Results of the Vermont Rural Transportation Funding Summit

UVM Transportation Research Center

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1. Introduction

On December 8, 2008, The University of Vermont Transportation Research Center (UVM TRC) convened an invitation-only Transportation Reauthorization Summit at the Davis Center in Burlington, Vermont. State public agency leaders and elected officials involved in managing transportation systems in rural states were invited to engage in this Summit. (For a full list of attendees see Appendix 2.)

Recent federal transportation laws have resulted in increased overall federal transportation funding as well as changes in relative funding between some states. Beginning with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, surface transportation has been funded and governed by a more integrated set of policies outlined in federal law. ISTEA was followed by the Transportation Equity Act for the 21st Century (TEA-21), which was signed into law in 1998, seven months after ISTEA expired. TEA-21 continued the intermodal framework of ISTEA but also increased the guaranteed funding minimum to so-called donor states again effectively reducing relative funding for some states. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) the current federal law passed in 2005, two years after the expiration of TEA-21. SAFETEA-LU is set to expire in September, 2009.

The growing delays in passing federal transportation laws speak to the increasingly divergent opinions on how and what to fund in our transportation. The period between the expiration of an old law and passage of a new law has typically been filled with continuing resolutions.

It is unclear, as of this report, when the successor law to SAFETEA-LU will be passed or if we will be operating under continuing resolutions and if so, for how long. However, it is unlikely that the new law will increase overall funding from the Highway Trust Fund without a change in the source or composition of revenue into the fund. It is also unlikely that the new law will allow levels of funding necessary to affect change in the overall program, especially the level of change that stakeholders at the Summit indicated may be necessary to guarantee mobility and access.

Despite these divergent views, the recent emphasis on getting federal funding into the economy—most notably observed in recent federal action on the economic recovery plan—could potentially motivate faster action on the transportation bill than otherwise expected. On the other hand, the substantial funds for transportation infrastructure appropriated in the American Recovery and Reinvestment Act (ARRA) could also result in the need for policy-makers to carefully evaluate the possibility for radical change in the funding of the surface transportation system. Many of our Summit participants contended that considerable change is needed in the substance and process of funding our surface transportation systems.

This Summit was informed, and in turn helped to inform, the Transportation Research Center’s ongoing research efforts on how best to fund future transportation systems in rural areas. On a related research project, funded by the US DOT through the UVM TRC, the Snelling Center for Government presented its preliminary findings at this Summit. The TRC and the Snelling
Center for Government project sought to address several relevant transportation funding questions:

1. How are other states and nations preparing themselves for a post gas and diesel tax world?
2. Are there differences between revenue options available for federal and state agencies?
3. Do the proposed revenue systems in discussion at the federal level include specific accommodations for small, rural states?
4. Which other states might pursue similar alternative transportation financing programs to those in Vermont?
5. What methods are proposed elsewhere to capture revenue from non-residents traveling on roads?
6. What types of road pricing schemes are being pursued in rural versus urban areas?
7. What types of private-public partnerships are being pursued in rural versus urban areas?

Answers to these questions are presented in UVM TRC report entitled “Future Transportation Financing Options: Challenges and Opportunities” (May 2009, Report # 09-003), created through a partnership with the Snelling Center for Government. The context of these research questions is relevant here, because it points to the dilemmas rural areas face when confronted with transportation funding questions. These dilemmas served as the motivation for the organization of the Summit. In short, rural states have fewer viable options available, and, without a larger metropolitan area, have fewer options available than states with both urban and rural areas.

Inherent in the discussion was the imperative that the considerations outlined above be included as part of the national discussion on future transportation systems. The current research, pilot studies and policy discussion around future transportation funding and finance options have been more appropriate for urban and suburban areas. Research and evaluation of funding and financing options for rural areas is of great interest to Vermont, the UVM TRC and our transportation leaders.

As fuel efficiency improves, and drivers switch to alternative fuels or non-motorized modes—thereby reducing vehicle miles traveled (VMT)—we are crippling the funding mechanism, which is primarily dependent on gas and diesel taxes intended to maintain and expand our surface transportation system. In most cases, gas and diesel taxes are not automatically indexed to inflation or other mechanisms to increase value over time, which automatically creates a declining revenue stream even without the changes to the system noted above. The national dialogue about new sources of revenue to replace the declining effectiveness of the gas and diesel tax has been focused on congestion pricing, tolling and public/private partnerships. None of these sources of revenue have much applicability in rural areas, as they require more total miles of travel than is typical in a rural area. Moreover, the discussion around vehicle miles traveled (VMT) taxes raises interesting issues for rural areas: travel distances are longer and concerns about the regressive impacts and potential unintended environmental consequences (such as driving shorter, more congested distances in stop and go traffic, versus longer mileage routes at
steady speeds) of such a tax are felt more acutely. This is particularly true where household income is lower and there are longer distances to reach services.

Within this broad national context, Summit participants were presented with three specific questions:

1. What is the federal role in funding a transportation system to meet the mobility needs of people and to enable the efficient movement of goods?

2. The next federal authorization bill will need to be a transitional bill to move us from our current funding system that relies primarily on the fuel tax to a new funding scheme. What are the key elements that must be included in this transition to ensure that the unique needs of rural states and their citizens are considered?

3. The increasing cost of raw materials and energy, combined with a deteriorating infrastructure, outpaces the financial ability at all levels (federal, state and local) to fund the maintenance and repair of our transportation system. If we are not raising the revenue to meet the infrastructure needs, are we, in fact, disinvesting in our transportation infrastructure? If so, should we be strategic about it? Or, put more subtly, how do we make the priority trade-offs between maintenance, rehabilitation, expansion and doing nothing? What are the criteria for doing so?

Attendees were presented with panel discussions, presentations, and interactive electronic polling throughout the day. For a full list of speakers and the agenda see Appendices 2 and 3. What follows is a summary of the salient points made during the day and the outline of an Action Plan for Vermont and rural states as we research and design the future transportation system.
2. Setting the Context

Nearly 90 million Americans live in rural or small-urban (less than 50,000 population) areas of our country. Our nation’s interconnected surface transportation network passes through and within many of these regions. In many cases, these links of the network through rural areas connect major urban areas. In order to meet our nation’s economic development and quality of life goals, these rural links and the communities they serve must be maintained. With fewer people to help pay the cost of maintaining the transportation infrastructure in these areas, the methods of raising revenue to keep these critical links in our nation’s transportation system functioning as a seamless network are challenging. Rural areas and states do not have as many options for solutions to their unique finance needs. For example, options such as public-private partnerships, toll highways, High Occupancy Toll (HOT) lanes and congestion pricing vary regionally and may have limited or no applicability in rural states. Rural states with large metropolitan areas may not feel this problem so acutely. Furthermore, states without major metropolitan areas do not necessarily deal with the typical problems experienced in densely populated urban states, such as congestion.

