

The External Costs of Transporting Petroleum Products by Pipelines and Rail:

Evidence From Shipments of Crude Oil from North Dakota

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Abstract:

This paper constructs new estimates of the air pollution and greenhouse gas costs from long-distance movement of petroleum products by rail and pipelines. While crude oil transportation has generated intense policy debate about rail and pipeline spills and accidents, important externalities – air pollution and greenhouse gas costs – have been largely overlooked. Using data for crude oil transported out of North Dakota in 2014, this paper finds that air pollution and greenhouse gas costs are nearly twice as large for rail as for pipelines. Moreover, our estimates of air pollution and greenhouse gas costs are much larger than estimates of spill and accidents costs. In particular, they are more than twice as big for rail and more than eight times as big for pipelines. Our findings indicate that the policy debate surrounding crude oil transportation has put too much relative weight on accidents and spills, while overlooking a far more serious source of external cost: air pollution and greenhouse gas emissions.

