

Financially Sustainable Individual Mobility

EQUATING BENEFITS AND COSTS VIA PRICING SYSTEMS



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You have to love the irony—transportation is at a crossroads! Why? Because aggregate demand for individual mobility has rendered the traditional funding mechanism for surface transportation, the federal gas tax, obsolete. *Unsustainable* best describes this funding mechanism, in its current form, to meet current and future mobility demands. Individual mobility is the freedom of where to go, when to go, and how to go; the challenge to the transportation industry is how best to meet the demand for individual mobility in a *financially sustainable* manner.

“Free” Mobility

General highway mobility and the congestion experienced in many areas represent a classic case of economics related to “free” resources. The perception to drivers that driving on highways is “free” causes traffic congestion, with highway capacity being the resource in short supply. It is not difficult to see why highway mobility demand is growing. The individual freedom offered by traditional highway mobility is unmatched in terms of unrestricted arrival/departure times and destinations, scalability to group size, all-weather operation, protection of users from the elements, and accommodation of personal belongings (e.g., groceries or recreational equipment). From this reality, demand management strategies that seek to equate supply and demand via *pricing systems* represent the best practice for accommodating individual mobility in a financially sustainable manner. Although an increase in the federal gas tax would generate more revenue, it does not permit the establishment of equilibrium between supply and demand that would naturally develop through the use of a pricing system.

Selmon Expressway with Tampa, Fla., skyline. Photo: Tampa Hillsborough Expressway Authority.

Cost Versus Benefit

Sustainability in transportation has thus far focused almost exclusively on the cost side of the mobility equation. Increased effort has been spent recently on discernment of incremental “impacts” to the environment. These are used in part as a means to justify everything from subsidizing transit with federal gas tax revenues, to growth boundaries, and to transit-oriented development (including high-density housing). Nevertheless, the only sane definition of sustainability related to the cost side of the mobility equation is adopting *lowest life-cycle costing and asset management* methodologies.

What about the benefit side of the mobility equation? Is there a way to quantify the benefits of individual mobility? Quantification of the mobility

benefit via *pricing systems* would enable appropriate decision making regarding future expenditures, such as how much capacity should be added and what mode or modes should be advanced. Many fine examples of financially sustainable transportation incorporating pricing systems support the hypothesis that users value their individual mobility highly. So what does *financially sustainable individual mobility* look like?

Selmon Expressway

Perhaps the best example of financially sustainable transportation that responds to individual mobility demand is the Tampa Hillsborough Expressway Authority (THEA) Selmon Expressway in Tampa, Fla. The Selmon Expressway is an important east-west link near downtown Tampa funded entirely with



user fees since its inception in 1976. Elevated reversible express lanes (REL) were added to the median in 2005, ushering in the use of electronic toll collection for the REL and conversion of the local lanes to electronic tolling in 2010. The Selmon Expressway has met projected traffic and revenue data and currently generates revenues in excess of annual operation and maintenance (O&M) expenses, with excesses reinvested in other transportation projects within THEA's jurisdiction. The REL currently operates at free flow conditions. Variable-price tolling (congestion pricing) has been discussed for the REL should the need arise in the future to maintain free-flow conditions. The successful financial performance of the Selmon Expressway is strong evidence of the effectiveness of pricing systems. By adopting tolling from the beginning, the Selmon Expressway has been able to respond to user demand via a pricing system that provides a sustainable revenue stream.

Other Opportunities

Are there other opportunities to implement financially sustainable individual mobility? You bet! Never before has there been a more ideal opportunity to embrace similar financially sustainable mobility than the I-70 Mountain Corridor in central Colorado. Peak weekend travel demand in this corridor, between metro Denver and Glenwood Springs, is primarily comprised of recreational travel with significant unmet travel demand currently and in the future. Weekend recreational travel demand is typically double that of weekday demand for all other purposes combined (i.e., excluding recreation). The addition of reversible, variable-price high occupancy/toll (HOT) lanes to supplement the existing "free" general purpose lanes is an ideal solution to pay for the construction of the HOT lanes (likely elevated in certain segments) and assure a steady revenue stream for ongoing O&M expenses in the corridor. A transit alternative has been proposed for this corridor despite the fact that such an alternative, even heavily subsidized by highway users, will not benefit individual mobility in this corridor given the recreational nature of the travel demand.

Summary

The time has come for the transportation industry to reprioritize public perception of individual mobility, particularly with respect to the often overlooked benefit. Individual mobility is not a luxury, it is a necessity. In the modern exchange economy, individual mobility is on par with energy in terms of importance to the modern fabric of life. Demand for individual mobility continues to



Weekend individual mobility demand in the I-70 Mountain Corridor; westbound looking east near El Rancho, Colo., January 15, 2011. Photo: Kenneth C. Saindon.



Concept rendering of elevated HOT lane facility in I-70 Colorado Mountain Corridor. Image: ©Kenneth C. Saindon.

grow, and the transportation industry needs to respond to this demand by facilitating individual mobility because the individual is the ultimate client we serve. Institution of pricing systems to attain financial sustainability is the industry's best path forward to achieving prominence in the modern exchange economy. Mode choice and the split of future expenditures across modes should be determined via pricing systems to ensure financial sustainability. Elimination of mode subsidies is implicit in such pricing systems.

A financially sustainable model for transportation, applicable to *all* modes, would include the following:

- Pricing systems
- Maximizing individual mobility
- Minimizing cost through life-cycle costing and asset management methodologies
- Clean accounting, whereby each mode must pay for itself

Reference: *Economics in One Lesson*, Henry Hazlitt, 1946; reproduced by Ludwig von Mises Institute by arrangement with Three Rivers Press, 2008.

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