The Summit was held upon the backdrop of a national dialogue around a near-term economic stimulus package for infrastructure. It was not possible to exclude this expected infrastructure investment from the discussion. Time and again during the Summit, the national economic crisis was described as a “once in a lifetime” opportunity to set bold policy. Congressman Peter Welch said that, while bridge and road repair were necessary, we should also look at this as an opportunity to redefine transportation policy and to include more funding for Amtrak and bike paths, for example. He asked for a list of five specific things that should be included in federal efforts to advance a holistic system of mobility and access and suggested these examples:

- Renewable and sustainable energy
- Regional, local energy generation
- Environmental protection
- Climate change

Senator Bernie Sanders spoke of the need for the economic stimulus package to spend funds locally, as well as the need to fund transportation infrastructure within the context of global warming. This raised two sets of short-term issues that, while not expected as foci when the Summit was planned in early summer 2008, were major topics covered throughout the day in December 2008:

1. How would key transportation system features of the economic stimulus package, which most agreed was necessary, deal with immediate infrastructure needs and create jobs related to the change and re-structuring needs in the national transportation system? If existing formulas and programs are used, can they be expected to accomplish the broader transportation system goals including climate change, mobility and finance reform?
2. What will an economic stimulus package mean in terms of timeline and funding availability for the next surface transportation bill? Will it serve to help or hinder the change needed, especially for rural states in how federal funding is provided for surface transportation?

Several speakers discussed the balance—both financial and from a policy perspective—between a short-term economic stimulus and the next authorization bill. Should the economic stimulus provide funding through the current programs and formulas and thus maintain the current program and perpetuate its problems? Or could it be a bold break from those systems? If time restrictions necessitate the use of existing programs, will this facilitate the opportunity for bold renewal in the next authorization bill?

As of the writing of this report, the transportation aspects of the American Recovery and Reinvestment Act (ARRA) are mostly focused on job creation and the repair of existing infrastructure. No visionary change from the existing system was described in the ARRA. The development of a more comprehensive vision, one of renewed mobility connected to quality of life and our environment, is now left for consideration within the next surface transportation bill. For rural states, the ARRA presents a double-edged sword: while the infusion of funding might be more needed in the rural context, the institutional staffing to implement these programs is also limited. This distracts the rural state transportation leaders from being able to clearly focus on the next surface transportation bill’s long-term impacts on providing mobility and access and the funding of such a system in rural areas.

There are many critical new dimensions that must be considered in the longer term reauthorization package, in addition to the examination of funding levels for rural transportation systems. During the Summit, participants suggested that these broader goals should be directly related to the finance mechanisms. They identified the needs of our state, and the amount of money required to meet those needs. The funding options have been researched, but there is still a need to reach consensus on the purpose of the federal government in the surface transportation system. Many suggested a radical “change the way we do business” in establishing the future national transportation program. In establishing that long term program there were consistent messages and concerns heard, such as:

- Courageous actions and political resolve will be needed to change the national transportation system and resolve far-reaching problems such as climate change and energy needs.

- It is unclear where the leadership for transportation system change and renewal should come from. The federal government has traditionally provided the largest share of funds for significant portions of the surface transportation system. States and local communities are empowered in different ways with different goals and economies, which may require different funding mechanisms and even more flexibility than we have initiated over the last few decades.
• The level of private sector leadership and involvement varies dramatically from state to state, depending on the ability to generate income or revenue from transportation services.

• Since the new transportation funding mechanisms currently being discussed are not possible within rural areas, rural states may be in a unique position to lead a transportation system change. This motivates stakeholders to consider dramatically different ways to provide needed mobility and quality of life.

Finally, policy makers and the public alike often fail to realize the extent and importance of our transportation system, which encompasses significant economic, environmental, public health and social justice issues. Our ability to envision the future and provide holistic solutions to our mobility challenges is minimized by this undervaluing of the complex system’s integral value to our society. Providing mobility and access for people might include a different mix of services than the highway infrastructure and automobile-dominated system we currently accept as our primary means of transport. It may be incumbent on universities to facilitate discussions that truly define transportation and what it could mean in our society.
3. Summit Findings

3.1 Defining the federal role in transportation

In the first of three Summit questions, speakers and participants were asked to consider, “what is the federal role in funding a transportation system to meet the mobility needs of people and to enable the efficient movement of goods?” There is an imperative need to deliberately envision the future surface transportation system and to develop a clarification of the role of the federal government in developing, operating and funding that system. That is, do we as researchers or policy makers have a clear vision, distinct from our existing system, of what we want the federal government to fund, support and create to meet the mobility needs of citizens and strengthen and support our economy?

Many Summit speakers suggested that the gas and diesel tax be raised as a near-term solution to address immediate problems such as funding shortfalls and fuel price stabilization which could propel innovation in transportation system efficiencies (park and ride lots for example) and alternative fuels and investment. But they also suggested a critical need to think beyond the near-term fuel tax increases, to envision a comprehensive new system including a potential radical adjustment to the large federal funding presence in local and state systems.

Several speakers raised concerns that the funding crisis could absorb all the focus and divert attention from the important conversation about the desirable transportation future and the interstate and national system. This may now be true of the ARRA and associated work. We must engage in a policy discussion regarding how to advance our system, instead of worrying only about funding the perpetuation of the current system, which is an extension of a 1940’s vision for interstate surface transportation. The legacy of this interstate vision serves as evidence that federal government leadership will have enormous impact.

The potential failure to take advantage of this opportunity for a new vision was characterized by Summit participants as a potential tragedy. They expressed the belief that it is completely plausible that a renewed and improved system could result from our current crisis. People have said we need a revised transportation foundation. This policy component, it was suggested, was more important than funding because it requires a complete rethink of our system and the provision of mobility and accessibility. Only once our vision of the new national transportation system is clear, can a funding system that leads us towards that system be implemented.

