

Acknowledgements

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Foreword


At A Glance

On January 9, 2009, a compendium of U.S. Department of Transportation (DOT), State, and Local transportation

Overall, workshop participants identified more than 34 different research needs among the six topic areas. These research needs are listed below. Additional details are provided in the main

Future Markets for Public-Private Partnerships

A gradual rationalization of highway-related responsibilities for efficiency purposes among agencies, jurisdictions and sectors that includes downsizing, devolution, and new public-public and public-private partnerships is already under way.

 Potential for innovative alliances to provide new products and services.

Both public sector constraints and private sector opportunities indicate the potential for a new allocation of public versus private sector roles, together with related risks and rewards. Such an evolution already has

Design-Build Fixed-Price Contracting

o Design-

ó Small contractors and labor union concerns have constrained the rate of asset management outsourcing, together with the slow rate of state DOT efforts to fully institutionalize asset management approaches. S /P wTJf(ing-11()-9a1)JTJETBT1 0 0 1 486.74 667.78 Tm[ndin

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program. Several private entities have proprietary technologies that need to be evaluated and considered prior to national implementation.

o A VMT-based funding mechanism represents a major change in the

PPP Arena

Implications of Alternative Fuels on Transportation

Paul Argyropoulos, EPA¹

Introduction

There are obvious links between the U.S. Department of Transportation and the U.S. Environmental Protection Agency just as there are linkages between fuel and the movement of people and goods. Without the highways, vehicles cannot travel with ease and, without the fuels, the vehicles cannot travel at all. focus is on the environment, though again these two worlds come together in the form of the

Additional research is needed on several other topics, including continuing discussions on the costs and benefits of energy security and independence, the importance of maintaining gains in public protection regarding emission controls, and others. One emerging question on sustainability that warrants research is to quantify the trade-off between the use of crop-based feedstocks for transportation fuel versus for food production.

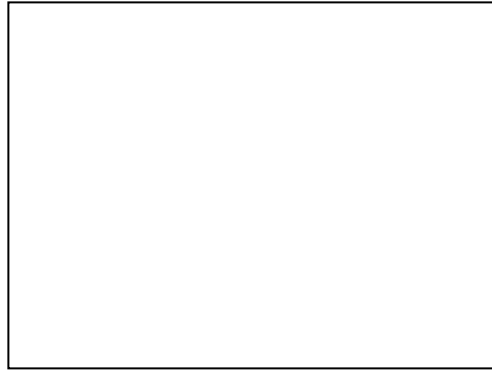
Energy use and GHG emissions from freight transportation have grown at roughly twice the rate

Looking ahead, freight-transportation energy use and GHG emissions are expected to grow modestly over the next three decades, led again by the trucking sector. Total domestic freight transportation GHG emissions are projected to increase 74% by 2035, an increase of about 1.8% annually. Trucking will still account for the vast majority of domestic freight GHG emissions.

Current environmental regulations will significantly reduce truck and locomotive particulate and NO_x emissions, but do little to reduce GHG emissions. Curtailing GHG emissions will be a major challenge for the freight transportation industry. Improved engine efficiency and

Congress included transportation among the capped sectors through an upstream cap on the

in many locations. U



engage in scenario planning activities that integrate transportation, land use, and air quality decisions.

Most of the regional scenario planning initiatives share the following characteristics:

- ❏ They use more and more sophisticated data, models, and analysis to estimate the trade offs and impacts of growth decisions on a broadening array of variables, including travel behavior, air emissions, water quality, demand and supply, habitat and natural resources, agriculture, infrastructure costs, floodplains, environmental justice, affordable housing, economic development, and even health.



examined to begin to understand how people and households decide on a set of activities and their relative importance.

