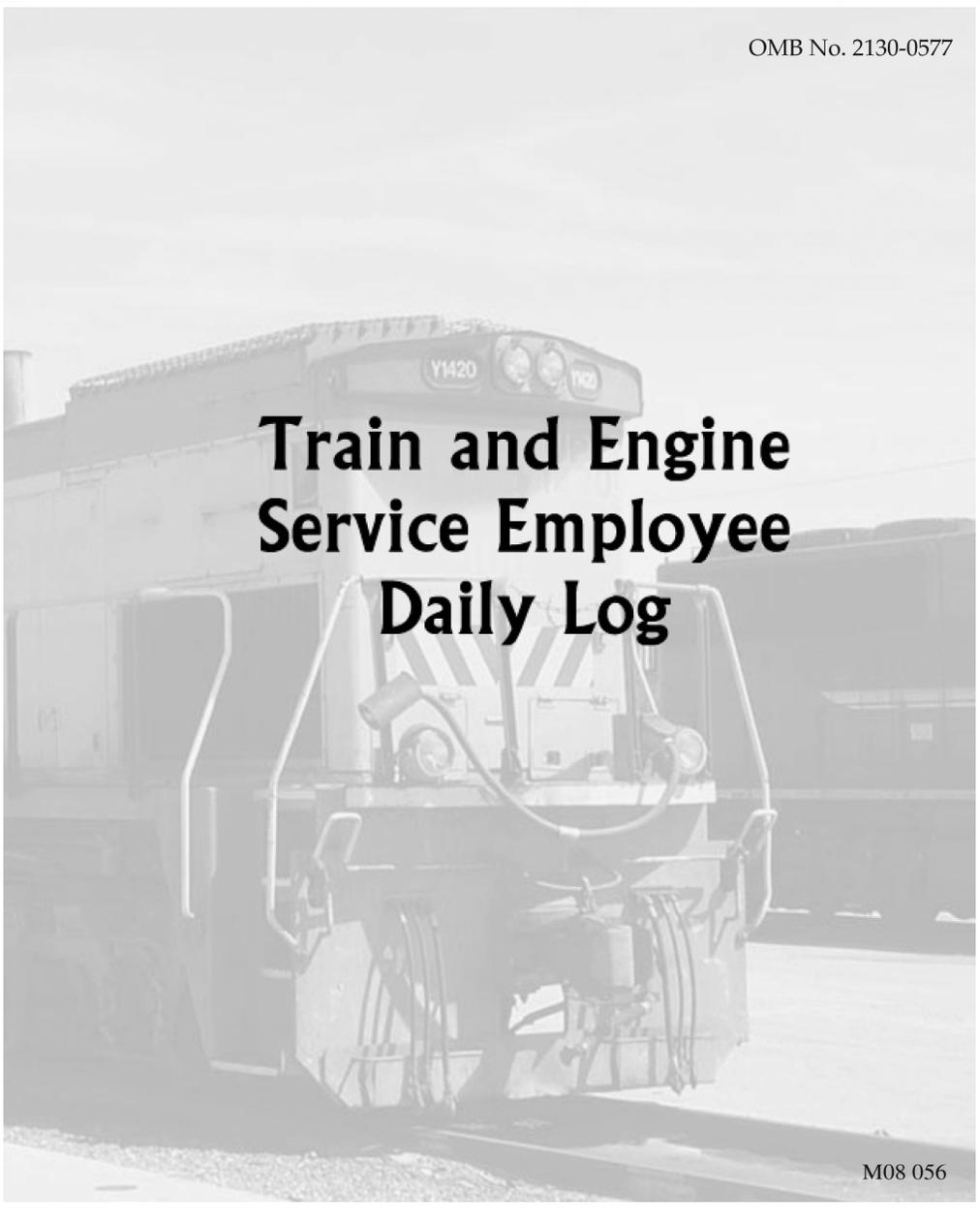
Returning Study Materials

Return your Background Survey and Daily Log in the postage paid envelope. If you cannot locate the return envelope, please contact Haila Darcy, hdarcy@foster-miller.com or 781-684-3966, for a replacement.

