

9-2010

Tracking Missing Drivers

James G. Strathman
Portland State University

Let us know how access to this document benefits you.

Follow this and additional works at: http://pdxscholar.library.pdx.edu/trec_briefs

 Part of the [Civil and Environmental Engineering Commons](#), and the [Transportation Commons](#)

Recommended Citation

Strathman, James. Tracking Missing Drivers. Project number 2008-93. Portland, OR: Transportation Research and Education Center (TREC), 2010.

This Report is brought to you for free and open access. It has been accepted for inclusion in TREC Project Briefs by an authorized administrator of PDXScholar. For more information, please contact pdxscholar@pdx.edu.



OTREC
OREGON TRANSPORTATION RESEARCH
AND EDUCATION CONSORTIUM

P.O. Box 751
Portland, OR 97207-0751
Phone: (503) 725-2843
Web site: <http://otrec.us>
Email: askotrec@otrec.us



TRACKING MISSING DRIVERS

By understanding driver absenteeism, transit providers can learn to manage it, Portland State University research suggests.

Issue

Studies have shown that the absenteeism rate for the U.S. labor force at large is about 3.5 percent, while in the transit industry absenteeism among operators exceeds 10 percent. Also troubling is the fact that short-duration operator absences, those lasting one to three days, have increased during the past decade.

Given the increasing frequency and daily volatility of short-duration absences, transit providers need to gain a better understanding of their occurrence. This will help providers anticipate the amount of open work that will need to be filled by reserve operators, known as extraboard. Improving our understanding of factors that contribute to short-duration absences may also help us make changes to reduce their occurrence.

This project analyzed factors contributing to short-duration, unscheduled absences among operators at TriMet, the transit provider for the Portland, OR, metropolitan region. The findings can be used to support planning practices and to point to changes in policies and practices that may reduce the incidence of short-duration absences.

Research

This project drew on an extensive array of operator-level information recovered by transit intelligent transportation systems technologies as well as information from human resource, scheduling, incident and customer-relations databases. With this data, the project team provided a comprehensive and detailed representation of operators' daily work environment, leading to a better understanding of operator absence patterns.

Statistical analysis revealed the influence of a variety of factors contributing to absence patterns. Absence likelihoods are highest among Caucasian operators and decline progressively

THE ISSUE

Transit operators miss workdays at nearly three times the general labor force and these absences are increasing.

THE RESEARCH

James Strathman of Portland State University analyzed transit agency data to consider factors that cause drivers to miss work. Among the findings:

- Absences were highest among whites, women and young people;
- Operators scheduled for split shifts were more likely to miss work;
- A pattern of complaints against an operator correlates with absence rates.

IMPLICATIONS

The analysis indicates that changing policies can reduce absences; specifically, allowing flexible schedules and providing economic incentives.

MORE INFORMATION:

otrec.us/project/93

PROJECT INFORMATION

TITLE: Evaluation of Short Duration Unscheduled Absences Among Transit Operators: TriMet Case Study

LEAD INVESTIGATOR: James Strathman, Portland State University

PROJECT NUMBER: 2008-93

PARTNERS: TriMet; Toulan School of Urban Studies and Planning, Portland State University

COMPLETED: September 2009

ONLINE: otrec.us/project/93

for African-Americans, Asians and Hispanics. Women are more likely to be absent than men, while older operators are less likely to be absent than younger operators. Full-time operators showed a greater absence likelihood than part-time and probationary operators.

The study also found that operators on regular-relief and straight-run assignments are estimated to have the lowest absence likelihood, while the absence likelihoods of those with split shifts are the highest. Assigned runs that conclude before 5 p.m. have lower estimated absence likelihoods than runs that conclude in the evening or nighttime hours. Estimated absence likelihoods vary by day, with Thursdays, Fridays and Saturdays being the highest. Absence likelihoods also vary according to season, peaking in December, January and February.

Service delivery variables provided additional absence indicators. Operators who have frequent late departures from time points, who speed, and who have high volumes of passenger movements and lift operations are estimated to have a greater absence likelihood. In the area of customer relations, a pattern of recent complaints related to the safe operation of a vehicle, the timeliness or availability of service and customers' treatment by the operator each were estimated to increase absence likelihoods. A recent incident involving a question of an operator's fitness for duty also increased the estimated absence likelihood.

Implications

The findings of this study will help support the extraboard planning process. Extraboard planning can now account for the consequences of changes in the demographic composition and employ-

Variable	Increased absence likelihood	Decreased absence likelihood
Female	X	
Age		X
Family size	X	X
No. of children	X	
Past absence	X	X
Wage		X
Union	X	
Seniority	X	X
Full time	X	
Tight labor market	X	
Job satisfaction		X

Figure: Selected variables and effect on driver absence in studies

In 16 studies reviewed, a variety of factors were found to have a significant effect on driver absence. Some were found to have a positive effect on absence, others a negative effect. Still others, such as seniority, showed a positive effect in some studies and a negative effect in others.

ment status of regular operators, seasonality differentials and changes in the composition of assigned work. The research findings may also contribute to strategic aspects of operations planning in several ways. For instance, the results indicate that breaking full-time split shifts into part-time straight runs would lead to lower absence rates.

Changing several provisions in the current labor agreement also may reduce operator absences. For example, transit operator absences might be reduced if attendance incentives were restructured to provide an annual payout in exchange for unused sick leave, rather than a single payout at retirement.

The depth of analysis of this issue made possible by new technology was hardly imaginable in the transit industry just 10 years ago. Although the findings from this analysis relate to the experiences of one transit agency, the approach draws on data and information that are becoming more widely available in the industry. This means that other transit agencies should easily be able to replicate the analysis provided in this project.