The locations of trips traditionally was concerned only with the Travel Analysis Zone (TAZ) of

- ☞ The survey would be repeated to the same households each year for 5+ years. A replacement protocol would be used for households that drop out of the survey.
- ☞ The survey would be conducted in 3-5 urban areas that represent a range of urban and suburban development patterns and transportation systems with at least 1,000 households per area.
- ☞ Each trip location would be e

Achieving Intermodal Interoperability for Freight Movements

Joe Bryan, Halcrow

The Issue

and with it higher ground costs, land requirements, traffic volumes, fuel consumption, and emissions of carbon and other substances.

Policy Options

Limitations to interoperability bring with them a mixture of private handicaps and public burdens. Drawbacks on the private side may not involve inefficiencies: the rail position for highway diversion is about accepting less market share for less risk. It is productive on its own terms, and it is satisfactory to railroads that have seen the downside of the fixed costs of infrastructure. Thus, drawbacks may be tolerable to the existing private interests: port draymen

information technology. The conventional effort to stitch together legacy information systems

Impacts of Higher Fuel Costs

Dan Brand, CRA International

Introduction and Objective

This is a brief paper on the impacts of higher fuel costs on the demand for surface passenger transportation in the United States.

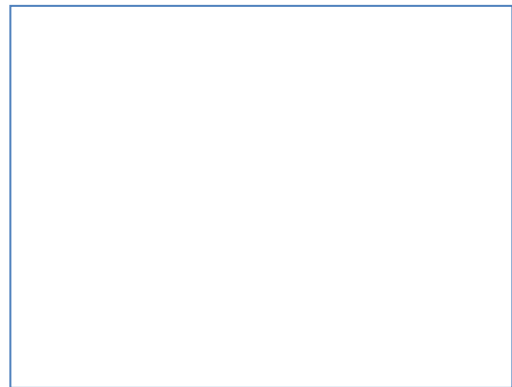
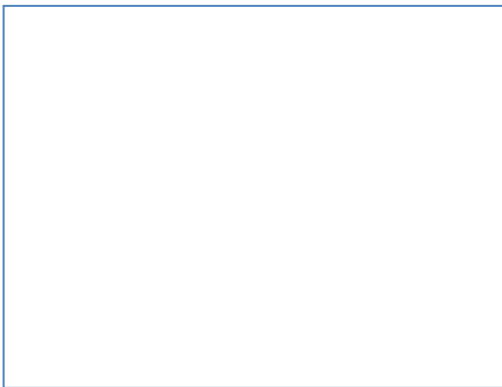
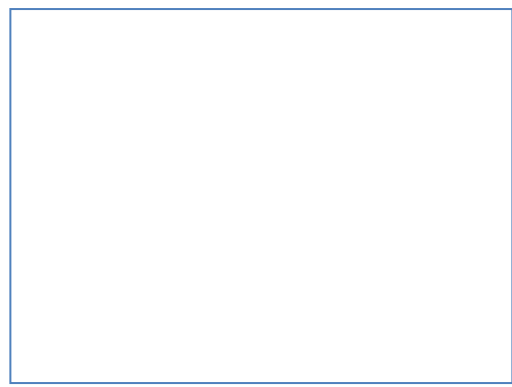
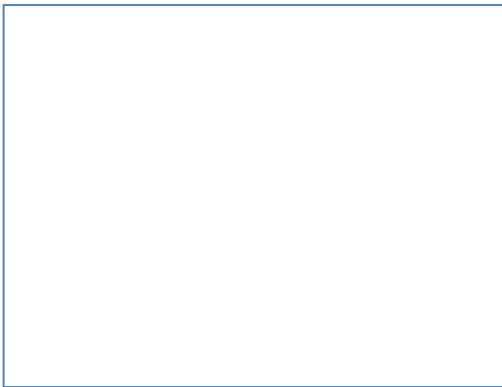
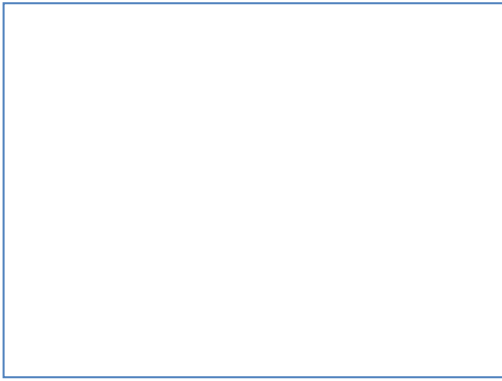
declined by 3.3%, compared to 2007⁴. For the last two months of 2008, VMT declines have