Questions or Problems?

If you have questions on any aspect of these instructions, are not sure how to report specific work or sleep information, or need additional survey materials, please contact Judy Gertler, jgertler@foster-miller.com or 781-684-4270.

OMB No. 2130-0577



Train and Engine Service Employee Daily Log

M08 056

ID Number _____

If you have questions, you can contact:

Judy Gertler
781.684.4270
jgertler@foster-miller.com

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Instructions for T&E Service Employee Log

This log is divided into 14 sections, one for each day that you will be recording data. Each section has a page for recording your self-assessments of your sleep and your alertness. A table for recording sleep, personal time, commute to/from work, work periods, limbo time, and interim release follows the self-ratings.

Please assign the time in each day to one of the six categories. Draw a vertical line in the appropriate column to indicate the time that you spent in that activity. Put a horizontal bar at the top and bottom of the vertical line to indicate the beginning and end of the activity. Please enter the actual start and stop time of each activity period. Next to the vertical line in the "Sleep" column, write an "A" if you slept away from home or "H" if you slept at home. Be sure to record all sleep periods, including naps. You may report work, limbo, or interim release concurrently with a nap if this occurs.

You may use the blank page following each daily entry for any comments about the day's activities. This is optional.

The following pages contain a sample entry for two consecutive days. This example illustrates how to record information in this log book.

Study Compensation

Complete the last page of this log book to indicate your preference for the study compensation.

