

# How does fuel cost affect heavy-duty truckers' decisions?

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## 1 Introduction

The trucking industry hauls about 70% of all freight in the United States. Although medium- and heavy-duty trucks only account for about 5% of the on-road vehicles, they contribute about 20% of the greenhouse gas emissions and oil use in 2015 (EPA, 2015). Existing policies intending to reduce fuel consumption and greenhouse gas emissions have been mostly technology-based and targeted to manufacturers, whereas fuel price oriented policies, such as fuel taxes, have been rarely considered (Decker and Wohar, 2007; Knittel, 2011). The U.S. Environmental Protection Agency (EPA) announced the fuel efficiency standards for medium- and heavy-duty trucks for the first time in 2014. The effectiveness of such policies heavily depends on how trucking decisions respond to changes in fuel cost.

In this study, I focus on two trucking decisions in particular, vehicle-miles traveled (VMT) and payload distance (PD), which are influenced by fuel cost of per-mile driving. VMT measures the total distance a vehicle travels within a year. The value of payload distance is

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