



Environmental Law & Policy Center
Protecting the Midwest's Environment and Natural Heritage

Energy Efficiency through High Speed Rail

May 4, 2010

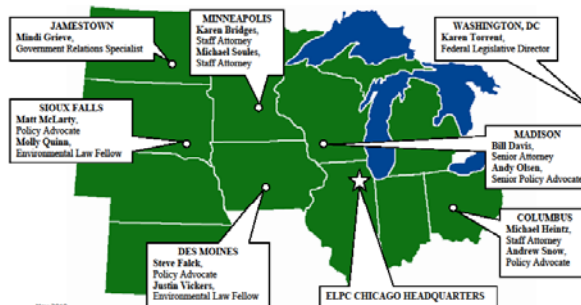
About ELPC



Environmental Law & Policy Center

- 45 staff
- 8 offices
- \$6.5 million budget
- Promoting economic development & environmental protection

ELPC OFFICES AND STAFF



The Midwest Plan



- Upgraded Existing Infrastructure
- Higher-Speed: 90-110 mph Service
- High-Frequency
- High-Reliability
- High-Quality

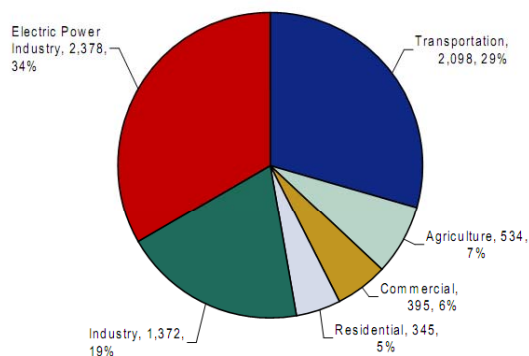
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3

Transportation = 30% of the Problem...



Figure 2.2 U.S. Greenhouse Gas Emissions by End Use Economic Sector, million metric tons CO₂ equivalent 2006



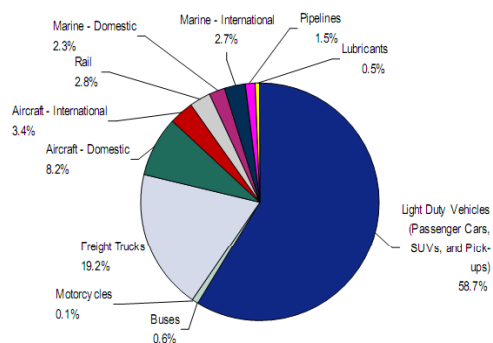
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4

...And Cars are the Biggest Source



Figure 2.3 U.S. Greenhouse Gas Emissions by Transportation Mode 2006

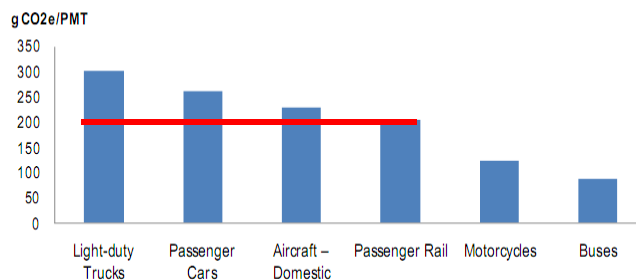


Source: U.S. EPA (2008). *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 to 2006*, pages 3-9, 3-30, 3-31.

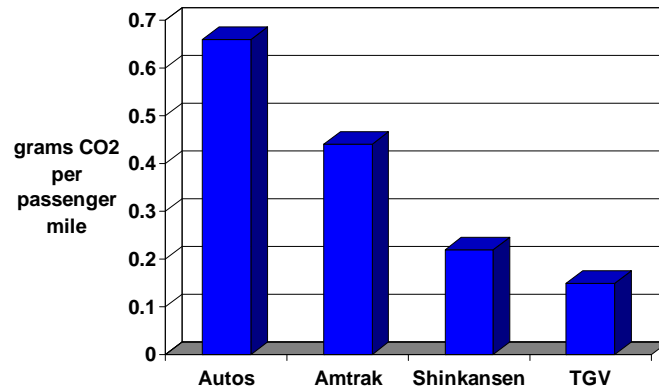
Current Trains Offer ~30% Savings



Figure 2.11 GHG Emissions per Passenger-Mile Traveled (PMT) by Passenger Transportation Mode 2006