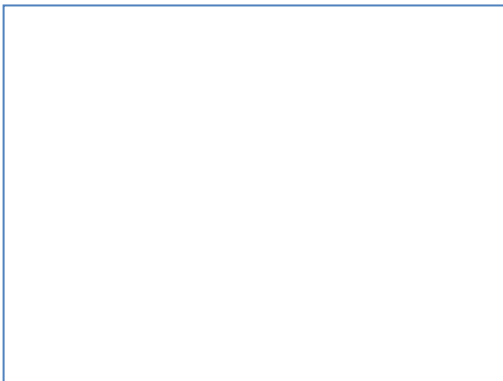
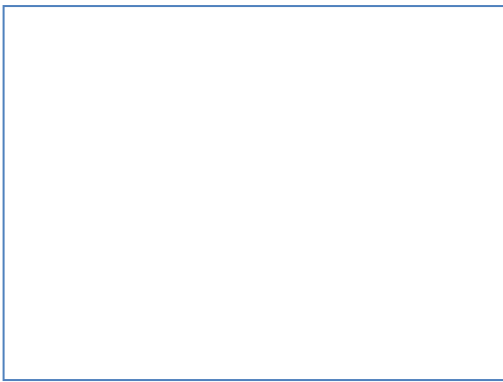
Short- and Long-Run Travel Behavior Changes: Some Analysis

during the first three quarters of 2008 were Stockton and Merced, CA, each with price declines over 32%es

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taxes. In the U.S.





Compendium of Identified Research Needs

The following research topics were identified during the workshop as needing further research either to extend current research or as new areas of investigation. Therefore, these needs do not represent the view of a single individual or even the workshop participants as a whole. They are presented in order of discussion and are not ranked in any other order. Regardless, these research needs do provide insight and guidance to FHWA, DOT, and others on the current state of the research and the emerging issues that likely will need to be addressed.

Future Markets (key 12) (Public-Private Partnerships)

The following research needs were identified by workshop participants as priority needs within the realm of Public-Private Partnerships.

Model

all modes would be affected). For those cases in which different pricing mechanisms affect modes in different ways, the analysis should determine how the implementation of such mechanisms would affect mode shift.

Because the implementation of such schemes could encourage the development of alternative fuels and technologies, the analysis should be on a well-to-wheels basis.

Encouraging Mode Shifts to more Fuel-Efficient Modes The objective of this

like the blueprint planning and smart growth can be realized at a national level. Additional research is needed to define how the success of those smart growth visions can be monitored over time to create a template for regions to follow.

Enhanced Household Travel Surveys

Role of Governments in Facilitation of Common Asset Pools Asset owners

implications based on the magnitude and form of capacity that interoperability improvements could make free.

Case Studies of System Change A substantial obstacle to interoperability gains is the satisfaction of industry players with their conventional roles. A drayman, for example, will never buy an asset that someone else will provide for him, and consequently will never be much concerned for its utilization. Some of the radical improvements in intermodal freight operations in fact have come from outside, from new players with a different set of objectives and

better information on price elasticities and the impact of the volatility versus long-run changes in price. The rapid run up in gas prices in 2008 without the long gas lines of 1973 and 1979 is unique.

area is assuming much greater importance as states and toll road authorities, both public and

Conclusions

The FHWA Office of Policy has a long history of supporting the policy decision making efforts