Several speakers explained the typical divisions that occur in discussing the transportation system and funding for it, for example:

- Environmentalist vs. construction industry,
- Surface vs. non-surface transportation,
- Donor states vs. donee states, and
- Transit vs. highways.
Participants at the Summit predicted that the upcoming discussion of the future of transportation system would most likely be regional, and truly intermodal in nature, rather than assuming the traditional divides listed above. Previous federal transportation bills have made strides towards modal integration, but perhaps have not moved the system as effectively or quickly as is now needed. Our current funding challenges could serve as the motivation for the advancement of an innovative and dramatic solution.

The divisions in these important complex debates absorb a lot of thought and effort. Transportation policy makers need to find a way to break away from the old debate and to address new critical policy issues such as global climate change. Researchers, especially university researchers, may play a critical role in ensuring these divisions are bridged and discussed within a broader community. Positions are no longer as clear cut as the old divisions suggest, and it is getting difficult to believe a system dominated by one mode, one funding, and one fuel will lead to a sustainable future. Yet the general public is not informed on the challenges and limitations of the current infrastructure systems. Its complexity precludes effective discussions and debate that goes beyond the dichotomies listed above.

Many of the Summit speakers raised the issue of a need for a focused national vision, or role for the federal government, in transportation. The Summit organizers directly queried attendees on what they thought the appropriate federal government role in funding the highway transportation system should be. Several speakers spoke of the necessity of increased flexibility in the new bill and to make sure a “one size fits all” program is not created. This includes a more thoughtful funding mechanism that enables the transportation system in the rural areas of our nation to provide the access and mobility options their populations require. However, if not carefully implemented, a flexible program could weaken the ability of the federal government to lead towards a sustainable transportation system.

A sizable portion of attendees agreed that federal surface transportation funding should be limited to only the federal highway system. While this is certainly worthy of discussion as a new vision is explored, the impacts of limiting funding to this one component of our system could have untenable consequences, especially in rural areas which lack the ability to generate revenue to provide true mobility and access outside of the federal highway system.

In summary, attendees clearly indicated that a strong federal role in the provision of an interstate and multi-modal transportation system was needed and should be top priority. The federal government was seen as the only viable driver of a new vision for enhanced mobility in the overall system. Our integrated economies and expectations for mobility demand an innovative change to the overall system. The desired result will not be possible by operating town by town, or state by state, but must be coordinated nationally.
3.2 Federal Funding Formulae that Transition to New Mobility

In seeking federal funding formulae that address mobility and access, we must consider what to include in those formulae (3.2.1), barriers that prevent change (3.2.2) and sources of new revenue (3.2.3).

3.2.1 Formulae Components

The second of three suggested questions raised at the Summit included the assertion that the next federal authorization bill would need to be a transitional bill to move us from our current funding system, which relies primarily on the gas and diesel tax, to a new funding scheme. Participants discussed the key elements that must be included in this transition to ensure that the unique needs of rural states and their citizens are considered.

The current funding formulae entrenches the existing surface transportation paradigm. Many Summit participants noted that policy goals for a “new paradigm” and the need to “think outside the box” for mobility services must be reflected in the funding formulae. For example, the need to break the inertia of decade’s long transportation policy to envision a new way of personal mobility was illuminated when participants commented on the changing demographics of rural states. Rural states have older populations, who require access to different services, as well as have different mobility needs and different abilities to provide their own transportation. Creating a transportation system to meet personal mobility needs, rather than one based on the goal of moving vehicles, was discussed as part of the research analysis presented by the TRC.

Our current surface transportation funding formulas use VMT as a major component to assess transportation needs. As a population ages, they travel less (without work trips for example) and this decrease in VMT results in decreased funding. Furthermore, the paratransit systems needed to transport older citizens are more expensive to provide than when the traveler drove him/herself. Adding a demographic component to account for these factors in our funding formulas may better measure mobility needs and ensure equity. States with low VMT and/or congestion but high percentages of older populations have very different mobility needs than those with the opposite (high VMT, young population). Yet our current funding formulae predominantly recognizes and rewards VMT – miles senior citizens may not travel by single occupancy vehicle and in which the use of current vehicles and fuels may contribute to climate change.

It is in the best interest of rural states to break the cycle of relying on the past as a predictor of the future, and to focus long term planning on what we want to see, rather than assuming a linear expansion of VMT and difficulties such as peak hour traffic. Summit attendees agreed that broader eligibility of funding to include maintenance and overall system mobility projects, regardless of mode, would also provide for a more robust and flexible national program.
Current UVM TRC and Snelling Center research was presented at the Summit by Jennifer Kenyan, a UVM graduate student. The research indicates the following variables should be considered for inclusion in the future funding formulae for transportation:

- age of infrastructure,
- age of population,
- impacts of climate change and adaptations needed, and
- resident versus non-resident VMT.

Ms. Kenyan also pointed to the need to redefine “rural”—a term that currently implies the absence of “urban” features. However, the types of rural areas, and the challenges to providing daily mobility as well as emergency access, vary dramatically. Simply think of the differences between warmer and colder climates, or mountainous and plain areas. Furthermore, the impact of climate change and its impact on the lifespan of transportation infrastructure will vary regionally by factors not currently considered in funding formulae. For example, this is more acutely felt in states that experience more freeze/thaw cycles. Coastal regions are at more risk for flooding. The cost of required adaptations due to climate change should be considered when assessing the type of mobility system, as well as the transportation needs of a state in future funding formulae.

Other concerns raised by Summit attendees, with elements presently not included in the funding formulas, included the following:

- **Safety should remain a federal charge.** With over 41,000 fatalities on US highways a year, including over 60 fatalities in Vermont (FARS, 2007), the need to remain focused and vigilant about safety is critical. Beyond the personal losses reflected in the number of fatalities, the economic impact of motor vehicle crashes is reported at over $230.6 billion a year (“The Economic Impact of Motor Vehicle Crashes 2000”). Research has found that the cost of crashes is nearly two and one half times the cost of congestion to society. (“Crashes vs. Congestion—What’s the Cost to Society?” prepared for AAA prepared by Cambridge Systematics, Inc. 4800 Hampden Lane, Suite 800 Bethesda, Maryland 20814 with Michael D. Meyer, Ph.D. March 5, 2008).