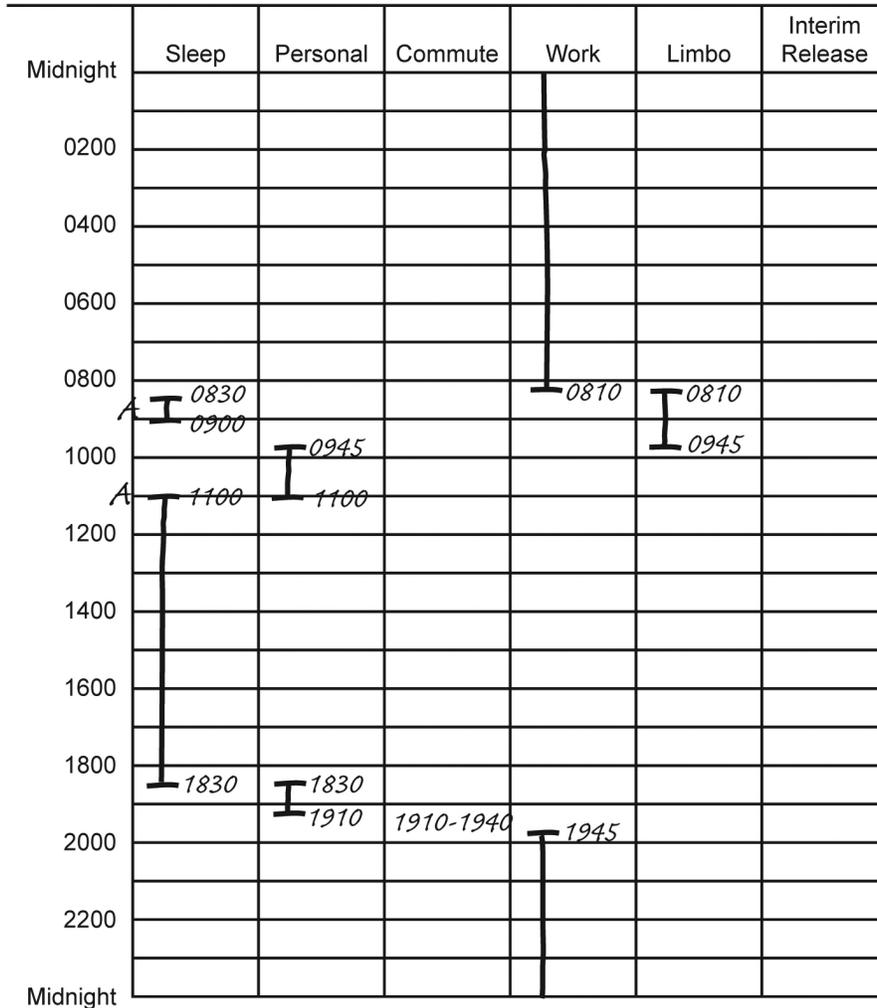
Sample Entry

You sleep at home Sunday night, going to sleep sometime before midnight, and you wake up at 6:30 a.m. Monday morning. You are not eligible to work today until 8 p.m. so during the day, you decide to fiddle around the house, run errands, and interact with your kids, until you are called. You receive the call to work at 6 p.m. You then prepare for work, get in your car at 7 p.m., and arrive at work at 8 p.m. You report for work at 8:10 p.m. Your work today takes you on the road, away from home.

You proceed to drive through the night, and into Tuesday morning. You realize that you are not going to reach your destination before your HOS expire, and you are forced to stop the train at 8:10 a.m. You call for a van and sit waiting in limbo. Because your agreement allows for napping, you doze for 30 min. A van arrives at 9 a.m. to take you to your lodging, and you arrive at 9:45 a.m.

You check into your room, and decide to have some breakfast and take a shower before lying down to sleep at 11 a.m. You are awoken at 6:15 p.m. when you receive a call informing you to be to work at 7:45 p.m. You are still tired and decide to get 15 min more sleep, so you lay back down. At 6:30 p.m. you wake up to prepare for work. Before the van arrives you make your way across the street to the convenience store to grab a sandwich and some snacks for the ride home. The van picks you up at 7:10 and drops you off at 7:40 p.m. You report for work exactly at 7:45 p.m. and you work up through midnight.

Activity



Sleep location: A=away, H=home
 Enter actual start and end time for all activities

Day 1

Date _____ / _____ / 2008

Self-Assessments

Rate your sleep upon arising from longest sleep period

Ease of falling asleep

1 2 3 4 5

Very difficult

Very easy

Ease of getting up

1 2 3 4 5

Very difficult

Very easy

Length of sleep

1 2 3 4 5

Wholly insufficient

More than sufficient

Quality of sleep

1 2 3 4 5

Very poor

Very good

Indicate how you feel now

1 2 3 4 5

Very sleepy

Very alert

Start of Work

Indicate how you feel now

1 2 3 4 5

Very sleepy

Very alert

End of Work

Indicate how you feel now

1 2 3 4 5

Very sleepy

Very alert

Activity

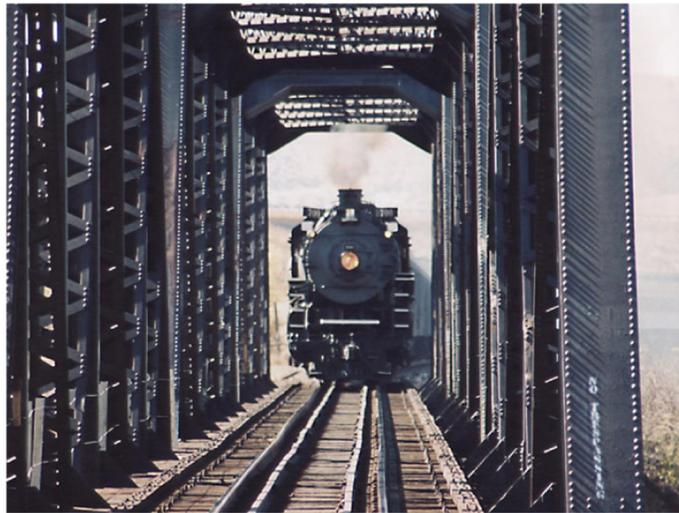
	Sleep	Personal	Commute	Work	Limbo	Interim Release
Midnight						
0200						
0400						
0600						
0800						
1000						
1200						
1400						
1600						
1800						
2000						
2200						
Midnight						

Sleep location: A=away, H=home
Enter actual start and end time for all activities

OMB No. 2130-0577

ID Number: _____

Train and Engine Service Employee Background Survey



The Federal Railroad Administration (FRA) is conducting a study of the work schedules and sleep patterns of railroad operating crews. The purpose of the study is to develop an understanding of the issue of work schedule-related fatigue of train and engine service employees. The study results will inform possible future FRA policy and regulatory actions, will assist the railroad industry in addressing any work-schedule related fatigue issues of train and engine service employees, and, in general, will contribute to overall railroad operational safety.