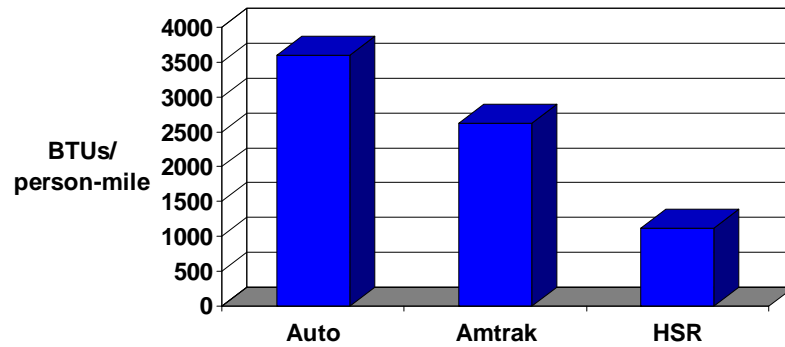
High-Speed Rail Offers Further Savings



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7

Even 110 mph Brings Efficiency

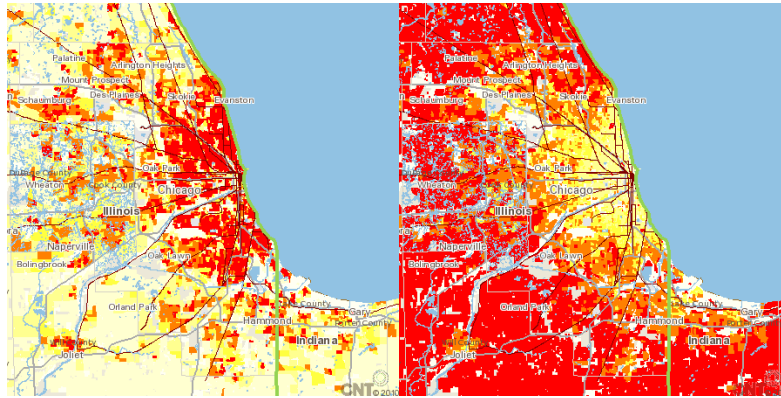


Chicago-St. Louis 110mph Environmental Impact Statement

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8

Long-term Efficiency Through Location



Center for Neighborhood Technology

Higher speeds = lower efficiency (But higher speeds = higher ridership)

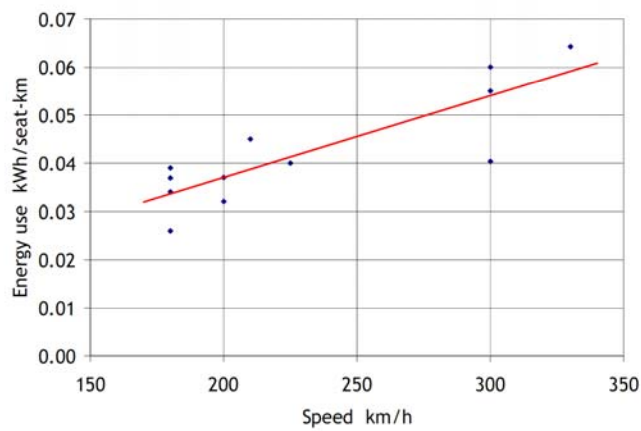
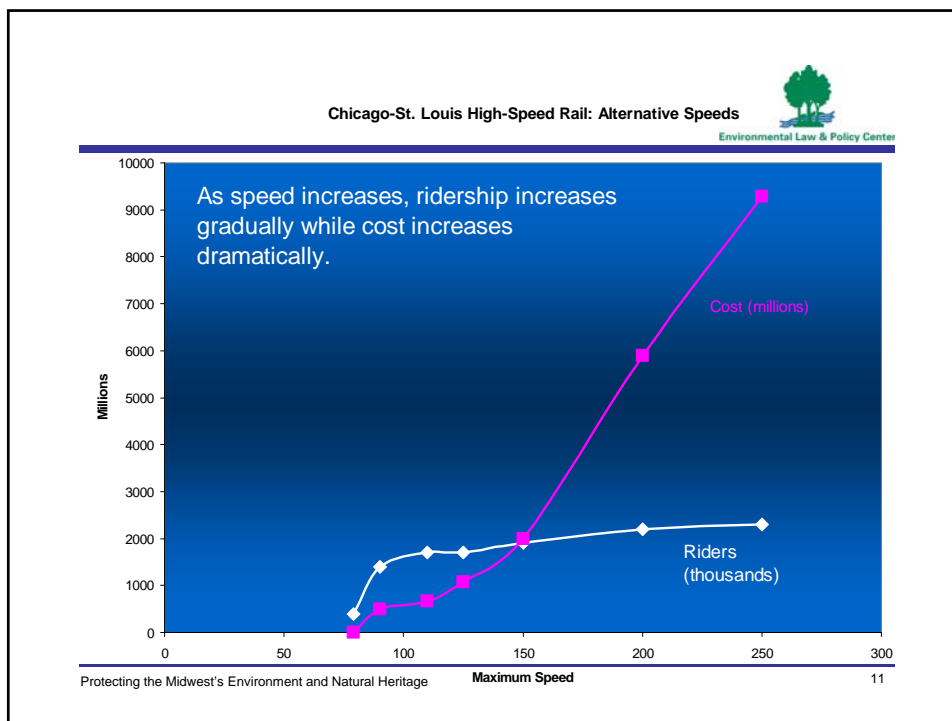



Figure 27: Effect of speed



The Fine Print


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- Energy Efficiency depends on 3 factors:
 - Efficiency of the engine (mpg)
 - Source of fuel (biodiesel v. oil v. coal generated electricity)
 - Ridership per train
- There is thus tremendous variability in overall energy efficiency of rail
- BUT: all reasonable scenarios show rail as a benefit over cars and planes

Protecting the Midwest's Environment and Natural Heritage 12



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Midwest's leading environmental legal advocacy and
eco-business innovation organization.**

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