- **The cost of crashes outpaces even the costs of congestion.** Increasingly, the contributing factors for crashes are human factors such as impaired driving, speeding, young drivers, inattention or lack of wearing seat belts. While community efforts such as education are undoubtedly essential and reflected in many of the recent state highway safety plans, the crash factors are similar throughout the nation and federal leadership can lead to efficient optimal programs of countermeasure.

- **Ideally, revenue and funding systems for the transportation systems should not be modal in nature** but seek to provide access and mobility through locally chosen options, be they roadway, bike lanes, trails, sidewalks, rail or public transit. Only by looking at the
transportation system holistically, and deconstructing the modal funding barriers, can we create a mobility system that enables Americans to access destinations (economic, social and health-related) that provide a high-level quality of life. This integrated transportation mobility funding and apportionment system would need to account for rail and non-motorized transport as well. This departure from tradition will be challenging, but is essential in rural states that lack traffic volume.

- **Policy-makers should consider an incentive pool for good behavior**, i.e., reduced VMT, fuel usage and highway crashes. Our current funding system provides financial rewards for undesirable behaviors. For instance, a higher number of roadway fatalities causes a state to receive more safety money. Also, more funding is received for more fuel used and higher cumulative VMTs. Summit speakers presented examples of linking accountability and purpose to funding. If the transportation system goals are interstate commerce, energy, environment and safety, the funding should follow those goals in a positive manner.

- **The role of the national transportation system in global competitiveness** was viewed as an important factor in a new funding scheme. For example, NAFTA trade routes might be viewed differently from other system components, regardless of the state they travel though. If economic competitiveness is a major impetus for funding a national transportation system funding for projects that improve efficiency and build capacity along major trade corridors should be adequately funded.

A critical recurring question during the Summit was whether transportation should be viewed as a common good or market commodity. The participants suggested that the appropriate funding mechanisms follow from this distinction. For transportation as a common good, general fund revenue would be used to support the system. But for transportation as a market commodity, user fees would be more appropriate. The general consensus of attendees was that the transportation system encompassed both. Certainly, the system reaches beyond the pure traditional view of a market commodity that relies solely on user fees.

Even within the existing system, many would argue that the system does not pay for itself and that unequal subsidies have been provided to certain components of the system. The breadth and depth of the import of the transportation system, writ large, and the view that we are all users of the national system requires us to think beyond the traditional “users pay” funding mechanisms, which are limited in capacity in rural areas and also dominate the national finance and funding discussion. Put another way: the mobility we value is not free, and we must pay at least the base price together.

### 3.2.2 Barriers to Change in Formulae and the System

It was relatively easy for Summit participants to agree upon the type of system changes needed, listed above. Moreover, there was general agreement that the complexity of the current program creates barriers to change. For example, there were several comments raised regarding the
efficiency of having 108 transportation funding programs as prescribed in SAFETEA-LU. Also discussed was the proposal by the National Surface Transportation Policy and Revenue Commission to reduce these programs into 10 broad programs to lead to more efficiency and cost reductions. Another recurring theme was the need for reforms in project delivery to reduce the length of time for project completion. Also heard was a correlated concern of assuring that reductions in environmental protection and public involvement are not undertaken under the guise of “program reform” or environmental streamlining. Advances in efficiency should disproportionally benefit smaller rural states that lack the resources to work within the full complex set of programs and requirements. The complexity of the current transportation program was seen as a measure of inefficiency, both in terms of the number of programs with distinct eligibility criteria, permitting requirements, and funding requirements as well as the number of units of government (44,000) that need to be involved in making transportation choices. Summit participants raised the concern that all the requirements for project planning and community input are often just exercises with no real import in the final product. These requirements take a lot of time and cost a lot of money but too often do not bear on the final project.

Clearly proposed changes are dramatic and include substantive institutional change. The question of how to transition or change our existing programs, and move to a new system of mobility and funding that mobility, is very challenging.

A proposal to change the current program by providing states with a choice to “opt out” of the federal program was not viewed favorably by Summit participants. In addition to precluding the national coordination needed for innovative extensive change, as described above, rural states often rely heavily on federal funds in their transportation programs. The choice to opt-out would not be realistic for small states. The potential for large states such as California, Texas or Florida to opt out of the federal program would represent a negative impact on rural states as their federal gas and diesel tax revenues would no longer flow to the Highway Trust Fund.

Congestion is often cited as a major barrier for economic competitiveness, and therefore as a driver for changing our current transportation program, however, the funding mechanisms that accompany congestion are really local revenue options. If congestion pricing or tolling were imposed, the funds raised through these means would most likely remain with the entity that raised them, and not be part of the federal transportation program. Summit participants questioned the national role in a local congestion problem and funding scheme. If congestion is a local problem, with local fundraising potential, it should remain a local issue, not a federal problem. However, one must note that this ability of more urban areas to raise local and state revenue to match federal funds actually represents a disadvantage to rural areas. Without local or state shares, it is impossible to capitalize on federal funding. Furthermore, if matching requirements require a significant portion of state and local funds, projects or programs of local significance cannot be funded. The congestion situation combined with its fundraising potential for only some of the country, begs the question of the equity of requiring local and state matching funds to qualify for the federal program.
In summary, opt-out programs and non-federal match requirements were seen as ineffective options for creating change or transition to a new system of mobility, because of the relative inability of smaller and rural states to take advantage of these programs.

### 3.2.3 New Sources of Revenue

Significant challenges exist (3.2.2) to accomplishing potential changes (3.2.1) to our current transportation programs and their associated funding formulae. A major specific barrier to change is the need for revenue. The status of the federal Highway Trust Fund and its reliance on the gas and diesel tax is clearly in trouble, as evidenced by the August 2008 transfer of $8 billion from the General Fund to allow the Highway Trust Fund (HTF) to continue functioning in support of the provisions of SAFETEA-LU. As congress looks to authorize another six-year surface transportation law, the source of funds to support the program will be high on the agenda.