The data collected from this study will be used primarily for statistical purposes, and is authorized by law (49 U.S.C. 20901). Your participation in this study is completely voluntary. Your personal information will be kept private to the extent permitted by law, and will not be disclosed to anyone other than employees and contractors who work on this study.

Public reporting burden for this information collection is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Please note that an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The OMB control number for this information collection is OMB No. 2130-0577 and the expiration date is April 30, 2011.

About Yourself

1. Age: ____ years
2. Sex: ____ male ____ female
3. How long have you worked in train or engine service?
____ years and ____ months
4. How long have you worked in train or engine service at your current railroad?
____ years and ____ months
5. What type of work do you currently do?
____ yard operations, including hostling
____ local freight ____ road freight
____ passenger or commuter operations
____ other (please explain) _____
6. My current position is
____ conductor ____ locomotive engineer
____ RCL operator ____ hostler
____ brakeman ____ yard foreman
____ trainman ____ switchman
____ trainee
____ other (please explain) _____
7. What is your marital status?
____ single ____ divorced ____ other
____ married ____ widowed
8. How many children or other dependents do you have (not including your spouse)? _____
9. How many of your dependents are under the age of 2 years? _____
10. a) Do you drink caffeinated beverages?
____ yes ____ no
b) On average, how many cups and/or cans of these beverages do you drink per day? _____

Your Health

1. How many times have you marked off sick in the last year? ___ days
2. In general, how would you rate your health? Circle one:
Poor Fair Good Excellent
3. Some people feel younger or older than their biological age. How old do you feel? ____ years
4. What type of educational materials or training has your railroad provided you on fatigue, sleep hygiene, napping, or sleep disorders?
___ videotape ___ safety briefing
___ brochure ___ none
___ other (please explain) _____
5. Have you been diagnosed as having a sleep disorder?
___ yes ___ no (skip questions 6 and 7)
6. Do you have sleep apnea?
___ yes ___ no
7. Are you receiving medical treatment for your condition?
___ yes ___ no

Sleep/Rest Arrangements

Please complete this section *only* if your job requires you to spend time at an away terminal or interim release point.

1. When held at the away-from-home terminal or point of interim release, most times:
___ I share a hotel room or camp car with one or more other workers.
___ I sleep in an individual room, not shared with anyone.
___ I use the company-provided quiet room.

2. When at an away terminal or point of interim release, the company:

- ___ Provides me with sleeping accommodations.
- ___ Provides a daily per diem and I must find my own overnight accommodations.
- ___ Provides me with a quiet room.
- ___ Does not provide either sleep/rest accommodations or daily per diem.

Your Work Schedule

1. a) If you work a job that has a fixed starting time, please describe your work schedule using this table. Leave rest days blank and use military time.

	S	M	T	W	Th	F	S
Start time							
End time							

b) If you work a job that does not have a regular schedule, please answer the following:

- at home call time _____(hr:min)
- away call time _____(hr:min)
- call window _____ 24 hr *or* from _____ to _____
- On average, how many times a day do you check the line up? _____

2. On average, how many hours do you work per week?

3. How does your job provide for rest days?
 ___ no guaranteed rest days ___ 2 consecutive days per week
 ___ 2 days per week ___ 1 day per week
 ___ other (Please explain. For example, 7 on/2 off, 8 on/2 off)

Life Events

Please indicate with a ✓ whether any of the events listed below has occurred to you in the last 6 months:

- Personal illness or injury
- Marital difficulties
- Birth of a child
- Death of a spouse
- Change in sleeping habits
- Difficulty with the law
- Illness/injury of family member or friend
- Financial difficulties
- Change in living conditions
- Change in social activities
- Death of a close family member