Our current federal funding system relies on dedicated user fees deposited into the Highway Trust Fund from which they are apportioned to states based on formula funding allocations. Summit attendees discussed whether the federal Highway Trust Fund is still a legitimate system of holding transportation funds, and whether we should continue with this system and thus shift the debate to how revenue is raised to fund the Highway Trust Fund. There appeared to be support for keeping a separate dedicated fund for transportation purposes. The debate would then shift to the means necessary for raising revenue to fill this fund. This is of particular interest to rural states. Vermont, according to the Joint Fiscal Office of the Vermont General Assembly, is highly dependent on federal transportation funds, using 42 cents of federal funds for each dollar of spending. The source and amount of those federal dollars are critical, yet constraining, as rural states contemplate how to raise their own revenue for transportation.

Many speakers and attendees noted that we have a historic opportunity and we should seize this moment to make changes in our funding sources. Any new revenue source could also address critical transportation goals that should include: interstate commerce, energy use, environmental security, global climate change and safety. It should be possible for funding to reflect performance goals. But we must also consider whether these new revenue systems are equitable in terms of the ability of rural states to raise sufficient revenue.

Several speakers suggested that now would be an opportune time to set a gas and diesel tax floor. Other revenue sources that could replace the gas and diesel tax include:

- Carbon tax, with an allotment for transportation costs
- Mileage-based fee, especially for trucks
- More general funding through progressive taxes, perhaps only for new capacity (any mode) projects
- A surcharge applied for goods delivered to your home or business
- Public-private partnerships
- Reliance on general state taxes or general funding
• Funding by local entities
• More borrowing
• Public-private partnerships
• Naming rights
• Imbedded taxation – especially as it relates to freight

In addition to sources to replace the gas and diesel tax, it was felt that the gas and diesel tax could be raised 20 cents to return to its spending power of 1957 and then indexed for inflation.

It is clear that we face a funding issue and not a finance problem and that future funding is going to have to be non-traditional. We may need to raise revenue in a way other than taxes. It was suggested at the Summit that we move from innovative finance to innovative thinking.

Public/private partnerships and congestion pricing were seen as state and local options, and not as options for funding the federal Highway Trust Fund. Since congestion pricing would need to be enacted at the local level, the political price of its passage would need to include a local benefit, thus eliminating any national benefit. Since the federal government does not own any highways (save the Woodrow Wilson Bridge between Virginia and Washington, D.C.) any public/private partnerships would involve state or locally-owned facilities. Again, the risks and benefits would accrue to the locality and not the federal Highway Trust Fund.

Assuring that any new funding system retains its purchasing power and we do not end up back in this predicament in 20 years was raised as a concern. Putting in place a longer term solution to the transportation funding crisis rather than a short term band aid will require strong public support. To date that support has been found wanting as evidenced by the failure of the federal government to take this action. Trends around the country to deal with the funding crisis were presented and they fall into two categories: increased borrowing and program cuts. There has not been a trend toward raising revenue at the state level, which leads to the final question posed to Summit attendees.

### 3.3 Strategic Disinvestment

An issue that we expected to hear more discussion about during the Summit is the concept of “strategic disinvestment”: reducing the amount of infrastructure in the current program. There is a notion that, since there is a longstanding funding gap between identified needs and revenues available, governments could strategically disinvest of certain components of the system. The third main question put to Summit attendees was: if we are not raising the revenue to meet the infrastructure needs, are we, in fact, disinvesting of our transportation infrastructure and therefore should we be strategic about it and prioritize trade-offs between maintenance, rehabilitation, expansion and doing nothing?
Certainly, the Summit participants raised the question of whether we as a society can afford the existing system especially in light of future energy costs. The concept of the federal government funding only the federal highway systems was also touched upon. However, the notion of actually abandoning or disinvesting from portions of our roadway system was difficult for the group to grasp. The organizers of the Summit would suggest that this fundamental attachment, even by the transportation leaders at our Summit, to the current system should be considered a barrier to changing the current program. As a society, we simply cannot conceive of a reduction in our ability to get in our car and drive anywhere, at any time.

Our inability to conceive of strategic disinvestment makes the goal of generating and implementing a new system of mobility even more pressing. It also points again to the opportunity for rural America to lead the effort, because rural areas presently lack the alternative infrastructure or built environment and land use pattern to be able to strategically disinvest from portions of our roadway network. Instead, haphazard disinvestment is occurring since we are not able to fully fund our existing system. The results of this lack of investment, coupled with a reluctance to explore new strategies, results in an even greater reduction in mobility.
4.0 Conclusions

In the very near future decision makers in Washington DC, together with stakeholders from state and local government will focus on the authorization of a new federal transportation bill. The context for this discussion is complex, much more so than in previous years. There is general agreement that a national transportation policy that focuses on mobility and access for people and goods must include consideration of energy, environment, public health and social equity goals. The participants at the Rural Transportation Funding Summit of December 2008 generally agreed that what is needed now is the kind of innovative, visionary thinking about transportation change that led to the creation of the Erie Canal, the continental railroad and the interstate highway system. However, it is still unclear how to transition to a new more robust system and what role the private, public and university sectors will play. Of most interest at the Summit was how to transition beyond the current system’s unsustainability in terms of funding, equity and environment in rural America.

The Summit focused primarily on discussion of the passenger vehicle highway needs and funding options for rural states, especially those without a large metropolitan area, such as Vermont. Most of the proposed new funding mechanisms for transportation are only viable in metropolitan areas and high volume corridors. Predominantly rural states are of particular concern to researchers at the UVM TRC because we believe their limited ability to raise transportation revenue using the options in discussion nationally is a problem requiring more research. This lack of revenue not only limits what can be accomplished in rural transportation systems directly, but also indirectly by limiting participation in federal programs due to lack of local matching funds. This requires researchers and policy makers from these rural areas to more carefully consider the optimal policies for advancing their transportation systems in the coming new era.

The current system is failing first for rural areas and this provides an opportunity for rural areas to lead in the discussion on ensuring the next federal transportation bill focuses on specific, comprehensive directions for transportation mobility that assure Americans, both rural and urban, have access through an equitably funded system that is sustainable from an economic, environmental and social perspective. Within this context common messages for actions for the next transportation authorization law were heard throughout the Summit, both in the formal presentations and during the question and discussion periods. The general actions that would most benefit rural states can be summarized into seven areas. These actions are not considered comprehensive but rather relate to the rural perspective on the federal transportation policy leadership, programs and funding the Summit addressed. We recommend each of these being considered for further comprehensive research and discussion.

1. **The Role of the Federal Government** - The federal government is a critical leader in crafting and encouraging a new transportation system focused on providing safe access and mobility for individuals and goods. Mobility and access for people and goods requires a seamless network that crosses political boundaries and modes.
Rural states should support a continued strong role for the federal government in a national transportation system and oppose the further devolution of transportation to state and local authorities.

2. **Opt-Out Programs** - Allowing opt-out programs, where states can choose to forgo federal funding in return for not collecting federal gas taxes, could have a disastrous effect on rural areas that rely on federal funds for their transportation program. If large states opt-out the decrease in overall funding for transportation will have a far greater impact on states that rely on these funds to a larger degree. If used, opt-out provisions will compromise the relative ability of rural states to participate in a new comprehensive sustainable transportation system by limiting the overall funding available.

3. **Funding Formulae** - Significant change is needed in federal transportation programs and their funding formulae to meet the needs of rural states. Criteria that measure the needs of the users of the system beyond current measures of vehicular use of the system such as vehicle miles traveled is essential. Most importantly demographic differences between states, especially the aging population in rural states, must be included in funding formulae so that the mobility needs of people can be addressed, even if mobility solutions are not premised on individual ownership and operation of a motor vehicle. Rural states have, by and large, a greater proportion of the aging population. The affect of this demographic on the transportation needs of these states must be taken in to account when devising new federal funding formulae.

4. **Federal Revenue Sources** - It may be in the general interest of rural states for the federal gas and diesel tax to be raised, whether by establishing a gas and diesel price floor, indexing it to inflation, connecting to a carbon-based system, or increasing the pennies per gallon, thus increasing funding available in the Highway Trust Fund. Use of Vehicle Miles Travelled (VMT) fees should be pursued with caution as their impact on rural areas, where distances traveled is greater, could prove regressive. More research is needed to better understand the implications of a VMT tax in rural areas.

5. **Non-federal Match Sources and Requirements** - With or without an increase in federal gas tax or VMT taxes, the mechanisms used to generate matching funds must be considered carefully. Even if federal funding for transportation increases to rural states, their ability to benefit from this funding is limited if match requirements remain constant. The use of fees, tolls, congestion pricing and public/private partnerships should be pursued with caution without a concomitant increase in federal funding, or a decrease in match requirements, to rural areas that are unable to access these sources of revenue.
6. **Strategic Disinvestment in Highway Infrastructure** - The reality that our current funding levels cannot support our current transportation system requires that we have a very difficult conversation about strategic disinvestment in roadways and other infrastructure. Since there is no concerted effort to raise the funding identified as needed to maintain our current system, government abandonment of portions of our current roadway system is effectively taking place. This abandonment, without the provision of mobility options could result in disconnecting rural portions of our population and could have long-term adverse economic and social impacts.

7. **New Mobility Systems for Rural Areas** - Changes to land use and the provision of mobility options, from complete streets, bike lanes, paths, transit and sidewalks are needed as part of any new vision. This is now widely recognized but most of the current designs for these components are appropriate for urban not rural areas. It is critical that a transition to a new transportation system include an explicit research and planning effort to develop rural-specific non-automobile based transportation systems. For example, there is potential for utilizing communications technology, including social networks for optimization, and providing options to the single occupancy motorized vehicle such as demand responsive public transit, but alternatives to those urban-based systems must be explicitly developed and funded for rural areas.
References

1. Statement of the Transportation Departments of Idaho, Montana, North Dakota, South Dakota, and Wyoming to the National Surface Transportation Policy and Revenue Study Commission (April 3, 2007).

2. Subcommittee on Highways and Transit Staff, Notice of Hearing on “Connecting Communities: The Role of the Surface Transportation Network in Moving People and Freight” (June 23, 2008).


Appendices

Appendix 1. Speakers and Presenters

**DR. LISA AULTMAN-HALL** joined the University of Vermont as founding director of the National Transportation Research Center in August 2006. Dr. Aultman-Hall is a professor in the School of Engineering and adjunct professor in the Department of Community Development and Applied Economics. She had previously served as the director of the Connecticut Transportation Institute, while an Associate Professor of Civil Engineering at the University of Connecticut. Dr. Aultman-Hall teaches transportation planning and traffic safety. Her research interests include tailpipe emissions, traffic safety (bicyclists, young drivers, and older drivers), freight transportation planning, transportation network robustness, and travel behavior, especially route choice.

**ROBERT BRIGHT** is presently executive director of the Fargo Moorhead Metropolitan Council of Governments, which has a metro area with a population of slightly less than 200,000 and is one of the few areas of the nation still experiencing substantial growth with many challenges relating to transportation and freight movement. Prior to working in Fargo, Mr. Bright was planning director for the Kenai Peninsula Borough in Alaska. Bob has also worked in Colorado and Texas as a planning director and planner and has won numerous awards and recognition in the field. He has a master’s degree in Urban Planning from Texas A & M University and a bachelor’s degree from the University of Arizona.

**ANNE CANBY** serves as president of the Surface Transportation Policy Partnership (STPP), a national advocacy coalition for transportation reform. She served as Delaware's transportation secretary from 1993 to 2001 and is recognized nationally as a progressive leader in the transportation field for transforming a traditional highway agency into a multimodal mobility provider and as an advocate for integrating land-use and transportation planning. Ms. Canby received the 2006 Carey Distinguished Service Award for outstanding leadership and service to transportation research and to the Transportation Research Board.

**GREG COTA** currently serves as the Senior Transportation Advisor to U.S. Senator Patrick Leahy (D-VT), Chair of the Senate Committee on the Judiciary and a senior member of the Senate Committee on Appropriations. As Senator Leahy’s chief Washington aide on transportation policy for the past eight years, Mr. Cota has been involved in the formulation and implementation of SAFETEA-LU, and he has overseen the Senator’s annual transportation appropriations projects. Previously, Mr. Cota was the Nominations Clerk and Grants Specialist for the Senate Committee on the Judiciary. Mr. Cota earned a bachelor’s degree in government from the College of William & Mary and a master’s degree in transportation policy from George Mason University.

**DANIEL MARK FOGEL** became the 25th president of the University of Vermont in 2002. A poet and literary scholar, Fogel has led a renaissance at UVM marked by new programs, including an Honors College; new facilities, including the nation’s first student union certified LEED Gold; a 50% increase in doctoral enrollment; and a near-tripling in undergraduate applications, with
21,000 for fall 2008. A proponent of diversity in higher education and a champion of UVM’s leadership as a premier environmental university, Fogel was lauded by the Burlington Free Press on New Year’s Day 2008 as Vermonter of the Year for his leadership in positioning Vermont as a center of green technologies.

KAREN GLITMAN’s experience in transportation includes having served as deputy secretary and director of policy and planning for the Vermont Agency of Transportation. In her role at the Transportation Research Center, Ms. Glitman manages the outreach and research dissemination programs including national conferences, educational workshops and stakeholder policy roundtables. Her research topics include transportation finance, economic development and developing sustainable transportation systems. Ms. Glitman is also the state coordinator for the Vermont Clean Cities Coalition, which is hosted by the TRC.

DR. ANTHONY (TONY) KANE is the Director of Engineering and Technical Services for the American Association of State Highway and Transportation Officials (AASHTO). In this capacity he oversees the development of transportation policy and legislative proposals; the development of hundreds of technical publications and standards, including those for bridges, geometric design, materials and intelligent transportation systems; the development and licensing of AASHTOWare software products; the review and accreditation of laboratories thru the AASHTO Materials Reference Lab (AMRL); the evaluation of transportation products; radio frequency filings with the FCC; and support to numerous AASHTO committees and task forces, including the Standing Committees on Highways, Highway Traffic Safety, and Quality and management/leadership initiatives with the state DOT secretaries. Mr. Kane previously served as the U.S. Department of Transportation, Federal Highway Administration’s (FHWA’s) executive director. He has won numerous awards including the AASHTO President’s Special Award of Merit in 2001, the U.S. Presidential Rank Award for Distinguished Service in 1996, and Presidential Rank Awards for Meritorious Service in 1985 and 1990.

JENNIFER KENYAN is a candidate for Masters in Public Administration from the University of Vermont. She is a Research Fellow at the Snelling Center for Government in Burlington, Vermont, where she has been conducting research for the Transportation Research Center on national and international innovative financing solutions for funding transportation infrastructure. Additionally, Ms. Kenyan assisted the Snelling Center in convening business leaders from across Vermont to assess the priority transportation holds in the public budget, and to reach consensus on strategies for long run transportation funding. In May 2008, Ms. Kenyan was chosen by the Eno Foundation to participate in the Eno Leadership Development Conference for young transportation professionals, a five day conference held in Washington, D.C. that provides 20 graduate students from across the nation a first-hand look at how national transportation policies are developed.

GREG NADEAU currently serves as deputy commissioner of the Maine Department of Transportation for Governor John Baldacci’s Administration. In this role, Greg oversees the Bureau of Transportation System Planning, as well as the Offices of Freight and Business Services, Communications, Policy and Research. He serves as a member of the Maine Turnpike
Mr. Nadeau has also served on the American Association of State Highway Transportation Officials (AASHTO) Authorization Steering Committee and Finance & Funding Legislative Committee, and chaired the Freight Funding Modal Team.

PETER PLUMEAU is director of policy & strategy practice for Resource Systems Group, Inc. His specialty is in facilitating enhanced transportation planning effectiveness through strategic planning, management and process analysis and best practices applications. His particular focus is on helping organizations adapt effectively to emerging issues including climate change, financial challenges and leadership concerns. Mr. Plumeau’s experience includes developing innovative transportation initiatives and funding strategies in states and urban areas; communicating complex issues to diverse audiences; conducting development and strategic planning for transportation agencies, and facilitating consensus-building among disparate parties.

JAMES B. (JIM) REED directs the Transportation Program at the National Conference of State Legislatures, located in Denver, Colorado. The nonprofit, bipartisan organization is regarded as the nation’s leading authority on state legislative issues. The Transportation Program assists states on numerous public policy issues from traffic safety and transportation funding to radioactive waste transport, through expert testimony, responses to requests for information, and in-depth research and analysis. Mr. Reed is the author of dozens of policy briefs, reports, articles and books on various transportation topics. He recently co-authored the 120-page book published by NCSL entitled *Surface Transportation Funding: Options for States*. He received his master's degree in public affairs from the LBJ School of Public Affairs at the University of Texas in Austin, and his undergraduate degree in political science from Colorado College.

KATHY RUFFALO-FARNSWORTH is a government affairs consultant who has had a broad, diverse, and bi-partisan career in public policy with 16 years of experience at both federal and state levels of government. She has served as a senior advisor to the United States Environment and Public Works Committee and as senior policy advisor to Idaho Governor Dirk Kempthorne. In 2004, Ms. Ruffalo started a consulting business and after 6 months in the private sector, she was recruited back to Capitol Hill to work on the latest transportation reauthorization legislation. Ms. Ruffalo returned and spent five months as a key drafter and negotiator of the final bill · SAFETEA-LU · which passed in July of 2005 and is the largest such bill in the nation’s history at $286.4 billion. Most recently, Ms. Ruffalo was appointed by the United States Congress to be a member of the National Surface Transportation Infrastructure Financing Commission.

BERNIE SANDERS (invited) was elected to the U.S. Senate in 2006 after serving 16 years in the House of Representatives. He is the longest serving independent member of Congress in American history. Born in Brooklyn, Bernie was the younger of two sons in a modest-income family. After graduation from the University of Chicago in 1964, he moved to the Green Mountain State. Early in his career, Sanders was director of the American People’s Historical Society. Elected mayor of
Burlington by 12 votes in 1981, he served four terms. Before his 1990 election as Vermont’s at-large member in Congress, Sanders lectured at the John F. Kennedy School of Government at Harvard and at Hamilton College in upstate New York. The Almanac of American Politics has called Sanders a “practical” and “successful legislator.” He has focused on the shrinking middle class and widening income gap in America that is greater than at any time since the Great Depression. Other priorities include reversing global warming, universal health care, fair trade policies, supporting veterans and preserving family farms.

**DR. RICHARD WATTS** is the senior research analyst at the University of Vermont Transportation Research Center. Dr. Watts has worked as a transportation consultant, journalist, campaign manager and researcher. Specific transportation projects with the TRC include an investigation of the potential for plug-in hybrid electric vehicles, a regional study of asset management systems, and the use of scenario planning and citizen participation in transportation planning. Dr. Watts has written and lectured on public policy and taught classes related to transportation policy.

**PETER WELCH**, Vermont's lone Congressman in the U.S. House of Representatives, has had a distinguished career as a legislative leader, lawyer, and advocate for the underrepresented. His record of accomplishment reflects his commitment to bringing people together to find real solutions to the difficult challenges we face and making government work for all citizens. As a Vermont Senate leader, Rep. Welch worked with colleagues from all political parties and was known for listening to diverse points of view. He worked to balance budgets, to resolve an $80 million Medicaid deficit largely caused by the federal government, and to alleviate the property tax burden on working Vermonters. He has backed proposals to make prescription drugs more affordable, to make health care more accessible, and to control the explosive growth in health-care costs. Mr. Welch has also been a persistent advocate for protecting Vermont’s environment, which he considers not only a moral imperative, but a practical necessity in a state with an economy tied so closely to our mountains, farm fields, forests, waterways and wildlife.

### Appendix 2. Attendees

- **Mel Adams** — Vermont Agency of Transportation  
- **Lisa Aultman-Hall** — UVM Transportation Research Center  
- **Charlie Baker** — Chittenden County Regional Planning Commission  
- **Ernest Blais** — Federal Highway Administration, Vermont Division  
- **Michele A. Boomhower** — Chittenden County Metropolitan Planning Organization  
- **Ted Brady** — Office of U.S. Senator Patrick Leahy  
- **Dan Brand** — New England Transportation Institute  
- **Bob Bright** — Fargo-Moorhead Metropolitan Council of Governments  
- **Cynthia Burbank** — Parsons Brinckerhoff  
- **Anne Canby** — Surface Transportation Policy Partnership  
- **Chris Cole** — Chittenden County Transportation Authority  
- **Matthew Coogan** — New England Transportation Institute
Greg Cota — Office of U.S. Senator Patrick Leahy
Catherine Dimitruk — Vermont Association of Planning and Development Agencies
Jonathon Dowds — UVM Transportation Research Center
Larry Dwyer — Federal Highway Administration, Vermont Division
President Daniel Fogel — University of Vermont
Cassandra Gekas — UVM Transportation Research Center
Glenn Gershaneck — Vermont Transportation Board
Karen Glitman — UVM Transportation Research Center
Peter Gregory — Two-Rivers-Ottauquechee Regional Commission
Tom Humphrey — Independent Consultant
Steven Jeffrey — Vermont League of Cities and Towns
Tony Kane — AASHTO
Jennifer Kenyan — Snelling Center for Government
Heidi Klein — Snelling Center for Government
Stephen Klein — State of Vermont Legislative Joint Fiscal Office
Debra Kobus — UVM Transportation Research Center
Nathan Lavery — State of Vermont Legislative Joint Fiscal Office
Senator Robert J. Letourneau — New Hampshire Senate
Glenn McRae — Intervale Center
Karen Meyer — University of Vermont - Office of Federal, State, and Community Relations
Rep. Sue Minter — Vermont House of Representatives
Jeffrey Munger — Office of U.S. Senator Bernie Sanders
Greg Nadeu — Maine Department of Transportation
Elizabeth Pearce — Deputy State Treasurer, Vermont
Robert Penniman — Campus Area Transportation Management Association
Peter Plumeau — Resource Systems Group, Inc.
Rob Purcell — UVM Transportation Research Center
Jim Reed — National Conference of State Legislatures
Robert Rich — Office of U.S. Senator Bernie Sanders
Chuck Ross — Office of U.S. Senator Patrick Leahy
Kathy Ruffalo-Farnsworth — National Surface Transportation Infrastructure Financing Commission
Senator Bernie Sanders — United States Senate
Neil Schickner — State of Vermont Legislative Joint Fiscal Office
Richard A. Sicotte — University of Vermont - Department of Economics
Rep. Kristy Spengler — Vermont House of Representatives
Mary Sprayregan — Office of Congressman Peter Welch
Charlie Swanson — Hoyle, Tanner & Associates, Inc.
Philene Taormina — American Association of Retired Persons
Jennifer Wallace-Brodeur — American Association of Retired Persons
Richard Watts — UVM Transportation Research Center
Congressman Peter Welch — United States House of Representatives
Mark Zydel — Hoyle, Tanner & Associates, Inc.
Appendix 3: Summit Agenda

**Agenda**

8:30 – 9:00 a.m.  
Registration and Breakfast

9:00 – 9:15 a.m.  
Welcome  
TRC Director Lisa Aultman-Hall and UVM President Dan Fogel

9:15 – 10:15 a.m.  
Congressional Roundtable  
Senator Sanders, Congressman Welch and Greg Cota (Senior Transportation Advisor to Senator Leahy)

10:15 – 10:45 a.m.  
Transportation Funding Options: A National and International Perspective  
Karen Glitman, UVM TRC and Jennifer Kenyon, Snelling Center for Government

10:45 – 11:00 a.m.  
Break

11:00 – 11:45 a.m.  
Transportation Funding Options and their Impacts on Northern Communities. Panel Discussion and Q & A  
Moderated by: Richard Watts, Transportation Research Center  
- Kathy Ruffalo-Farnsworth, National Surface Transportation Infrastructure and Finance Commission  
- Bob Bright, Executive Director, Fargo-Moorhead Metropolitan Council of Governments

12:00 – 1:00 p.m.  
Lunch  
Keynote Speaker: Dr. Anthony Kane, Director of Engineering and Technical Services, AASHTO

1:15 – 2:30 p.m.  
The Next Authorization: A Rural Perspective. Panel Discussion and Q & A  
Moderated by: Peter Plumeau, RSG, Inc. TRC Advisor  
- Anne Canby, President STPP  
- Greg Nadeau, Deputy Commissioner, Maine Department of Transportation  
- Jim Reid, Transportation Program Director, National Conference of State Legislatures

2:30 – 2:45 p.m.  
Break

2:45 – 4:00 p.m.  
Action Plan Development: Rural Transportation Funding in the Climate Change Era  
Facilitated by: Lisa Aultman-Hall, UVM TRC

4:00 – 5:00 p.m.  
Reception

Grand Maple Ballroom, Davis Center, 590 Main Street, Burlington, VT - Questions? (802) 324-8256